

## PART V.—PRODUCTION.

951. 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.

952. 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.

953. 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 one acre out of every 10 acres selected be cultivated.\*

954. 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

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\* Mr. N. Wimble, of the Department of Lands and Survey, has been kind enough to verify the facts in this and the next fifteen paragraphs.

Alienation  
of Crown  
lands.

Special  
surveys.

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

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

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

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.

955. 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, viz., 20s. per acre without interest.† 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 of the selector. The Statute also contained 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.

956. The Land Act of 1869, just described, was amended by the Land Act 1878, which came into operation at the beginning of 1879.

\* The 42nd clause.

† See paragraph 973 *post*.

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

Amending  
Land Act  
1878 (42  
Vict. No.  
634).

The principal alterations made by this amending Act, as regards selection for agricultural purposes, was to increase the period during which the land was 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., which thereby allowed the payments to extend over a period of twenty years instead of ten years as formerly.\* It also contained provision for selection by persons who did not desire to reside on their selections. In such cases, however, the rent was 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, had to be made during the six years' licence, of which at least half were to 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 expired by effluxion of time on the 31st December, 1884.

957. According to the Land Act 1869, the unalienated and unselected Crown lands † were occupied for pastoral purposes either as "runs" under licence or lease, or as "grazing rights." Runs were of two kinds: those in existence at the time of the 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 were by far the more numerous and extensive, were held under pastoral licence renewable annually, and were unlimited as to size. The latter, which were but few in number, were held under lease for any term not exceeding 14 years—the right to the lease having, in the first instance, been purchased at auction—and were not permitted to be of larger extent than sufficient to carry 4,000 sheep or 1,000 head of cattle. An important privilege enjoyed by lessees of "new runs" was that they were entitled to the pre-emption of 320 acres on which their improvements were situated at the rate of £1 per acre. ‡ The annual rent payable for both descriptions of runs was 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 was capable of carrying. As the right of pre-emption to 320 acres at £1 per acre, without 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

\* See paragraph 978 *post*.

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

‡ 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.

Pastoral  
occupation  
under Land  
Act 1869.  
Runs.

Grazing  
rights.

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 was empowered to grant a licence—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 were divided up into blocks and offered for tender under annual licence.

958. An Act dealing with the unalienated lands situated in the north-western portion of the colony, comprising about one-fifth of its extent, or 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  
Pastoral  
Leases Act  
1883.

959. 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 was fixed at 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

Mallee  
blocks.

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.

Mallee  
allotments.

960. 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, nor can the holder of a Mallee *block* lease obtain the lease of a Mallee *allotment*.

Land Act  
1884 (48  
Vict. No.  
812).

961. A measure entitled "The Land Act 1884," replacing the Land Act 1869 and subsequent Land Acts, except the Mallee Pastoral Leases Act 1883, just referred to, came into operation on the 29th December, 1884. Its main features are to restrict the further alienation of the public estate by limiting the extent which may be sold by auction, and by substituting for the previously existing method of selecting agricultural land a system of leasing such lands in certain defined areas, at the same time conserving to the lessee the privilege of acquiring from his leasehold the fee-simple of 320 acres under deferred payments. The Act 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, grazing and agricultural lands, auriferous lands, lands which may be sold by auction, swamp lands, State forest reserves, timber reserves, and water reserves. The area of land comprised within each of the above classes respectively is delineated by projections bearing a distinguishing colour or shading on maps of the several counties in which such land is situated. These maps are deposited with the Clerk of Parliaments. The Governor in Council may, however, by proclamation increase or diminish the area comprised in any of the above-mentioned classes, except those relating to lands which may be sold by auction.

Pastoral  
occupation.

962. Under the Land Act 1884, the pastoral lands are to be leased in "pastoral allotments," 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, but if there should be

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

two or more applicants, the lease is to be offered at auction. 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 is to 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. Alienation of pastoral lands is not permitted, except in the case of a lessee of a pastoral allotment, who has the right to purchase, at any time during the currency of his lease, 320 acres as a homestead.

963. The agricultural and grazing lands are also to be leased in "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 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 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 is entitled to take up a grazing area; selectors under former Acts, however, being limited to an area, which, together with the land previously selected, must not exceed 1,000 acres. Residence is not required of the holder of a grazing lease, unless he should select portion of his holding under the terms and conditions specified in the next paragraph.

964. The lessee of a grazing area is at liberty, after the issue of his lease, to select out of the area leased a block or "agricultural allotment" not exceeding 320 acres in extent; but should he have selected under a previous Act or Acts, he is only entitled to increase his selection to such an extent as not to exceed 320 acres in all. A licence is then issued to occupy the agricultural allotment (which is thereafter no longer considered portion of the grazing area), under

\* See footnote on last page.

Non-residence selections.

the same terms and conditions as are allowed to selectors under the Land Acts of 1869 and 1878, as detailed in previous paragraphs\*; but persons desirous of selecting an agricultural allotment cannot do so without first taking up a grazing area. Provision is also made for grazing area lessees to take up agricultural allotments as non-residence licensees 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 Act are that every selector—subject to certain conditions and restrictions—is 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 the licensee of an agricultural allotment may, after the expiration of two years, obtain an advance of money (by giving a “licence lien”) secured up to one-half of the improvements effected‡; that married women are permitted to take up land as pastoral or grazing lessees, but are not allowed to select an agricultural allotment out of the grazing area leased to them; and that facilities are given to allow of a non-resident selector becoming a resident selector, and *vice versa*.†

Auriferous lands.

965. Auriferous lands, not required for mining purposes, and not situated within a city, town, or borough, may be occupied under annual licence for purposes of residence or cultivation in areas not exceeding 20 acres; and, for purely pastoral purposes, under licences renewable annually for periods not exceeding 5 years, in blocks not exceeding 1,000 acres. No auriferous land is permitted to be alienated in fee-simple.

Swamp lands.

966. 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 selection in Australasian colonies.

967. 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 under 18 years of age, 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 paragraphs 955 and 956 *ante*.

† These privileges, although not previously enacted, are also to be allowed to selectors under previous Acts.

‡ A complete account of the land system of each colony was published in an Appendix to the *Victorian Year Book*, 1884-5.

§ In Tasmania and in Victoria married women may select land.

CONDITIONS OF LAND SELECTION IN AUSTRALASIAN COLONIES, 1885.

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 and 2,560	160	320 to 1,280	1000	No limit	320	320
2. Price per acre ...	£1	£1	2s. 6d.	£1 upwards	£1	10s.	£1	£1 to £2
3. Time over which purchase may extend ... Years	20	33	5	...	20	10	14	10
4. Minimum time in which fee-simple may be ac- quired ... Years	6	5	5	10	10	any time	any time	3
5. Annual payment per acre...	1s.	1s.	6d.	...	1s.	1s.	2s.	2s. to 4s.
6. Value of necessary improve- ments per acre ...	20s.	Fencing only	7s. 6d. to 10s.	Fencing 7s. 6d. to 10s.	10s.	...	...	20s.
7. Time allowed for making improvements ... Years	6	2	5	5	4	10	...	6
8. Acres in every 100 to be cultivated ...	10	...	...	...	20††	25	...	20
9. Period of residence neces- sary †† ... Years	5	5	5	...	20	2½	14	6

\* In Victoria the land is taken up, in the first instance, in blocks not exceeding 1,000 acres, under lease for a term not exceeding 14 years, at a rental of from 2d. to 4d. per acre, out of which leasehold a "selection," not exceeding 320 acres, may be taken up under the conditions here named. See also paragraphs 963 and 964 ante.

† In New South Wales, a territorial division of the colony is made into three zones, viz., the eastern, the central, and the western division. The maximum area allowed in the eastern division is 640, and in the central 2,560 acres. In addition to the selection, a leasehold of an additional area, limited to three times that of the selection (the area of the selection and lease together not to exceed 1,280 acres in the eastern, or 2,560 acres in the central, division), may be granted to the selector at an annual rental of not less than 2d. per acre, with the right of conditional purchase after 5 years' tenure. The price per acre does not include interest, for which 4 per cent. per annum is charged and collected out of the annual instalments paid. The first payment is 2s. per acre in advance, with an interval of 3 years before the next instalment of 1s. is payable.

‡ In Queensland, within the limits named, the maximum area allowed to be selected may be varied in any district by the Government. In that colony the system of leasing seems to have supplanted that of alienating the fee-simple of the land by means of deferred payments. The selector first occupies the land under licence for 5 years, at an annual rental of not less than 3d. per acre, and may at the end of that time, if the condition as to fencing (or improvements of equal value) has been complied with, obtain a lease for 50 years; the annual rental for the first 10 years being not less than 3d. per acre, but for every succeeding period of 5 years to be fixed by the Land Board. The selector has the right to purchase at not less than 20s. per acre, within 12 years from the date of the granting of the lease, during the currency of which residence is compulsory.

§ In South Australia 10 per cent. of the purchase-money is paid as deposit, 10 per cent. at the beginning of the fourth year, and 5 per cent. at the beginning of the fifth and each subsequent year.

|| In Western Australia, the particulars given relate to the Central or Home District only; in the other districts land may be bought at 5s. per acre. The necessary improvements are not assessed according to value, the condition being 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.

†† One acre under fruit trees or shrubs, potatoes, onions, &c., counts as 6 acres of ordinary cultivation.

‡‡ 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.

Ambiguity of the term "alienation," as applied to Crown lands.

968. In dealing with the figures relating to the alienation of the public estate, it is customary in Victoria to consider Crown lands as sold or alienated only when the right to the title in fee-simple has been acquired. Consequently a large proportion of the land set down as alienated in any year, having been originally selected, with right of purchase under certain conditions, the purchase-money being payable by annual instalments, without interest, may have been virtually parted with many years previously. The land set down as alienated in any year, therefore, consists of the area sold by auction, that granted without purchase, and that selected or conditionally purchased—of which the purchase had been completed during the year. Some of the neighbouring colonies, however, adopt a different principle, for, in their statements of land alienated, that sold conditionally—which, of course, is liable to revert to the Crown should the conditions of sale not be complied with—is included with that of which the fee-simple has been obtained. Both methods are useful in their way, the Victorian plan giving the more accurate account of the condition of the public estate, and the other giving the better indication of the progress of settlement. In the following paragraphs it may perhaps be sometimes necessary to use the term "alienated" in connexion with land which is only conditionally purchased, but when this occurs such explanation will be given as will prevent a mistake.

Crown lands alienated to end of 1885.

969. The total extent of Crown land sold in Victoria up to the end of 1885 was 14,413,304 acres, and the extent granted without purchase was 12,306 acres. The whole area alienated in fee-simple was thus 14,425,610 acres, of which 7,869,897 acres, or considerably more than half, was originally acquired by selection under the system of deferred payments.

Crown lands selected.

970. The selected lands of which the purchase had not been completed up to the end of the year amounted to 11,591,275 acres. Of this extent it is estimated that 3,657,000 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 7,934,275 acres.

Crown lands unalienated.

971. 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 22,359,885 acres, it will follow that the residue, representing the Crown lands neither alienated nor in process of alienation, amounted at the end of 1885 to 33,885,875 acres.

Public estate, 1885.

972. The whole of this residue, however, is not available for occupation, for it embraces lands occupied by roads, the unsold portions of the

sites of towns, and beds of rivers and lakes; the State forests; and water, timber, and other reserves. Deducting these lands—amounting in the aggregate to 4,999,215 acres, also that portion of the colony known as the Mallee country, containing 11,535,500 acres, leased for pastoral purposes under a special Act—from the extent unalienated and unselected, already stated to have been 33,885,875 acres, it will be found that the area available for occupation for agricultural, pastoral, and other purposes, under the present Land Act, is narrowed to 17,351,160 acres. This will be at once seen by the following table, which shows the position of the public estate at the end of 1885 :—

PUBLIC ESTATE OF VICTORIA ON 31ST DECEMBER, 1885.

Condition of Land.	Approximate Number of Acres.
Land alienated in fee-simple ... ..	14,425,610
Land in process of alienation under deferred payments ...	7,934,275
Roads in connexion with the above ... ..	1,300,800*
Water reserves ... ..	139,000
Reserves for agricultural colleges and experimental farms	112,320†
Timber reserves ... ..	507,600
Other reserves ... ..	200,650
State forests ... ..	654,210
Unsold land in towns, beds of rivers, &c. ... ..	2,084,635
Mallee country‡ ... ..	11,535,500
Available for occupation, under present Land Act, at end of 1885 ... ..	17,351,160
Total area of Victoria ... ..	56,245,760

973. The area of the colony, exclusive of the Mallee country, is 44,710,260 acres, of which, at the end of 1885, 22,359,885 acres, or 50 per cent., were already alienated or in process of alienation; 4,999,215 acres, or 11 per cent., were occupied by reserves, &c.; and 17,351,160 acres, or 39 per cent., were available for occupation.

Crown lands available for selection.

974. Following the classification provided for under the existing Land Act, the estimated area of Crown lands, exclusive of the Mallee country, available for occupation, under the Land Act 1884, at the end of 1885 may be divided as follows§ :—

Classification of available land.

CLASSIFICATION OF LAND AVAILABLE AT END OF 1885.

	No. of Allotments.	Acres.
Pastoral lands ... ..	337	7,078,100
Agricultural and grazing lands ... ..	13,389	8,525,300
Auriferous lands ... ..	...	1,470,150
Swamp lands ... ..	...	87,310
May be sold by auction ... ..	...	190,300
Total ... ..	...	17,351,160

\* Calculated as 5 per cent. of the gross extent sold and selected up to the end of 1885.  
 † Of this area 13,391 acres are reserved as sites for colleges and farms, and 98,929 acres as an endowment for their maintenance. An additional area of 7,594 acres is to be reserved for endowment.  
 ‡ Occupied for pastoral purposes, under the Mallee Pastoral Leases Act 1883, for terms not exceeding 20 years.  
 § For particulars of applications lodged in 1885 in connexion with this land, see paragraph 989 post.  
 || The gross annual rental of the "Pastoral Lands" has been assessed for 1885 at £12,230.

Crown lands  
alienated,  
1885.

975. The land alienated from the Crown in fee-simple during 1885 amounted to 427,092 acres, of which 423,993 acres were sold, and 3,099 acres were granted without purchase. The total extent was less by 42,390 acres than that in 1884, and was also less than the extent alienated in any year since 1880.

Crown lands  
sold by  
auction.

976. Of the area sold, 26,900 acres, or 6 per cent., were disposed of by auction. Nearly the whole of the remainder had been in the first instance selected in previous years under the system of deferred payments. The extent sold by auction in 1885 was less than that in 1884 by 8,500 acres; it was also less than that in any other year since 1869, except 1873, 1881, and 1883.

Amount  
realized on  
Crown land  
sales, 1885.

977. The amount realized for Crown lands alienated in 1885 was £519,422, or at the rate of £1 4s. 6d.\* per acre. Of this sum, only part was received during the year, the remainder having been paid in former years as rents and licence fees. The proportion sold by auction realized £115,352, or an average of £4 5s. 9d. per acre; and the proportion sold otherwise than at auction realized £404,070, or an average of £1 0s. 5d. per acre.

Deferred  
payments  
on lands  
sold by  
auction.

978. The principle of deferred payments in connexion with sales of Crown lands by auction was introduced for the first time in the Land Act 1884,† it being necessary to pay one-fourth of the price bid at the time of sale, the remaining three-fourths being, at the option of the purchaser, spread over three years, payable quarterly, in instalments of equal amounts, bearing interest at the rate of 6 per cent. per annum. In 1885, the majority of purchasers did not avail themselves of this concession, as only £38,314, out of a total of £115,352 was left unpaid, the amount received being £77,038, as well as £463 for interest.

Amount  
realized,  
1836 to  
1885.

979. From the period of the first settlement of the colony to the end of 1885, the amount nominally realized by the sale of Crown lands was £22,449,883, or at the rate of £1 11s. 1d. per acre. It must, however, be remembered that payment of a considerable portion of this amount extended over a series of years without interest, allowance for which, at the current rate would, it is evident, materially reduce the amount the State actually obtained for the land. It may be calculated that, with interest at 5 per cent., if the payment of the £1 per acre by equal annual instalments be extended over 10 years without interest, the amount of purchase-money is really equivalent to only 15s. 6d. per acre, and if it be extended over 20 years, it is reduced to 12s. 6d. per acre.

Selection of  
public  
lands, 1885.

980. During the year 1885, 723,523 acres fresh land were selected under the deferred payment system.‡ Of this, 710,352 acres, or over

\* In view of the fact that payment for the greater portion extended over a term of years without interest, the actual average price was much less than this. See paragraph 979 *post*.

† 48 Vict., No. 812, Section 71.

‡ See paragraphs 955 and 956 *ante*.

98 per cent., were taken up in blocks limited to 320 acres, nominally for agricultural purposes ; 12,922 acres were taken up in allotments limited to 20 acres, for purposes of residence or cultivation, on or near gold-fields; and 249 acres in parcels, averaging 3 acres each, for purposes of residence. All these transactions were under the Land Acts 1869 and 1878, the applications having been duly lodged before the end of 1884, when those Acts were repealed.

981. The extent of Crown lands absolutely or conditionally alienated during each year since the passing of the Land Act 1869 is shown in the following table, which distinguishes the extent sold by auction and that granted without purchase from that conditionally alienated or selected :—

Progress of settlement on public lands 1870 to 1885.

**CROWN LANDS ABSOLUTELY AND CONDITIONALLY ALIENATED  
1870 TO 1885.  
(Under the Land Acts 1869 and 1878.)**

Year.	Area, Granted, Sold, and Selected.			Total.
	Granted without Purchase.	Sold by Auction.	Conditionally alienated.* (Purchased.)	
	Acres.	Acres.	Acres.	Acres.
1870	21	148,685	322,592	471,298
1871	118	118,440	487,436	605,994
1872	320	146,611	797,176	944,107
1873	1,575	19,929	1,063,066	1,084,570
1874	44	49,655	1,831,698	1,881,397
1875	...	83,395	1,183,520	1,266,915
1876	546	150,628	1,040,356	1,191,530
1877	260	76,006	1,126,498	1,202,764
1878	57	47,376	1,415,129	1,462,562
1879	503	56,430	1,032,214	1,089,147
1880	461	27,272	752,639	780,372
1881	3,237	24,753	588,922	616,912
1882	666	31,386	851,402	883,454
1883	159	20,085	843,971	864,215
1884	74	35,446	734,092	769,612
1885	3,099	26,900†	723,523	753,522
<b>Total</b>	<b>11,140</b>	<b>1,062,997</b>	<b>14,794,234*</b>	<b>15,868,371</b>

982. The number of selectors approximates closely to the number of approved applications. The following are the numbers in each of the years named in the last table, those under the different sections of the Land Act 1869 and the Amending Land Act 1878 being distinguished:—

Number of selectors 1870 to 1885.

\* A large proportion of the land referred in this column may revert, and, as a matter of fact, has reverted, to the Crown in consequence of non-fulfilment of conditions, &c., and may subsequently be included in re-adjustments of selections, re-licensed, sold by auction, or retained by the Crown. "Gold-fields" selections are included in this column.

† Sold under the Land Act 1884.

## APPROVED APPLICATIONS (SELECTORS) 1870 TO 1885.

Year.	Number of Selectors of Land.				Total.
	For Purposes of Cultivation.		For Residence and Cultivation near Goldfields. (Section 49, Act No. 360.)	For Residence. (Section 10, Act No. 634.)	
	With Residence. (Section 19, Act No. 360.)	Without Residence. (Section 11, Act No. 634.)			
1870	3,017	...	131	...	3,148
1871	4,575	...	673	...	5,248
1872	7,771	...	1,408	...	9,179
1873	6,689	...	1,455	...	8,144
1874	9,578	...	1,493	...	11,071
1875	6,320	...	771	...	7,091
1876	5,785	...	697	...	6,482
1877	6,240	...	777	...	7,017
1878	7,524	...	1,534	...	9,058
1879	5,726	75	887	...	6,688
1880	4,036	67	1,054	56	5,213
1881	3,110	42	1,151	106	4,409
1882	4,383	51	837	47	5,318
1883	4,453	58	1,070	22	5,603
1884	3,918	71	1,002	11	5,002
1885	3,930	68	714	83	4,795
Total	87,055	432	15,654	325	103,466

Average size of selections.

983. Dividing the total number of acres selected by the total number of selectors, as shown in the last two tables, it is found that throughout the whole period of sixteen years the average number of acres taken up by each selector has been 143.

Selectors and selections 1885.

984. The following is a summary of the selectors and the number of acres selected under each authority during the year 1885 :—

## SELECTORS AND EXTENT SELECTED, 1885.

Selections of Crown Lands, 1885.	Legalization.	Number of Selectors.	Area Selected.
Agriculture, with residence ...	Act No. 360, Section 19	3,930	Acres. 699,749
Agriculture, without residence...	Act No. 634, Section 11	68	10,603
For residence or cultivation, near gold-fields	Act No. 360, Section 49	714	12,922
For residence ...	Act No. 634, Section 10	83	249
Total ...	...	4,795	723,523

985. Of the land which had been selected in former years, 92,316 acres were abandoned or forfeited to the Crown during the year 1885 in consequence of non-fulfilment of conditions, resulting in a gain to the Treasury of £4,141. Selected land forfeited, 1885.

986. The pastoral licences and grazing rights under the Land Act 1869 expired by effluxion of time at the end of 1884, but provision was made under section 3 of the Land Act 1884 for the holders of such licences or rights to continue in occupation of their land until the 30th September 1885, and for their not being treated as trespassers after that date so long as the lands were not required for the purposes of the new Act, and they duly paid fees under a grazing licence, the amount of which the Minister was empowered to fix. The following table shows the number of runs and grazing rights so continued, also the extent of land included therein and amount of rent paid:— Runs and grazing rights, 1885.

SQUATTING RUNS AND GRAZING RIGHTS, 1885.

Description of Tenure.	Number of Licences.	Extent of Crown Lands.	Annual Rental.
		Acres.	£
Squatting runs ... ..	350	7,000,622	26,000
Grazing rights ... ..	892	4,859,556	15,200
Total ... ..	1,242	11,860,178	41,200

987. By these figures it may be ascertained that the average extent of land embraced in a squatting run was 20,000 acres, and in a grazing right 5,448 acres. These areas are exclusive of those of any purchased land attached thereto. Average area of runs and grazing rights.

988. According to the amounts received, the average rent per acre of runs was .89d., and of grazing rights—the land subject to which is generally of an inferior character to that embraced in runs—.75d. Rent of runs and grazing rights.

989. During 1885 no leases of “grazing areas” under the Land Act 1884 were issued, but 3,821 applications were received for a gross extent of 2,007,768 acres. The number of applications received for leases of “pastoral allotments” was 180, covering a net area of 1,460,750 acres; whilst 35 applications were granted for a total area of 517,500 acres, at an annual rental of £12,230, in addition to £3,104 paid as premiums for the right to the lease when the competition of two or more applicants rendered it necessary that the lease should be put up to auction. Leases under Land Act 1884.

990. The number of lessees of Mallee blocks and allotments under the Mallee Pastoral Leases Act 1883,\* the area of such divisions, and the annual rental payable therefor, are shown in the following table:—

MALLEE PASTORAL LEASES ON 31ST DECEMBER, 1885.

Description of Leaseholds.	Number of Lessees.	Area.	Annual Rental.
		Acres.	£
Mallee blocks ... ..	67	8,558,700	1,987
„ allotments ... ..	514	1,638,400	3,087
Total ... ..	581	10,197,100	5,074

Mallee areas still unoccupied, 1885.

991. At the end of 1885, the following areas were still available for occupation in the Mallee country:—Mallee blocks, 1,186,000 acres; Mallee allotments, 125,000 acres.

Past and present occupation of Mallee country.

992. In 1883, prior to the passing of the Mallee Pastoral Leases Act, the Mallee country was held under pastoral licences or grazing rights. The number of such licences or rights was 147, held by 58 individual occupiers; the area over which the right of occupation was given was 7,727,360 acres, and the annual rental payable was £8,076. From a comparison of these figures with those in the above table, it appears that since 1883, whilst the occupiers of the Mallee country have increased tenfold, and the extent occupied by nearly one-third, the annual rental has fallen off by £3,000, or nearly one-third. As a set-off against this reduced rental, however, it should be pointed out that the present lessees have to comply with certain conditions † to which the lessees under the former Act were not subject.

Average rental of Mallee country.

993. According to the figures in the last table, the average rental per 100 acres payable for the Mallee country is nearly 1s. (11·9d.), or 5½d. for the Mallee blocks and 3s. 9d. for the Mallee allotments. In 1883, prior to the passing of the present Act, the average rental in the Mallee country was 2s. 1d. per 100 acres.

Land revenue.

994. 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 1885, as compared with 1884,

\* See paragraphs 958 to 960 *ante*.

† See paragraph 959 *ante*.

there was a slight increase in the receipts from temporary occupation, but a large decrease under the other heads. The net decrease amounted to over £104,000, as will be seen by the following figures :—

## LAND REVENUE, 1884 AND 1885.

Heads of Land Revenue.	Amounts Received.		Increase.	Decrease.
	1884.	1885.		
	£	£	£	£
Alienation in fee-simple and progressive	629,262	526,011	...	103,251
Temporary occupation ... ..	70,900	78,338	7,438	...
Penalties, fees, interest, &c. ... ..	34,389	26,100	...	8,289
Total ... ..	734,551	630,449	...	104,102*

995. As partly accounting for the falling-off in the receipts from the alienation of land in 1885, as compared with 1884, it will be remembered † that £38,315 of the purchase-money of lands sold by auction in 1885 was not paid during the year, but was allowed to remain at interest in accordance with the provisions of the 71st section of the Land Act 1884.

Effect of deferred payments on land revenue.

996. The agricultural statistics of Victoria are collected by the municipal bodies, which, under the Local Government Act 1874 (38 Vict. No. 506), and the Local Government Act Amendment Act 1883 (47 Vict. No. 786), are required each year to furnish to the Government Statist, on or before the 1st March, 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.

Agricultural statistics.

997. In assigning the duty of collecting statistics 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

Bonuses for collecting statistics.

\* Net figures.

† See paragraph 978 *ante*.

were generally furnished in anything but a satisfactory condition. This being the case, it was decided by the Government—for the first time in 1883-4—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. These bonuses have now been given for three years with excellent effect, as the measures taken have resulted in the statistics being sent in at such a date that it has become possible to publish nearly complete returns about the 12th March, or fully two months earlier than such a result had been achieved in previous years.

Agricultural  
statistics,  
1885-6.

998. The agricultural statistics to which reference will now be made are those for the year ended 1st March, 1886.\* Tables embodying the general results of these statistics will be found in the *Government Gazette* of the 9th April last, and these, with additional tables, form portion of the *Statistical Register of Victoria*.

Number of  
cultivators.

999. The total number of farm holdings visited was 38,384, of which 37,066 were in shires, 1,103 in cities, towns, or boroughs, and 215 in places outside of local jurisdiction. In the previous year the number of farms visited was 38,139, the increase being thus 245.

Land under  
tillage.

1000. The extent of land returned as under cultivation amounted to 2,405,157 acres, as against 2,323,493 acres in 1884-5. The increase shown by the figures was, therefore, 81,664 acres.

Area culti-  
vated per  
head of  
population.

1001. The average area in cultivation to each person in the colony was about  $2\frac{1}{2}$  acres in the year under review as against  $2\frac{1}{3}$  acres five years previously, and  $1\frac{1}{3}$  acre 10 years previously. The exact amounts at the three periods were as follow :—

#### AVERAGE AREA CULTIVATED TO EACH PERSON IN THE COLONY.

					Acres.
1875-6	...	...	...	...	1·37
1880-81	...	...	...	...	2·32
1885-6	...	...	...	...	2·47

Area culti-  
vated per  
head in  
Austral-  
asian colo-  
nies.

1002. The following table shows the area per head cultivated in each Australasian colony during the nine seasons ended with that of 1884-5, also the mean of those seasons, the colonies being placed in order according to the average extent of land per head that each cultivates :—

\* 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, 1877 TO 1885.\*

Colony.	Acres under Tillage per Head of Population.									
	1876-7.	1877-8.	1878-9.	1879-80.	1880-81.	1881-2.	1882-3.	1883-4.	1884-5.	Mean.
1. S. Australia ...	6·71	7·72	8·09	8·75	9·62	8·91	8·08	9·05	8·91	8·43
2. Tasmania ...	3·15	3·26	3·23	3·26	3·25	3·15	3·08	3·12	3·26	3·20
3. New Zealand	1·97	2·30	2·62	2·67	2·12	2·63	2·68	2·61	2·39	2·44
4. Victoria ...	1·54	1·74	1·95	2·01	2·32	2·06	2·25	2·38	2·42	2·07
5. W. Australia	1·68	1·82	1·81	2·28	2·20	1·78	1·84	1·94	2·42	1·97
6. N. S. Wales ...	·82	·83	·88	·90	·96	·83	·90	·91	·92	·88
7. Queensland ...	·46	·52	·56	·49	·53	·56	·64	·58	·64	·55

1003. 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 Victoria occupies a middle place, being below South Australia, Tasmania, and New Zealand, but above the other three colonies, viz., Western Australia, New South Wales, and Queensland, in which the figures for the last year named in the table were higher than those for any previous one.

Results in different colonies compared.

1004. The principal crops grown in Victoria are wheat, oats, barley, potatoes, hay, and green forage. In 1885-6, a smaller area was placed under wheat than in 1884-5 or 1883-4, but a larger area than in any other year. The extent under the remainder of these crops, however, was larger in 1885-6 than in any previous year. The following table shows the extent of land under each of these crops in the last two seasons:—

Land under principal crops.

LAND UNDER PRINCIPAL CROPS, 1885 AND 1886.

Year ended March.	Wheat.	Oats.	Barley.	Potatoes.	Hay.	Green Forage.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1885 ...	1,096,354	187,710	62,273	38,763	339,725	332,859
1886 ...	1,020,082	215,994	74,112	42,602	421,036	334,399
Increase ...	...	28,284	11,839	3,839	81,311	1,540
Decrease...	76,272	...	...	...	...	...

1005. The gross yield of wheat was less than that in 1884-5 by  $1\frac{1}{4}$  million bushels, or about an eighth. The quantity raised in the year under review was also exceeded in 1883-4, 1880-81, and 1879-80. The yield of oats was larger than in any other year except 1883-4,

Produce of principal crops.

\* For the population and number of acres under tillage in each Australasian colony during the thirteen years ended with 1885, see Summary of Australasian Statistics (third folding sheet) *ante*; also Appendix A *post*.

and that of potatoes than in any other year except 1879-80. The barley and hay crops were larger than in any other year. The following is a statement of the gross produce of each of the principal crops in 1884-5 and 1885-6 :—

GROSS PRODUCE OF PRINCIPAL CROPS, 1885 AND 1886.

Year ended March.	Wheat.	Oats.	Barley.	Potatoes.	Hay.
	Bushels.	Bushels.	Bushels.	Tons.	Tons.
1885 ...	10,433,146	4,392,695	1,082,430	161,119	371,046
1886 ...	9,170,538	4,692,303	1,302,854	163,202	442,118
Increase ...	...	299,608	220,424	2,083	71,072
Decrease ...	1,262,608	...	...	...	...

Wheat-  
producing  
counties.

1006. 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, 1881 TO 1886.

Counties.	Number of Bushels Produced.					
	1880-81.	1881-2.	1882-3.	1883-4.	1884-5.	1885-6.
Bendigo ...	1,007,979	517,342	622,451	1,217,037	656,454	732,245
Bogong ...	268,210	294,470	434,907	392,357	334,198	324,526
Borong ...	1,542,000	1,503,604	1,291,678	3,334,101	2,230,323	921,131
Dalhousie ...	134,554	206,000	197,968	160,381	35,746	41,687
Delatite ...	176,934	236,936	277,824	224,562	208,371	137,495
Gladstone ...	723,419	385,181	556,931	1,074,658	752,311	505,682
Gunbower ..	697,569	230,952	215,129	852,930	272,280	588,073
Kara Kara	950,096	678,846	576,667	1,599,720	1,026,417	520,249
Lowan ...	406,090	540,539	613,278	1,189,488	1,388,431	1,142,784
Moira ...	1,655,322	1,865,846	1,805,153	2,797,046	2,063,628	2,661,218
Rodney ...	1,068,673	1,007,787	852,358	1,170,861	692,133	945,734
Talbot ...	302,987	377,893	368,480	333,154	172,514	124,114
Total	8,933,833	7,845,396	7,812,824	14,346,295	9,832,806	8,644,938

Yield of  
wheat in  
twelve  
counties.

1007. In the last two seasons about sixteen-seventeenths of the wheat raised in Victoria was grown in these twelve counties, as against a proportion of about twelve-thirteenths in 1883-4, and about eight-ninths in the previous three years. In all the counties except Bendigo, Dalhousie, Gunbower, Moira, and Rodney the gross yield was smaller in 1885-6 than in the previous year. The falling-off was especially

great in Borung and Kara Kara, the crop in the former being less than half, and in the latter only a little more than half, that of the crop of 1884-5.

1008. The average produce of wheat per acre in the various counties, and in the whole colony in 1885-6, 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 :—

Yield of wheat in each county.

AVERAGE PRODUCE OF WHEAT IN EACH COUNTY, 1881 TO 1886.

County.	Bushels of Wheat per Acre.†					
	1880-81.	1881-2.	1882-3.	1883-4.	1884-5.	1885-6.
Tanjil ...	7·71	20·50	22·41	13·89	18·96	21·81
Grant ...	12·78	22·56	24·55	20·29	17·92	20·40
Villiers ...	11·73	26·15	27·30	22·45	23·71	19·83
Buln Buln ...	9·23	22·34	25·33	20·78	20·27	19·67
Heytesbury ...	13·16	21·97	24·80	19·35	20·97	18·99
Polwarth ...	3·27	18·02	23·30	21·53	25·45	18·56
Bourke ...	12·05	20·65	20·86	18·35	17·48	18·31
Evelyn ...	8·26	20·16	19·96	17·27	15·80	17·81
Grenville ...	8·40	16·71	19·61	16·36	13·43	17·38
Dargo ...	10·27	18·59	20·35	16·16	17·03	15·82
*Dalhousie ...	9·75	21·58	23·22	17·01	15·58	15·35
Benambra ...	12·73	20·92	22·11	20·21	20·38	15·14
Mornington ...	8·16	21·30	23·61	19·48	25·02	15·00
*Talbot ...	10·07	16·53	18·35	16·81	15·45	14·91
Ripon ...	12·14	15·67	17·53	15·80	14·89	14·83
Wonnangatta ...	4·69	18·80	19·99	11·98	11·23	14·25
Anglesey ...	9·49	17·99	19·42	12·55	12·96	13·55
Normanby ...	8·14	16·81	18·09	14·90	16·07	13·40
Hampden ...	9·31	21·02	21·37	16·99	13·91	13·25
*Moir ...	12·71	12·91	12·17	15·57	10·53	13·09
Dundas ...	10·11	20·01	19·20	16·88	13·78	13·04
*Rodney ...	12·34	12·68	10·51	13·09	8·75	12·88
*Bogong ...	9·92	13·49	16·47	13·72	13·82	12·55
*Delatite ...	8·29	13·90	16·10	11·74	14·33	12·32
Follett ...	8·43	12·61	16·86	16·36	14·64	11·63
*Bendigo ...	10·87	6·48	7·81	14·94	9·37	11·26
Croajingolong ...	10·41	21·51	15·15	16·79	19·77	10·98
Tambo ...	12·52	24·51	21·39	29·60	22·14	10·91
*Gunbower ...	9·29	4·16	3·24	12·74	4·19	9·29
*Lowan ...	10·01	10·65	9·00	11·76	11·09	8·63
*Gladstone ...	9·68	5·56	8·29	14·47	9·97	7·80
*Kara Kara ...	9·45	7·39	6·24	14·31	8·92	5·56
Tatchera ...	5·85	2·37	3·08	12·28	4·01	5·06
*Borong ...	7·92	7·00	5·66	13·75	8·75	4·22
Karkaroc ...	...	...	...	15·44	6·29	2·99
Total ...	9·95	9·40	9·03	14·10	9·52	8·99

\* The principal wheat-producing counties are marked with asterisks.

† In the three years, 1880-81 to 1882-3, the crops were much affected by drought.

Acreeable  
yield of  
wheat, 1885  
and 1886.

1009. It will be noticed that, taking the colony as a whole, the acreable yield of wheat fell from  $9\frac{1}{2}$  bushels in 1884-5 to 9 bushels in 1885-6, and was lower than in any of the other years named. In Tanjil, Grant, Bourke, Grenville, Evelyn, Wonnangatta, Anglesey, Moira, Rodney, Bendigo, Gunbower, and Tatchera, the produce per acre was higher in the past than in the previous season, but in the other 23 counties it was lower.

Average  
yields  
in twelve  
counties.

1010. It will also be noticed that if Karkaroc and Tatchera, in which the extent of land suitable for wheat cultivation is but small, be omitted, five of the "wheat-producing counties" in 1885-6 were at the bottom 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 greatest—the yield per acre was least. Talbot and Dalhousie, which stood much higher than the other "wheat-producing counties" in point of average yield, are situated to the south of the others, and thus partially escaped the influences which affected the crops all over the northern portion of the colony. These influences appear also to have been partially escaped by Moira, Rodney, Bogong, and Delatite, which lie to the eastward of the other "wheat-producing counties."

Small gross  
yield of  
wheat in  
some coun-  
ties.

1011. 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 1885-6 only 90 bushels of wheat were grown in Mornington, 406 in Croajingolong, 594 in Polwarth, 969 in Wonnangatta, 1,033 in Evelyn, 1,080 in Tambo, 1,603 in Hampden, and 2,309 in Dargo. In all these counties the yield per acre was above the average of the colony.

Yield of  
other prin-  
cipal crops  
in each  
county.

1012. 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 :—

AVERAGE PRODUCE OF OATS, BARLEY, POTATOES, AND HAY IN EACH COUNTY, 1884-5 AND 1885-6.

Counties.	Average Produce to the Acre of—							
	Oats. (Bushels.)		Barley. (Bushels.)		Potatoes. (Tons.)		Hay. (Tons.)	
	1884-5.	1885-6.	1884-5.	1885-6.	1884-5.	1885-6.	1884-5.	1885-6.
Anglesey ...	28·07	25·76	19·47	19·46	3·18	3·89	1·44	1·42
Benambra ...	29·57	18·97	24·39	18·47	3·60	3·43	1·56	1·09
Bendigo ...	14·79	17·51	13·29	14·21	2·16	3·52	·69	·94
Bogong ...	25·18	24·35	20·12	16·09	3·39	3·30	1·13	1·10

AVERAGE PRODUCE OF OATS, BARLEY, POTATOES, AND HAY IN EACH COUNTY, 1884-5 AND 1885-6—*continued.*

Counties.	Average Produce to the Acre of—							
	Oats. (Bushels.)		Barley. (Bushels.)		Potatoes. (Tons.)		Hay. (Tons.)	
	1884-5.	1885-6.	1884-5.	1885-6.	1884-5.	1885-6.	1884-5.	1885-6.
Borong ...	16·42	13·34	15·31	7·95	1·86	1·59	·65	·39
Bourke ...	31·20	28·12	30·33	28·20	4·05	4·43	1·37	1·76
Buln Buln ...	30·88	25·34	31·80	28·38	5·00	5·58	2·16	1·94
Croajingolong	25·32	13·38	21·67	13·75	3·93	3·75	1·44	1·15
Dalhousie ...	29·66	24·88	23·69	23·24	2·64	3·39	1·69	1·44
Dargo ...	21·89	18·60	22·70	18·42	4·28	3·71	1·63	1·15
Delatite ...	25·93	22·16	22·94	21·66	2·61	2·78	1·31	1·27
Dundas ...	23·49	19·72	18·58	22·10	2·27	1·67	1·64	1·38
Evelyn ...	27·32	21·28	26·05	26·79	3·55	3·41	1·75	1·57
Follett ...	22·54	17·44	18·30	20·93	2·29	1·98	1·38	·90
Gladstone ...	17·00	12·85	9·56	12·51	·69	3·80	·75	·66
Grant ...	34·14	29·36	30·27	28·91	4·36	4·69	1·27	1·76
Grenville ...	25·39	23·12	24·69	22·24	3·03	2·89	1·49	1·43
Gunbower ...	5·44	14·53	5·08	11·77	1·00	2·00	·33	·90
Hampden ...	24·76	21·45	25·41	25·19	6·05	4·15	1·84	1·58
Heytesbury ...	27·18	21·42	26·70	29·61	3·85	3·00	2·10	1·33
Kara Kara ...	16·49	12·79	12·89	9·29	1·99	2·16	·74	·45
Karkaroc ...	7·31	4·11	21·20	19·14	...	...	·46	·22
Lowan ...	17·25	13·63	14·92	11·44	2·31	2·62	·89	·76
Moira ...	14·93	20·66	14·32	14·83	1·54	2·06	·68	1·06
Mornington ...	27·95	20·71	28·69	15·79	4·54	4·23	2·00	1·30
Normanby ...	21·71	18·58	20·84	19·42	3·75	3·30	1·68	1·43
Polwarth ...	32·73	22·54	41·28	26·85	4·91	3·65	2·30	1·17
Ripon ...	26·22	22·39	28·36	29·82	2·43	2·63	1·77	1·69
Rodney ...	10·64	18·81	13·31	16·24	3·46	3·50	·52	1·02
Talbot ...	30·13	24·83	24·50	21·69	3·09	3·35	1·64	1·48
Tambo ..	30·87	13·64	21·43	13·17	4·04	3·04	2·10	1·11
Tanjil ...	25·50	22·31	30·02	25·58	3·03	3·49	1·57	1·21
Tatchera ...	17·28	17·29	6·30	9·20	...	1·00	·26	·48
Villiers ...	25·20	19·81	24·74	34·14	5·43	3·50	2·41	1·65
Wonnangatta	24·19	20·48	12·00	...	3·50	4·44	1·48	1·34
Total ...	23·40	21·72	17·38	17·58	4·16	3·83	1·09	1·05

1013. It will be noticed that in the year ended 1st March, 1886, the highest acreable yield of oats was in Grant, Bourke, Anglesey, Buln Buln, Dalhousie, Talbot, and Bogong, in the order named; that the average yield of barley was highest in Villiers, then in Ripon, Heytesbury, Grant, Buln Buln, and Bourke, in the order named (the land covered with barley, however, in Ripon, Heytesbury, and Buln Buln being only 146 acres, 138 acres, and 82 acres); that potatoes yielded the largest crop per acre in Buln Buln, where the average was over 5½ tons; also that 4 tons per acre was exceeded in Grant, Wonnangatta, Bourke, Mornington, and Hampden; that the highest yields of hay were in Buln Buln, Bourke, Grant, Ripon, Villiers, Hampden, and

Yield of oats, barley, potatoes, and hay, 1885-6.

Evelyn—those being the only counties in which this crop averaged as much as  $1\frac{1}{2}$  tons to the acre.

Yield of principal crops in past two seasons.

1014. Comparing the averages of 1885-6 with those of the previous season, an increase is observed in the yield per acre of all the crops in Bendigo, Gunbower, Moira, Rodney, and Tatchera; of barley and potatoes in Gladstone and Ripon; of potatoes and hay in Bourke and Grant; of barley in Dundas, Evelyn, Follett, Heytesbury, and Villiers; and of potatoes in Anglesey, Buln Buln, Dalhousie, Delatite, Kara Kara, Lowan, Talbot, Tanjil, and Wonnangatta. In all other cases the average yields were below those in 1884-5.

Yield of principal crops, 1872 to 1886.

1015. In the past season, over the colony as a whole, the acreable yield of wheat, barley, and hay was below, and that of oats and potatoes above, the average; thus the yield per acre of wheat was lower than in any of the previous fourteen years except 1878-9; that of barley was lower than in any except 1884-5, 1882-3, and 1880-81; and that of hay was lower than in any of the years. On the other hand, the yield per acre of oats was exceeded only in the previous four years and in 1879-80 and 1875-6; and that of potatoes was exceeded only in the two preceding years and in 1879-80. This will be seen by the following table, which shows the yield per acre of those five crops during each of those years, also the average during the whole period:—

AVERAGE PRODUCE OF PRINCIPAL CROPS, 1872 TO 1886.

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
1885 ... ..	9·52	23·40	17·38	4·16	1·09
1886 ... ..	8·99	21·72	17·58	3·83	1·05
Mean ... ..	12·15	20·92	19·84	3·44	1·24

Malting and other barley.

1016. In the last two years the statistics of malting barley were distinguished from those of other descriptions of the same cereal. The following is the result of this division for the year under review:—

MALTING AND OTHER BARLEY, 1885-6.

Description of Barley.			Area under Crop.	Gross Produce.	Average per acre.
			Acres.	Bushels.	Bushels.
Malting	...	...	62,343	1,032,473	16·56
Other	...	...	11,769	270,381	22·97
Total			74,112	1,302,854	17·58

1017. Of the total area under barley, 84 per cent. was under malting barley, and of the produce of barley, 79 per cent. was of malting barley. (These proportions have not varied in the last two years.) It will be noticed that this description of barley is by far the less prolific of the two kinds, the average being only about 16½ bushels to the acre, as against nearly 23 bushels of the other barley.

Yield of malting smaller than of other barley.

1018. 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 thirteen years ended with 1885:—

Average produce in Australasian colonies.

AVERAGE PRODUCE PER ACRE OF THE PRINCIPAL CROPS IN AUSTRALASIAN COLONIES, 1873 TO 1885.

Year ended March.	Victoria.	New South Wales.	Queensland.*	South Australia.	Western Australia.	Tasmania.	New Zealand.
<b>WHEAT.</b>	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
1884	14·10	15·00	4·34	7·94	13·00	17·74	26·02
1885	9·52	15·27	16·17	7·53	13·00	19·20	25·43
Mean	12·21	15·11	11·94	7·10	12·25	18·27	26·21
<b>OATS.</b>	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
1884	25·07	21·15	8·90	14·65	17·00	27·39	35·11
1885	23·40	21·87	15·17	12·20	18·00	28·65	34·84
Mean	20·25	20·42	14·75	12·79	16·02	25·61	32·52

\* 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 1885—*continued.*

Year ended March.	Victoria.	New South Wales.	Queens- land.*	South Australia.	Western Australia.	Tasmania.	New Zealand.
<b>BARLEY.</b>	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
1884 ...	22·84	20·96	13·24	14·01	16·00	25·57	29·31
1885 ...	17·38	21·16	24·73	13·48	16·50	29·58	30·37
Mean ...	20·00	20·44	18·34	12·59	14·92	24·28	27·52
<b>POTATOES.</b>	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
1884 ...	4·01	2·47	2·60	4·22	3·00	3·59	5·36
1885 ...	4·16	2·52	2·92	4·10	3·00	4·37	5·78
Mean ...	3·37	2·86	2·51	3·22	2·77	3·44	5·18
<b>HAY.</b>	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
1884 ...	1·43	1·28	1·39	1·06	1·00	1·29	1·39
1885 ...	1·09	1·24	1·40	·93	1·00	1·24	1·41
Mean ...	1·24	1·38	1·57	1·10	1·17	1·27	1·15

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 thirteen years ended with 1885-6, see Summary of Australasian Statistics (third folding sheet) *ante*; and for average yields per acre in 1885-6, see Table XVI. of Appendix A *post*.

Colonies  
with highest  
and lowest  
average  
yields.

1019. 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

\* See footnote to preceding page.

Queensland. The lowest average yield of wheat, oats, barley, and hay is in South Australia ; and that yield of potatoes is lowest in Queensland. Victoria stands third in regard to the average per acre of potatoes, and fourth in regard to the remaining crops.

1020. 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 was above the mean of the thirteen years to which reference is made ; which was also the case in respect to all the crops except hay in Queensland, Western Australia, and Tasmania; all the crops except wheat in New Zealand; all the crops except potatoes and hay in New South Wales; and all the crops except oats and hay in Queensland.

1021. The next table shows the acreage under various crops in the United Kingdom, Australasia, British North America, the Cape of Good Hope, the principal countries on the continent of Europe and the United States of America. All the information has been taken from official documents :—

LAND UNDER CERTAIN CROPS IN SOME BRITISH AND FOREIGN COUNTRIES (000's OMITTED).

Country.	Year.	Number of Acres under—				
		Wheat.	Oats.	Barley.	Rye.	Potatoes.
The United Kingdom...	1885	2,549,	4,269,	2,437,	...	1,346,
Australasia ...	1885-6	3,471,	598,	143,	...	106,
Ontario ...	1881	1,949,	...	...	...	181,
Quebec, Nova Scotia, and New Brunswick	1881	311,	...	...	...	235,
Manitoba ...	1881	51,	...	...	...	4,
Prince Edward Island, British Columbia, and the Territories ...	1881	56,	...	...	...	43,
Cape of Good Hope ...	1875	188,	115,	29,	...	9,
Austria ...	1884	2,734,	4,531,	2,654,	4,891,	2,678,
Belgium ...	1883	811,	616,	99,	686,	492,
Denmark ...	1881	127,	911,	718,	607,	101,
France ...	1884	17,419,*	9,132,	2,612,	4,262,	3,497,
Germany ...	1884	5,670,*	9,308,	4,286,	14,403,	7,182,
Holland ...	1884	220,	295,	116,	498,	351,
Hungary ...	1884	6,805,*	2,457,	2,459,	2,728,	1,017,
Italy ...	1883	11,700,	939,	1,250,†	...	173,
Norway ...	1875	11,	224,	138,	37,	86,
Russia in Europe ...	1881	28,947,	34,890,	12,454,	64,609,	3,713,
Sweden ...	1883	1,098,†	2,502,‡	...	...	382,
United States ...	1884	39,476	21,301,	2,609,	2,344,	2,217,

1022. The official returns of the various countries contain statements of produce, and these are given in the following table. The produce of potatoes is not returned in tons, as in the Australasian colonies, but in bushels :—

\* Including spelt (*Triticum spelta*). † Including also rye. ‡ Including also barley and mixed corn.

GROSS PRODUCE OF CERTAIN CROPS IN SOME BRITISH AND FOREIGN COUNTRIES (000'S OMITTED).

Country.	Year.	Number of Bushels * raised of—				
		Wheat.	Oats.	Barley.	Rye.	Potatoes.
The United Kingdom	1885	79,636,	160,441,	85,722,	...	271,041,
Australasia ...	1885-6	31,683,	14,472,	2,772,	...	16,497,
Ontario ...	1881	27,406,	40,210,	14,280,	...	18,894,
Quebec, Nova Scotia, and New Brunswick	1881	3,070,	25,161,	2,064,	...	29,213,
Manitoba ...	1881	1,034,	1,270,	253,	...	556,
Prince Edward Island, British Columbia, and The Territories ...	1881	840,	3,852,	247,	...	6,605,
Cape of Good Hope ...	1875	1,688,	918,	448,	...	372,
Austria ...	1884	42,432,	97,308,	51,220,	83,982,	30,070,
Belgium ...	1883	21,135,†	22,634,	3,292,	15,912,	66,876,*
Denmark ...	1884	4,784,	29,127,	20,456,	15,724,	12,395,
France ...	1884	314,135,†	242,216,	53,464,	72,204,	410,600,
Germany ...	1884	108,711,†	233,441,	98,280,	240,280,	945,342,
Holland ...	1884	5,737,†	11,083,‡	4,736,	10,273,	68,394,‡
Hungary ...	1884	104,045,†	55,324,	45,370,	41,627,	129,557.*
Italy ...	1884	120,575,	15,137,	15,049,§	...	22,626,*
Norway ...	1875	276,	8,896,	4,285,	1,016,	19,591,
Russia in Europe ...	1884	258,562,	485,353,	128,948,	664,958,	286,334,
Sweden ...	1884	3,676,	54,662,	16,218,	21,461,	52,159,
United States ...	1884	496,740,	565,390,	59,294,	27,743,	184,318,

Average  
yield of  
wheat in  
United  
Kingdom.

1023. Until 1884 no official return was 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 31st January, 1885, 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, and this has been supplemented by the official figures for 1884 and 1885, published by the Agricultural Department of the Privy Council Office.||

AVERAGE PRODUCE PER ACRE OF WHEAT IN THE UNITED KINGDOM, 1866 TO 1885.

Bushels per acre.			Bushels per acre.		
1866	...	27	1876	...	27
1867	...	25	1877	...	22
1868	...	34	1878	...	30
1869	...	27	1879	...	18
1870	...	32	1880	...	26
1871	...	27	1881	...	27
1872	...	23	1882	...	28
1873	...	25	1883	...	26
1874	...	31	1884	...	29·9
1875	...	23	1885	...	31·2

\* The produce was originally given in Imperial bushels, except in the case of Austria, where it was stated in tons, Germany in cwts., and the United States in Winchester bushels. Besides, the potato crop of Belgium, Hungary, and Italy was stated in cwts. and that of Australasia in tons. All these have been converted into Imperial bushels upon the assumption that 60 lbs. of wheat, 40 lbs. of oats, 50 lbs. of barley or rye, and 56 lbs. of potatoes are in each case equal to an Imperial bushel; also that a Winchester bushel is equivalent to 969,447 of an Imperial bushel.

† Including also spelt (*Triticum spelta*).

‡ Return for 1883.

§ Including also rye.

|| *Agricultural Produce Statistics*, 1885. Eyre and Spottiswoode, London.

1024. The average produce in the 20 years was within a fraction of 27 bushels per acre, which is much above the yield in any of the Australasian colonies. The yield in 1885 (31 bushels to the acre) was, it will be observed, exceeded in only two previous seasons.

Wheat yield in United Kingdom and colonies compared.

1025. The acreable produce during several years in the countries named in a previous table has been calculated, where possible, in the office of the Government Statist, Melbourne, and is given in the following table :—

Average yield of crops in British and Foreign countries.

AVERAGE PRODUCE PER ACRE OF SOME BRITISH AND FOREIGN COUNTRIES.

Country.	Bushels* per Acre of—				
	Wheat.	Oats.	Barley.	Rye.	Potatoes.
The United Kingdom ...	26·9	37·7	34·7	...	194·0
Australasia ..	9·1	24·2	19·4	...	155·0
Ontario ...	14·1	...	...	...	104·4
Quebec, Nova Scotia, and New Brunswick ...	9·9	...	...	...	124·3
Manitoba ...	20·3	...	...	...	139·0
Prince Edward Island, British Columbia, and the Territories ...	15·0	...	...	...	153·6
Cape of Good Hope ...	9·0	8·1	15·4	...	41·2
---					
Austria ...	16·4	20·9	18·0	16·2	105·7
Belgium ...	22·8	41·8	35·1	24·9	137·8
Denmark ...	31·1	32·3	28·8	25·3	92·9
France ...	16·9	26·0	20·1	15·9	108·6
Germany ...	18·8	21·9	23·7	15·4	125·4
Holland ...	21·5	42·1	37·3	19·0	125·4
Hungary ...	13·6	20·2	15·8	14·3	174·7
Italy ...	12·1	19·3	15·3	...	147·9
Norway ...	25·1	39·7	31·0	27·5	227·8
Russia in Europe ...	4·6	12·3	6·7	6·2	76·9
United States ...	11·7	26·0	21·9	12·8	86·3

1026. It will be observed that the average yield of wheat is 31 bushels in Denmark, 27 bushels in the United Kingdom, 25 bushels in Norway, 23 bushels in Belgium, 21 bushels in Holland, 20 bushels in Manitoba, 19 bushels in Germany, 17 bushels in France, and 16 bushels in Austria, 15 bushels in British Columbia, 14 bushels in Hungary and Ontario, 12 bushels in Italy, nearly 12 bushels in the United States, and nearly 10 bushels in Quebec, all of which were above the average of Australasia; but the wheat yields of the Cape of Good Hope and European Russia were below the average of these colonies.

Yield of wheat in Foreign countries and Australasia.

1027. According to the figures, the average yield of oats in Australasia is higher than in the Cape of Good Hope, Austria, Germany, Hungary, Italy, or European Russia, but lower than in any other of the

Yield of oats, barley, and potatoes in Foreign countries and Australasia.

\* See footnote (\*) to table following paragraph 1022 ante.

countries named; the yield of barley is higher than in the Cape of Good Hope, Austria, Hungary, Italy, or European Russia, but below that in the other countries. The yield of potatoes in Australasia is about equal to that of British Columbia, and above that in any of the other countries named except the United Kingdom, Hungary, and Norway.

Wheat crop  
of the  
world.

1028. According to statistics compiled by the Honorable J. R. Dodge, statistician to the Department of Agriculture at Washington, U.S.A., the wheat crop of various countries in 1885, reduced to bushels, was as follows:—

WHEAT CROP OF THE WORLD, 1885.

Countries.				Bushels.
EUROPE.				
Austria	...	...	...	39,725,000
Belgium	...	...	...	19,573,926
Denmark	...	...	...	5,000,000
France ...	...	...	...	312,912,137
Germany	...	...	...	106,973,750
Great Britain	...	...	...	82,145,888
Greece ...	...	...	...	4,965,625
Hungary	...	...	...	114,638,868
Italy ...	...	...	...	118,244,589
Netherlands	...	...	...	4,965,625
Portugal	...	...	...	7,661,250
Roumania	...	...	...	22,629,063
Russia...	...	...	...	209,192,256
Servia ...	...	...	...	4,681,875
Spain ...	...	...	...	113,500,000
Sweden and Norway	...	...	...	2,837,500
Switzerland	...	...	...	2,057,188
Turkey in Europe	...	...	...	45,400,000
Other European Countries	...	...	...	557,500
ASIA.				
Asia Minor	...	...	...	43,200,938
India ...	...	...	...	287,955,584
Persia ...	...	...	...	26,743,438
Syria ...	...	...	...	16,457,500
AFRICA.				
Algeria...	...	...	...	22,700,000
Egypt ...	...	...	...	14,187,500
South-East Africa	...	...	...	8,228,750
Tunis ...	...	...	...	2,837,500
AMERICA.				
Antilles	...	...	...	411,438
Canada...	...	...	...	35,000,000
Central America	...	...	...	411,438
Chili, Argentine Republic, &c.	...	...	...	25,000,000
Mexico ...	...	...	...	4,114,375
United States	...	...	...	357,112,000
AUSTRALASIA	...	...	...	37,077,134
Total	...	...	...	2,098,997,635

1029. Supposing these figures to be correct, and the wheat to be worth four shillings per bushel, the total value of the world's wheat crop in 1885 would be over four hundred millions sterling (£419,799,527). Value of the world's wheat crop.

1030. 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 Experimental Farm.

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

“Buildings comprising lecture hall, dining hall, class rooms, instructor's quarters, sleeping accommodation for forty pupils, baths, out-offices, &c., have been erected with a view to a farm school being opened. The required number of pupils have been secured. The instruction will be free, but a charge of £25 per annum for each pupil will be made to cover the cost of maintenance. The course of instruction will comprise chemistry, botany, entomology, and geology, advanced English, arithmetic, mensuration, surveying, and bookkeeping, practical work on the farm, instruction in field operations, the use of farm implements and machinery, and the management of live stock.

“A sale of farm stock was held at the farm in October last with satisfactory results. The total of the sales, after deducting charges, was £690 7s. 11d.

“The year 1885–6 included a bad season, the harvest was deficient, and low prices were obtained for grain and wool. The receipts from the sale of produce, &c., were £1,315 6s. 11d., being £380 9s. 6d. less than the receipts for the previous year. The expenditure was £1,058 7s. 11d., leaving a balance in favour of receipts of £256 19s.

“The live stock at present comprises:—

21 horses	... ..	... estimated value	£695	10	0
28 short-horned cattle	... ..	”	567	10	0
14 Hereford	... ..	”	72	0	0
104 store cattle and milch cows	... ..	”	412	10	0
2,411 sheep	... ..	”	930	10	0
23 pigs	... ..	”	72	10	0
			<hr/>		
			£2,750	10	0
			<hr/>		

“Additional improvements effected during the year:—

400 acres of land cleared	... ..	... ..	... ..	£300	0	0
Construction of silo	... ..	... ..	... ..	150	0	0
Construction of sheep-yards	... ..	... ..	... ..	20	0	0
			<hr/>			
			£470	0	0	
			<hr/>			

“The average yield from the wheat crop was 14 bushels per acre, and from oats 34 bushels. Most of the wheat was sold for seed.

“The grape crop produced 1,040 gallons of wine from 4½ acres, or an average of 233 gallons per acre. The wine realized 5s. per gallon by auction.

“The yield of olive oil from 35 cwt. of berries was 42 gallons of good oil and 10 gallons of an inferior quality. The oil was sold at from 8s. to 8s. 9d. per gallon.

“Experiments were tried in cultivating twenty-six varieties of wheat; at the time they were in flower, however, the hot winds had a deterrent effect. The varieties that succeeded best and appear the best adapted for the northern districts are purple straw, Port McDonnell, Champlain hybrid, and Du Toits, the last two named varieties being bearded.

“Five acres were sown with sugar beet, but the crop was not a good one owing to dry weather extending from January to May.

“An experiment in the cultivation of salt-bush has been very successful. The plants are five feet high, growing luxuriantly, and well worth cultivating by all farmers.

“Six varieties of sorghum have been cultivated, but with only moderate success.

“Of the several varieties of grass the only one which has been successfully tried is the Johnson grass. It keeps green through the summer, and to the middle of March, when it seeds.

“Experiments have been tried in the cultivation of various seeds procured from India, but the results were unsatisfactory.”

Agricultural colleges.

1031. An Act for the establishment of Agricultural Colleges\* was passed towards the close of 1884. The following particulars respecting this Act and its operations have been supplied by Mr. D. Martin, the Secretary for Agriculture:—

“This Act provides for the permanent reservation from sale of 150,000 acres of Crown lands by way of endowment of State Agricultural Colleges and Experimental Farms, which, together with other lands reserved as sites for such institutions prior to the passing of the Act, are to be vested in three trustees to be appointed by the Governor in Council. The Act also provides for the appointment of a Council of Agricultural Education, consisting of eleven members, three of whom are to be the trustees just mentioned, one to be the Secretary for Agriculture (who is to be the treasurer of the council) five to be elected annually by the governing bodies of Agricultural Societies in Victoria, and two to be appointed by the Governor in Council. The trustees, subject to regulations made by the Council of Agricultural Education, may lease lands for building purposes for periods not exceeding 33 years, and for other purposes for periods not exceeding 14 years, and upon a requisition of the same council may dedicate, as sites for Agricultural Colleges and Experimental Farms, any lands purchased by them or described in the Act. All moneys received by the council from the sale of stock

\* The Agricultural Colleges Act 1884 (48 Vict. No. 825).

or farm produce, or as fees from students at Agricultural Colleges and Experimental Farms, together with all other money coming to the council, are to form a fund to be called the Agricultural College Fund, which is to be expended in providing instruction for students, or in purchasing stock, seed, agricultural implements, and all other necessaries for the education of the students and the proper working of the experimental farms, &c. The council, subject to Ministerial approval, have the appointment of professors, teachers, officers, and servants for the Colleges and Experimental Farms. Most of the proceedings of the trustees and of the council have to be approved by the Governor in Council before coming into effect. The Act was amended in 1885,\* so as to provide for five members being elected by members of Agricultural Societies in lieu of by the governing bodies of such societies; also for the elections to be held once in every three years, instead of being held annually. More than 100,000 acres of the land intended as endowment have been reserved and vested in the trustees. A large portion of the land so vested has been leased for agricultural and grazing purposes. The first school will shortly be opened at the Experimental Farm, Dookie."

1032. The following table shows, for 1840 and each subsequent year, the quantity of wheat grown in Victoria, and the quantity of wheat, flour, and biscuit imported after deducting exports, or exported after deducting imports, also the residue of breadstuffs left for consumption during each of those years:—

Breadstuffs available for consumption.

BREADSTUFFS AVAILABLE FOR CONSUMPTION, 1840 TO 1885.

Year.	Wheat grown in Victoria.	Wheat, Flour, and Biscuit.†		
		Imported after deducting Exports.	Exported after deducting Imports.	Available for Consumption.
	bushels.	bushels.	bushels.	bushels.
1840 ... ..	12,600	57,771	...	70,371
1841 ... ..	50,420	116,350	...	166,770
1842 ... ..	47,840	119,004	...	166,844
1843 ... ..	55,360	58,616	...	113,976
1844 ... ..	104,040	98,581	...	202,621
1845 ... ..	138,436	74,699	...	213,135
1846 ... ..	234,734	43,928	...	278,662
1847 ... ..	345,946	36,871	...	382,817
1848 ... ..	349,730	64,726	...	414,456
1849 ... ..	410,220	76,092	...	486,312
1850 ... ..	525,190	55,564	...	580,754
1851 ... ..	556,167	216,811	...	772,978
1852 ... ..	733,321	1,208,006	...	1,941,327
1853 ... ..	498,704	1,499,994	...	1,998,698
1854 ... ..	154,202	1,385,465	...	1,539,667
1855 ... ..	250,091	1,985,496	...	2,235,587
1856 ... ..	1,148,011	2,236,406	...	3,384,417
1857 ... ..	1,858,756	1,958,905	...	3,817,661
1858 ... ..	1,808,439	1,504,760	...	3,313,199

NOTE.—In 1885 the imports of breadstuffs amounted to 79,080 bushels, valued at £14,892, but the exports of breadstuffs amounted to 3,825,065 bushels, valued at £772,432. The balance in favour of exports was, therefore, 3,745,985 bushels, valued at £757,540.

\* By the Agricultural Colleges Act 1885 (49 Vict. No. 871).

† The quantities of flour 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.

BREADSTUFFS AVAILABLE FOR CONSUMPTION, 1840 TO  
1885—continued.

Year.	Wheat grown in Victoria.	Wheat, Flour, and Biscuit.*		
		Imported after deduct- ing Exports.	Exported after deduct- ing Imports.	Available for Consumption.
	bushels.	bushels.	bushels.	bushels.
1859 ... ..	1,563,113	1,957,610	...	3,520,723
1860 ... ..	2,296,157	1,565,423	...	3,861,580
1861 ... ..	3,459,914	1,522,517	...	4,982,431
1862 ... ..	3,607,727	183,106	...	3,790,833
1863 ... ..	3,008,487	191,107	...	3,199,594
1864 ... ..	1,338,762	1,868,990	...	3,207,752
1865 ... ..	1,899,378	1,800,932	...	3,700,310
1866 ... ..	3,514,227	1,754,699	...	5,268,926
1867 ... ..	4,641,205	15,190	...	4,656,395
1868 ... ..	3,411,663	162,038	...	3,573,701
1869 ... ..	4,229,228	719,589	...	4,948,817
1870 ... ..	5,697,056	...	95,654	5,601,402
1871 ... ..	2,870,409	1,179,583	...	4,049,992
1872 ... ..	4,500,795	389,963	...	4,890,758
1873 ... ..	5,391,104	...	138,088	5,253,016
1874 ... ..	4,752,289	...	40,714	4,711,575
1875 ... ..	4,850,165	200,369	...	5,050,534
1876 ... ..	4,978,914	258,931	...	5,237,845
1877 ... ..	5,279,730	...	384,118	4,895,612
1878 ... ..	7,018,257	...	1,005,968	6,012,289
1879 ... ..	6,060,737	...	957,384	5,103,353
1880 ... ..	9,398,858	...	3,578,733	5,820,125
1881 ... ..	9,727,369	...	3,892,974	5,834,395
1882 ... ..	8,714,377	...	3,321,532	5,392,845
1883 ... ..	8,751,454	...	2,376,530	6,374,924
1884 ... ..	15,570,245	...	8,232,605	7,337,640
1885 ... ..	10,433,146	...	3,745,985	6,687,161

Population  
and bread-  
stuffs.

1033. It will be observed that only in the last nine 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 twelve years there was a surplus of Victorian-grown wheat remaining for export, the quantity in 1884, however, being larger than that in any two of the other years. The following table shows, for each year, the mean population of Victoria, the quantity of breadstuffs available for consumption, and 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:—

\* See footnote (†) to preceding page.

POPULATION AND BREADSTUFFS, 1840-1885.

Year.	Mean Population.	Wheat, Flour, and Biscuit.*				
		Quantity Available for Consumption.	Probable Manner of Consumption.			
			For Seed, &c.	For Food.		
				Total.	Per Head.	
		bushels.	bushels.	bushels.	bushels.	
1840	...	8,056	70,371	3,880	66,491	8.25
1841	...	15,353	166,770	3,404	163,366	10.64
1842	...	22,107	166,844	4,864	161,980	7.33
1843	...	23,951	113,976	9,348	104,628	4.37
1844	...	25,418	202,621	13,839	188,782	7.43
1845	...	29,007	213,135	22,933	190,202	6.56
1846	...	34,807	278,662	31,604	247,058	7.10
1847	...	40,635	382,817	35,359	347,458	8.55
1848	...	47,163	414,456	38,775	375,681	7.97
1849	...	58,805	486,312	48,494	437,818	7.45
1850	...	71,191	580,754	57,020	523,734	7.36
1851	...	86,825	772,978	59,247	713,731	8.22
1852	...	132,905	1,941,327	33,646	1,907,681	14.35
1853	...	195,378	1,998,698	15,107	1,983,591	10.15
1854	...	267,371	1,539,667	25,654	1,514,013	5.66
1855	...	338,315	2,235,587	85,372	2,150,215	6.36
1856	...	380,942	3,384,417	160,310	3,224,107	8.46
1857	...	430,347	3,817,661	174,460	3,643,201	8.47
1858	...	483,827	3,313,199	156,468	3,156,731	6.52
1859	...	517,390	3,520,723	214,185	3,306,538	6.39
1860	...	534,055	3,861,580	322,503	3,539,077	6.62
1861	...	539,824	4,982,431	393,844	4,588,587	8.50
1862	...	548,080	3,790,833	324,018	3,466,815	6.33
1863	...	562,960	3,199,594	298,784	2,900,810	5.15
1864	...	586,450	3,207,752	250,080	2,957,672	5.04
1865	...	611,218	3,700,310	357,256	3,343,054	5.47
1866	...	629,038	5,268,926	417,176	4,851,750	7.71
1867	...	644,276	4,656,395	433,978	4,222,417	6.55
1868	...	663,092	3,573,701	519,608	3,054,093	4.61
1869	...	687,202	4,948,817	577,028	4,371,789	6.36
1870	...	713,195	5,601,402	568,334	5,033,068	7.06
1871	...	737,005	4,049,992	669,218	3,380,774	4.59
1872	...	753,198	4,890,758	653,128	4,237,630	5.63
1873	...	765,511	5,253,016	699,952	4,553,064	5.95
1874	...	777,656	4,711,575	665,872	4,045,703	5.20
1875	...	787,337	5,050,534	642,802	4,407,732	5.60
1876	...	796,558	5,237,845	802,834	4,435,011	5.57
1877	...	808,605	4,895,612	1,129,128	3,766,484	4.66
1878	...	821,466	6,012,289	1,383,244	4,629,045	5.64
1879	...	834,030	5,103,353	1,414,376	3,688,977	4.42
1880	...	850,343	5,820,125	1,954,570	3,865,555	4.55
1881	...	868,942	5,834,395	1,853,458	3,980,937	4.58
1882	...	890,470	5,392,845	1,938,724	3,454,121	3.88
1883	...	917,310	6,374,924	2,208,784	4,166,140	4.54
1884	...	946,100	7,337,640	2,192,708	5,144,932	5.44
1885	...	975,040	6,687,161	2,040,164	4,646,997	4.77

\* See footnote (†) to page 507 ante.

Allowance  
for seed,  
waste, &c.

1034. 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 1885 left for consumption, waste, &c., would be 5,157,038 bushels, equal to  $5\frac{1}{4}$  bushels per head; or, if only 1 bushel per acre be allowed for seed, the residue would amount to 5,667,079 bushels, or about  $5\frac{4}{5}$  bushels per head.

Consumption  
of bread-  
stuffs per  
head.

1035. 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 most recent years; but in only one year, viz., 1882, to less than 4 bushels per head.

Average con-  
sumption of  
breadstuffs.

1036. The quantity of breadstuffs available for annual food-consumption per head has averaged 5.74 bushels over the whole period of forty-six years, but during the last five years it averaged only 4.64 bushels. In the present state of the Victorian population, it may be fair to assume that from  $4\frac{1}{2}$  bushels to  $4\frac{3}{4}$  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.

1037. 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 nineteen harvest years (or periods extending from the 1st September to the 31st August) ended with 1884-5; 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 1885.

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	35,838,516	191,520,	5.37
1885 †	36,179,000	208,000,	5.75

1038. As a result of calculations derived from the figures in the table, it appears that in the nineteen years named the average quantity of wheat available for consumption in the United Kingdom was 5.66 bushels per head, or about a bushel per head more than is apparently found sufficient for the requirements of the Victorian population. Average consumption of wheat in United Kingdom.

1039. 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 much 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.

\* 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.

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

Consumption of breadstuffs in various places.

1040. Baron Kolb, the eminent German statistician, whilst admitting the imperfections of the data on which he worked, gives the following as the probable consumption of breadstuffs per head in various places,\* his estimate for England being nearly double that given for the United Kingdom in the last table :—

CONSUMPTION OF BREADSTUFFS PER HEAD IN VARIOUS COUNTRIES AND CITIES.

			Lbs. per Head.		Bushels per Head.
France	...	...	495	equal to	11·00
Baden	...	...	471	„	10·47
England	...	...	450	„	10·00
Paris	...	...	365	„	8·11
Prussia	...	...	345	„	7·67
Frankfort on Main	...	...	322·45	„	7·16
Darmstadt	...	...	321·4	„	7·14
Bremen	...	...	123·7	„	2·75

Imports and exports of breadstuffs, 1837 to 1885.

1041. The quantity and declared value of the Victorian imports and exports of breadstuffs during the forty-nine years, 1837 to 1885, are set down in the following table :—

IMPORTS AND EXPORTS OF BREADSTUFFS,† 1837 TO 1885.

Wheat, Flour, and Biscuit.	Quantity.	Value.
	bushels.	£
Imported, 1837 to 1885 ... ..	32,854,123	13,881,642
Exported, „ „ ... ..	33,971,184	8,586,353
Imports in excess of exports ...	...	5,295,289
Exports in excess of imports ...	1,117,061	...

Excess of quantity exported, of value imported.

1042. It will be observed that the breadstuffs exported from the colony from the period of its first settlement to the end of 1885 exceeded those imported during the same period by over a million bushels; but, in consequence of the prices of wheat and flour during the earlier years, in which the imports invariably exceeded the exports, being much higher than in the later years, in which the exports exceeded the imports, the declared value of the breadstuffs received has exceeded that of those sent away by over 5¼ millions sterling.

Net imports of agricultural products.

1043. The following are the values of the net imports—*i.e.*, the values of imports after the values of the exports have been deducted—

\* *Condition of Nations*, by G. F. Kolb, translated by Mrs. Brewer, with notes by E. W. Streeter, page 961: George Bell and Sons, London, 1880.

† 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*.

of certain vegetable productions during each of the six years ended with 1885. 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, 1880 TO 1885.

Articles.	Balance of Imports over Exports in—					
	1880.	1881.	1882.	1883.	1884.	1885.
	£	£	£	£	£	£
Oats ... ..	12,938	74,924	29,621	51,739	36,249	86,474
Barley ... ..	21,000	...	3,033	27,356	...	16,677
Pearl barley ... ..	248	...	...	...	...	...
Malt ... ..	18,661	...	...	...	...	...
Maize ... ..	105,849	105,739	32,379	59,620	7,232	13,853
Maizena ... ..	4,171	7,654	5,098	4,899	8,599	5,289
Arrowroot ... ..	1,366	1,793	1,208	2,784	2,183	2,790
Macaroni and vermicelli	1,056	1,286	1,391	1,465	1,298	2,441
Starch ... ..	17,061	14,677	4,057	7,199	9,176	8,544
Fruit— fresh, bottled, dried, currants and raisins	111,603	154,637	166,059	144,350	113,587	152,967
Jams, jellies, and preserves	...	...	2,787	...	...	...
Nuts, almonds, walnuts	3,208	7,349	6,722	6,725	4,582	9,429
Ginger ... ..	1,591	1,307	1,050	954	2,347	3,845
Opium ... ..	75,854	36,182	66,010	43,168	37,850	28,728
Hops ... ..	24,637	28,442	31,639	43,639	...	6,185
Chicory ... ..	...	...	171	...	...	2,269
Pickles ... ..	295	5,508	7,371	2,554	4,688	5,570
Oil, olive and salad ...	15,562	12,014	17,569	12,285	11,427	18,496
„ linseed ... ..	24,848	22,995	30,286	27,801	31,121	31,484
Linseed meal ... ..	138	...	104	40	888	446
Tobacco, cigars, and snuff	...	31,270	96,206	66,222	101,836	116,212
Flax (Phornium) ... ..	9,701	6,811	10 419	6,257	6,756	8,312
Hemp ... ..	22,551	11,550	52,750	41,702	36,208	29,927
Jute ... ..	8,058	6,117	16,030	6,057	9,716	3,449
Broom corn and millet	4,546	5,531	6,351	7,575	6,240	6,959
Bark ... ..	...	...	...	...	6,492	20,905
Vegetables (preserved)	717	...	...	653	...	427
Canary seed ... ..	1,260	1,248	1,063	549	1,449	2,008
Grass and clover seed	5,226	2,990	9,560	4,769	7,063	14,667
<b>Total ... ..</b>	<b>492,145</b>	<b>540,024</b>	<b>598,934</b>	<b>570,362</b>	<b>446,987</b>	<b>598,353</b>

1044. It will be observed that pearl barley and malt are absent from the list for the last five years, and jams and jellies for the last three years. Decreased imports of agricultural products.

\* The total imports and total exports of these articles during 1885 will be found in the table of Imports and Exports in Part Interchange *ante*, chiefly under Order 22.

Net import  
of eggs.

1045. 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 1885 to the value of £15,451, and exported to the value of only £5,251, the difference in favour of the former being £10,200. The value of the imports of eggs in 1884 exceeded that of the exports by £3,958, in 1883 by £4,871, in 1882 by £7,959, in 1881 by £6,926, and in 1880 by £6,693.

Proportion of  
land under  
each crop.

1046. Of every thousand acres cultivated during the past season, 424 acres were placed under wheat; 90 under oats; 30 under barley; 18 under potatoes; 175 under hay; 139 under green forage; and 124 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 TO TOTAL UNDER CULTIVATION, 1878 TO 1886.

Land under—	Proportion to Total Land under Tillage.									
	1877-8.	1878-9.	1879-80.	1880-81.	1881-2.	1882-3.	1883-4.	1884-5.	1885-6.	
	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.	
Wheat ...	39·74	42·98	41·89	48·97	50·87	47·50	49·84	47·19	42·41	
Oats ...	7·41	8·35	9·93	6·72	8·07	8·32	8·49	8·08	8·98	
Barley ...	1·35	1·42	2·56	3·43	2·67	2·14	2·11	2·68	3·08	
Potatoes ...	2·61	2·27	2·46	2·25	2·15	1·68	1·81	1·66	1·77	
Hay ...	12·46	10·74	11·93	12·51	11·65	15·16	13·67	14·62	17·51	
Green forage ...	27·48	24·94	18·11	13·21	13·28	14·23	12·95	14·33	13·90	
Other tillage ...	8·95	9·30	13·12	12·91	11·31	10·97	11·13	11·44	12·35	
Total ...	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00	

Minor crops.

1047. 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 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,\* 1881 TO 1886.

Nature of Crop.		1880-81.	1881-2.	1882-3.	1883-4.	1884-5.	1885-6.
Arrowroot ...	{ acres ...	9	5	7	17	6	3
	{ tons (root)	37	8	32	53	127	41
	{ cwt., manfd.	8	...	30	...	...	...
Artichokes ...	{ acres ...	3	...	2	2	2	...
	{ tons ...	45	...	16	20	20	...
Beet, carrots, parsnips	{ acres ...	348	286	433	424	455	386
	{ tons ...	2,403	2,737	3,281	3,874	3,872	4,300
Broom-millet...	{ acres ...	2	5	9	2	5	3
	{ fibre, cwt.	...	...	10	...	29	5
	{ seed, bush.	...	100	220	40	48	20
Buckwheat ...	{ acres ...	...	...	3	2	2	3
	{ bushels ...	...	...	65	62	58	30
Canary seed ...	{ acres ...	57	127	41	...	63	...
	{ bushels ...	341	1,241	192	...	724	...
Cauliflowers and cabbages	{ acres ...	...	...	...	7	7	27
	{ dozens ...	...	...	...	2,500	4,300	18,500
Chicory ...	{ acres ...	230	207	283	283	219	216
	{ tons ...	960	781	1,209	1,626	1,309	1,239
Coriander seed	{ acres ...	...	2	3	...	...	...
	{ lbs. ...	...	1,008	810	...	...	...
Currants ...	{ acres ...	1	...	...	...	...	...
	{ bushels ...	8	...	...	...	...	...
Fenugreek † ...	{ acres ...	...	...	1	...	...	...
	{ lbs. ...	...	...	300	...	...	...
Flax ...	{ acres ...	13	21	7	21	11	7
	{ fibre, cwt.	31	21	31	38	7	9
	{ linseed, bsh.	67	91	43	152	73	18
Garden seeds...	{ acres ...	29	21	14	24	45	7
	{ cwt. ...	812	119	43	62	74	14
Gooseberries ...	{ acres ...	...	...	1	...	...	3
	{ cwt. ...	...	...	16	...	...	28
Grass and clover seeds ...	{ acres ...	2,817	2,061	2,290	2,686	2,329	2,942
	{ bushels ...	26,320	32,085	28,740	41,964	35,559	39,793
Green pease ...	{ acres ...	...	21	10	...	108	92
	{ tons ...	...	26	25	...	36	141
Hops ...	{ acres ...	428	564	1,034	1,758	1,737	896
	{ lbs. ...	307,328	453,040	1,035,216	1,760,304	1,573,936	616,112
Kohl-rabi ...	{ acres ...	...	...	1	...	...	...
	{ cwt. ...	...	...	260	...	...	...
Lucerne for seed ...	{ acres ...	...	...	...	...	...	11
	{ bushels ...	...	...	...	...	...	20
Maize ...	{ acres ...	1,769	1,783	2,702	2,570	3,854	4,530
	{ bushels ...	49,299	81,007	131,620	117,294	176,388	181,240
Mangel-wurzel	{ acres ...	1,284	1,044	1,087	1,056	1,413	1,346
	{ tons ...	12,640	14,989	16,656	18,906	21,935	24,129
Medicinal herbs	acres ...	2	...	...	1	...	...
Mulberry trees	{ acres ...	14	4	3	1	...	4
	{ number ...	...	...	...	1,000	...	...
Mustard ...	{ acres ...	233	97	81	71	61	7
	{ cwt. ...	771	444	379	368	287	15
Olives ...	{ acres ...	17	‡ 10	2	15	13	14
	{ fruit, cwt.	17	...	35	...	...	...
	{ oil, gallons	15	...	...	...	...	...

\* Exclusive of those grown in gardens.

† *Fœnum græcum*, the *Trigonella* of Linnaeus.

‡ Reported to have failed.

## MINOR CROPS,\* 1881 TO 1886—continued.

Nature of Crop.			1880-81.	1881-2.	1882-3.	1883-4.	1884-5.	1885-6.
Onions	...	acres ...	1,056	1,134	1,341	1,235	1,750	1,740
		tons ...	4,979	10,190	8,280	6,977	11,816	10,209
Opium poppies	...	acres ...	15	4	9	6	10	16
		lbs. of opium	171	80	225	120	190	200
Oranges	...	acres ...	20	5	...	4	2	6
		cases ...	6	...	...	...	...	...
Osiers	...	acres ...	31	4	4	...	3	5
		tons ...	1	9	2	...	3	...
Pease and beans	...	acres ...	23,378	25,937	26,832	30,443	35,288	35,460
		bushels ...	403,321	621,768	689,507	791,093	846,859	761,351
Prickly comfrey	...	acres ...	1	8	...	...	...	...
		tons ...	100	160	...	...	...	...
Pumpkins, melons, cucumbers, &c.	...	acres ...	64	81	35	44	119	153
		tons ...	416	842	370	355	837	1,447
Rape for seed	...	acres ...	14	...	30	14	47	...
		bushels ...	128	...	468	261	...	...
Raspberries	...	acres ...	132	155	203	235	261	271
		cwt. ...	1,591	3,067	4,822	4,595	6,307	6,470
Rhubarb	...	acres ...	18	1	9	8	8	11
		tons ...	81	1	40	43	18	31
Rye ...	...	acres ...	1,569	972	1,137	1,260	939	654
		bushels ...	13,978	12,653	23,244	16,727	15,505	8,278
Strawberries	...	acres ...	107	26	16	61	76	55
		cwt. ...	1,421	165	154	766	1,468	941
Sugar beet	...	acres ...	...	...	...	...	...	2
		tons ...	...	...	...	...	...	4
Sunflowers for seed	...	acres ...	7	6	6	1	2	...
		bushels ...	142	77	62	40	...	...
Teazles	...	acres ...	2	...	...	2	2	...
		number ...	27,000	...	...	...	4,000	...
Tobacco	...	acres ...	1,990	1,461	1,313	1,325	1,402	1,866
		cwt. ...	17,333	12,876	5,673	9,124	7,893	13,734
Tomatoes	...	acres ...	5	10	15	17	21	34
		cwt. ...	454	1,549	2,265	1,600	1,278	4,800
Turnips	...	acres ...	460	151	125	148	209	253
		tons ...	1,932	1,713	901	1,402	1,600	2,179
Vetches and tares for seed	...	acres ...	23	5	5	10	26	1
		bushels ...	201	71	83	194	700	40
Vines	...	acres ...	4,980	4,923	5,732	7,326	9,042	9,775
		wine, galls. ...	484,028	539,191	516,763	723,560	760,752	1,003,827
		brandy, ,,	3,038	1,453	3,377	2,646	3,623	3,875

Certain crops of which cultivation increased.

1048. The table shows the cultivation of the following crops, also their produce, to have considerably increased of late years:—Beet, carrots and parsnips, cauliflowers and cabbages, maize, mangel-wurzel, onions, raspberries, vines, and pease and beans.

Hops.

1049. 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 gave a considerable stimulus to that industry,

\* Exclusive of those grown in gardens.

commencing about 1882-3. The maximum was reached in the following year, but in 1884-5 there was a slight decline, both in the area under hops and the quantity produced, and a further considerable decline occurred in the year under review.

1050. 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 1885-6 was 6,470 cwt. Since the establishment of jam factories, the fruit is in great demand, and much more would be purchased were it forthcoming. Raspberries.

1051. In 1885-6 the area under vines exceeded that returned in 1884-5 by 733 acres, and was much larger than in any previous year. The quantity of wine returned exceeded a million gallons, and was more than that in 1884-5 by 243,000 gallons, or about a third. The wine industry received a temporary check some years since, in consequence of an outbreak of the disease called *phylloxera vastatrix*, but this was found to be confined to one district in the colony, where it was promptly stamped out by the eradication of all vines within a district around Geelong extending to distances ranging from 20 to 30 miles from that centre. Vines.

1052. An account of the visitation of the phylloxera, and of the measures taken for its suppression, was originally contributed to this work, and has recently been revised to date by Mr. D. Martin, the Secretary for Agriculture:— Phylloxera vastatrix.

“The vine disease caused by the insect known as *phylloxera vastatrix* was discovered in the vineyards at Fyansford, three miles from Geelong, in the year 1877. It is now ascertained to have been present in this district for years before it was recognised as the dreaded phylloxera—probably for about ten years—and its origin was doubtless the importation of diseased plants.

“In order to prevent, if possible, the disease from spreading, an Act was passed providing for the appointment of inspectors of vineyards, with power to enter any lands whereon vines were growing, 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 owner of the vines for any loss he might sustain in consequence of such measures. In 1878, thirteen vineyards, containing an area of 75 acres, were uprooted and the vines burnt; and in 1879, six vineyards, containing an area of 35 acres, were similarly treated.

“In November, 1880, a Select Committee of the Legislative Assembly was appointed to inquire into the state of the disease, and the best means of eradicating or mitigating it. The committee reported that there was no evidence to show that the insect settled on any vegetation other than vines; that so far as experiments had been tried no remedy or cure for the disease was known; that the time most to be dreaded for the spread of the disease was about the end of December; and that there was no other cure than the entire eradication of the vines. 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 growing within a three-mile radius of any reported as diseased, should be uprooted and burnt, the owners being awarded a moderate compensation, based, not upon the value of the vines, but upon the estimated value of the crops for the ensuing three years. Consequently upon this report another Act was passed, repealing all

former Acts relating to vines and 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, whether diseased or not, within a radius of three miles thereof, compensation being given to the 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 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.

"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 the 12th January, 1881. Under the powers given by this statute all vines within the proclaimed district have been destroyed, except those in the parishes of Birregurra and Warrion. These parishes are situated at from 24 to 45 miles from where any diseased vines were growing, and consequently are not likely to be reached by the insect.

"Under the several statutes above mentioned the vines have been destroyed on about 2,000 separate properties; about half of that number being cottage properties in Geelong and suburbs; and compensation has been awarded in amounts varying from £1,042 to 1s. The disease from first to last was found in 34 properties only, comprising an estimated area of 281 acres. These diseased properties are situated in a district extending from the Leigh road to Germantown, in the valleys of the Moorabool and Barwon Rivers, a distance of about 16 miles. The last of the diseased vineyards was destroyed in 1882. The phylloxera is, however, not yet extinct. Recent examinations show that the insects are alive in several of the infected properties upon the still succulent rootlets which have been left in the ground. In some properties the roots are decayed all over, and consequently the phylloxera are dead; in the others the roots are decayed over portions of the properties only; the area of succulent roots is yearly becoming less. The proclaimed district is still retained in quarantine, special attention being given to the destruction of any vine shoots or re-growths from imperfect eradication.

"In May, 1885, a Board was appointed to inquire as to the advisability or otherwise of permitting the re-planting of vines in the Geelong district. The Board recommended that the diseased lands be trenched, the vine roots removed and burnt, and the soil disinfected. The Board's recommendations have, so far as was practicable, been carried out. In a recent report the Board has recommended that, as soon as the whole of the infected lands shall have been trenched, vine roots eradicated, and the land laid down with grass, that the re-planting of vines be permitted at a distance of not less than 100 yards from all vineyard sites. No decision has yet been arrived at on the subject of re-planting."

Gardens and orchards.

1053. 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, 1885 AND 1886.

Year ended March.				Gardens.	Orchards.	Total.
				acres.	acres.	acres.
1885	...	...	...	9,835	13,180	23,015
1886	...	...	...	9,461	15,934	25,395
	Increase	...	...	...	2,754	2,380
	Decrease	...	...	374	...	...

1054. Land in fallow is included in the area under tillage. The number of acres in this condition in 1886 was 210,451, or 27,254 more than in the previous year. Land in fallow.

1055. According to the returns of the past season, irrigation was being practised on a more or less extensive scale in 13 shires, viz.:—Bacchus Marsh, Bairnsdale, Beechworth, Bright, Echuca, Glenelg, Gordon, Keilor, Korong, Marong, Oxley, Strathfieldsaye, and Swan Hill. The whole number of farms in these shires was 5,601, upon 250 of which irrigation was carried on. Certain crops in these shires covered 404,406 acres, of which 13,479 acres, or more than 3 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.

IRRIGATION IN CERTAIN SHIRES, 1885-6.

Crops.	In Shires practising Irrigation.					
	Extent under Crop on Land—		Gross Produce on Land—		Produce per Acre on Land—	
	Unirrigated.	Irrigated.	Unirrigated.	Irrigated.	Unirrigated.	Irrigated.
<b>GRAIN CROPS.</b>	acres.	acres.	bushels.	bushels.	bushels.	bushels.
Wheat ... ..	133,899	8,109	1,271,922	114,655	9·50	14·14
Oats ... ..	7,972	502	118,015	13,124	14·80	26·14
Barley ... ..	6,802	237	105,600	3,511	15·53	14·56
Maize ... ..	52	10	615	240	11·83	24·00
Pease and Beans	83	11	1,178	230	14·20	20·91
<b>ROOT CROPS.</b>	acres.	acres.	tons.	tons.	tons.	tons.
Potatoes ... ..	448	22	1,142	122	2·55	5·55
Turnips ... ..	2	5	18	20	9·00	4·00
Mangel-wurzel ...	26	13	379	234	14·58	18·00
Beet, Carrots, &c.	5	15	65	375	13·00	25·00
Chicory ... ..	...	28	...	220	5·42*	7·86
<b>HAY, GRASS, &amp;C.</b>	acres.	acres.	tons.	tons.	tons.	tons.
Hay ... ..	51,800	3,939	39,662	6,007	0·77	1·53
Green Forage ...	759	89	...	...	...	...
Artificial Grasses	442	206	...	...	...	...
<b>OTHER TILLAGE.</b>	acres.	acres.	cwt.	cwt.	cwt.	cwt.
Hops ... ..	132	254	483	2,066	3·66	8·13
Tomatoes ... ..	...	2	...	540	141·18*	270·00
Gardens ... ..	102	2	...	...	...	...
Orchards ... ..	2,552	35	...	...	...	...

1056. The scale on which irrigation has been practised in Victoria up to the present time is too small to admit of comparisons between the results obtained from land which has and which has not been irrigated from being of much value. So far as the figures go, the effect of irrigation in largely increasing the yield has been most beneficial; the only cases where the irrigated land shows worse returns than Yield of irrigated and unirrigated land.

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

the land which has not been irrigated, in 1885-6, being turnips (the area under which was very small) and barley.

Irrigation,  
1884 to 1886.

1057. The extent of land subjected to irrigation in the year under review was nearly twice that so subjected in the two previous years, the increase being chiefly under the head of cereals. The following table contains a statement of the acreage under the various crops returned as under irrigation in each of the last three years:—

#### IRRIGATION, 1884 TO 1886.

Crops Subjected to Irrigation.	Number of Acres Subjected to Irrigation.		
	1883-4.	1884-5.	1885-6.
Wheat ... ..	4,968	3,322	8,109
Oats ... ..	94	187	502
Barley ... ..	49	41	237
Maize ... ..	...	19	10
Pease and Beans ... ..	...	3	11
Potatoes ... ..	30	29	22
Turnips ... ..	...	...	5
Mangel-wurzel ... ..	14	11	13
Beet, Carrots, &c. ... ..	...	18	15
Chicory ... ..	18	30	28
Hay ... ..	781	1,924	3,939
Green Forage ... ..	16	33	89
Artificial Grasses ... ..	415	1,003	206
Hops ... ..	398	357	254
Tobacco ... ..	7	...	...
Tomatoes ... ..	...	1	2
Vines ... ..	103	20	...
Gardens and Orchards ... ..	42	48	37
Total ... ..	6,935	7,046	13,479

Statute for  
promoting  
irrigation.

1058. 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.

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

Up to the time of going to press, six trusts had been constituted under the statute; whilst applications in respect of lands in the Wimmera, Swan Hill, Boort, and Turrumberry districts had been received by the Minister of Water Supply, and were under consideration. The following particulars have been supplied respecting the existing trusts:—

IRRIGATION TRUSTS, 1886.

Name of Trust.	When Constituted.	Amount of Loan Authorised to be raised.	Extent of Irrigation Area.
		£	Acres.
Leaghur and Meering ...	14th Sept., 1885 ...	650	8,127
Tragowel Plains ...	23rd March, 1886 ...	165,000	228,453
Cohuna ...	20th April, 1886 ...	17,000	89,309
Koondrook ...	18th May, 1886 ...	1,700	4,028
Benjeroop and Murrabit ...	31st May, 1886 ...	2,000	17,893
Twelve-Mile ...	2nd August, 1886 ...	3,000	9,031

NOTE.—The irrigation areas referred to in this table are all situated in the county of Gunbower.

1059. A Bill “To make better provision for the supply of water for irrigation, and also for mining, manufacturing, and other purposes,” was under the consideration of the Legislature at the time of going to press. If this measure should pass into law, it is proposed to raise money by means of Government loans on a large scale in order to give effect to its provisions. Irrigation Bill 1886.

1060. 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 Jack’s Creek, Morang, Preston, Essendon, and Caulfield, 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 other considerable streams 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 four hundred million gallons, and the cost over four millions sterling:— Waterworks.

WATERWORKS IN VICTORIA.  
(Corrected to the middle of 1886.)

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	} 2,087,000
	Jack's Creek ... ..	60,000,000	
	Morang (pipe head) ... ..	3,000,000	
	Preston (storage) ... ..	15,000,000	
	Essendon (storage 1) ... ..	6,000,000	
	"    (    "    2) ... ..	1,000,000	
	Caulfield (    "    ) ... ..	10,000,000	
Coliban Scheme, includ- ing Reservoirs at—	Malmsbury ... ..	2,841,000,000	} 940,218
	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 Re- servoir	300,000	
Geelong and suburbs, including Reservoirs at—	Sparrowhawk, Pipe Head Reservoir	1,500,000	} 330,298
	Maldon ... ..	17,500,000	
	Stony Creek (Old) ... ..	354,000,000	
	"    (New) ... ..	143,000,000	
	Lovely Banks ... ..	6,000,000	
	Anakie (pipe head) ... ..	900,000	
Creswick ... ..	Newtown ... ..	500,000	} 15,449
	Bullarook ... ..	45,000,000	
	Ashwell's Gully ... ..	8,000,000	
Tarnagulla ... ..	Adekate Creek ... ..	18,000,000	} 1,430
Inglewood { (Old) ... ..	Tarnagulla ... ..	8,000,000	
"    (New) ... ..	Inglewood ... ..	5,670,000	} 1,112
Maryborough ... ..	"    ... ..	13,792,000	
Beechworth ... ..	Maryborough ... ..	21,000,000	1,839
Chiltern ... ..	Lake Kerferd ... ..	191,360,000	46,417
	Barrambogie Springs ... ..	4,753,869	7,594
Wangaratta ... ..	Railway Tank ... ..	6,000	345
	Tank at Railway Station	40,000	4,669
Rutherglen ... ..	Rutherglen ... ..	30,000,000	3,647
	Oliver's Gully ... ..	19,615,554	5,000
Ararat ... ..	Langi-Ghiran ... ..	15,200,000	40,152
	Mount Cole extension, in connexion with Langi- Ghiran	*	10,011
	Opossum Gully ... ..	24,621,547	2,481
Beaufort ... ..	Beaufort ... ..	85,881,110	1,991
	Service Reservoir, Camp Hill	1,200,000	7,583
Ballarat ... ..	Four and One Weir Basin in Bungaree	638,960,000	362,000

\* 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.	£
Carngham ...	Snake Valley ...	18,000,000	760
Clunes ...	Newlyn ...	265,000,000	81,860
Blackwood ...	Lerderderg River ...	64,441,237	1,090
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	2,986
Myers Creek ...	Myers Creek ...	13,000,000	844
Echuca ...	Echuca (tank No. 1) ...	68,000	22,038
	" (tank No. 2) ...	70,000	
Dunolly ...	Dunolly, Old Lead ...	17,200,000	1,912
	" Township ...	7,500,000	3,000
St. Arnaud ...	St. Arnaud ...	50,000,000	14,677
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	15,500
Wedderburn ...	Wedderburn ...	3,100,000	2,578
Chewton ...	Commissioner's Gully ...	7,000,000	1,203
Daylesford ...	Wombat Creek ...	31,284,413	2,527
Moyston ...	Campbell's Reef ...	5,400,000	1,143
Orville ...	'Possum Hill ...	2,000,000	250
	Quartz Reefs ...	9,725,627	1,229
	Pleasant Creek ...	7,905,750	805
Stawell ...	Four Posts ...	3,100,000	802
	Fyan's Creek ...	...	115,830
	Service Reservoir ...	2,250,000	
Woodend ...	Newham ...	*	5,163
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	2,289
	Haddon ...	3,100,000	1,091
	Happy Valley... ...	2,350,995	718
	Piggoreet ...	600,000	79
Shire of Grenville	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
	Rokewood ...	5,000,000	417
Shire of Leigh ...	Break-of-Day... ...	4,500,000	570
	Teesdale ...	4,000,000	530
Shire of Tullaroop	Chinaman's Flat ...	2,500,000	2,384
Rushworth ...	Rushworth ...	7,000,000	1,800
Homebush ...	Homebush ...	5,000,000	328
Hamilton ...	Hamilton ..	30,000,000	13,741
Melton ...	Melton ...	2,290,000	800
Barry's Reef ...	Barry's Reef ...	120,000	358
	<b>Total ...</b>	<b>13,382,683,932</b>	<b>4,205,269</b>

\* No reservoir (pipe-head tank).

† Cost cannot at present be given.

Leases and rental of farms.

1061. The duration of leases of farms from private persons was returned in 1885-6 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 6s. 5d. to 20s. 8d.; the extreme figures being 2s. and 70s. The average rental of pastoral land per acre was said to be from 2s. 2d. to 7s. 3d.; the extreme figures being 6d. and 20s. It may be mentioned that 3s. 6d. per annum for as much land as will carry one sheep is considered a fair rental; thus land capable of carrying two sheep to the acre ought to let for 7s. per acre per annum.

Prices of agricultural produce.

1062. 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 seventeen years:—

PRICES OF AGRICULTURAL PRODUCE, 1870 TO 1886.

During February and March.	Wheat.		Oats.		Barley.		Maize.		Hay.	Potatoes.		Turnips.		Mangolds	
	per bushel.		per bushel.		per bushel.		per bushel.		per ton.	per ton.		per ton.		per ton.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	s.	d.	s.	d.	s.	d.
1870 ...	4	3	3	7	4	0	4	10	77	75	0	...	...	40	0
1871 ...	5	4	3	9	4	11	5	3	76	70	0	...	...	36	0
1872 ...	4	8	2	11½	3	6¼	4	2	64	65	6	...	...	28	1
1873 ...	4	9	3	5	4	1	3	10	81	67	4	...	...	24	5
1874 ...	5	9	5	6	5	3	5	9	88	118	3	...	...	31	4
1875 ...	4	5	4	3	4	6	4	8	89	89	0	...	...	28	0
1876 ...	4	7	3	3	3	10	4	8	82	87	0	...	...	23	8
1877 ...	5	10	3	7	3	10	4	4	93	114	0	...	...	31	6
1878 ...	5	1	4	6	4	4	5	4	87	115	0	...	...	37	3
1879 ...	4	2	3	6	4	1	4	2	75	92	4	...	...	25	6
1880 ...	4	0½	2	3½	4	8	3	6½	63	69	11	...	...	24	11
1881 ...	4	1¾	2	3	4	11¼	5	0	60	46	3	...	...	24	0
1882 ...	5	0	3	3	3	6	5	4	76	70	0	...	...	25	4
1883 ...	4	9	3	1	4	1	4	7	81	75	4	...	...	30	5
1884 ...	3	8	2	8	3	6	4	8	67	74	8	35	5	29	5
1885 ...	3	4	3	0	3	6	4	5	74	80	0	40	0	34	0
1886 ...	3	10	2	10	3	3	4	1	74	100	0	48	6	24	6

Prices of agricultural produce, 1885-6 and previous years.

1063. The prices of articles of agricultural produce, except potatoes and turnips, were remarkably low in 1886, as well as in the two preceding years. Wheat was lower in 1886 than in any previous year named, except 1885 and 1884; that of oats was lower than in any, except 1884, 1881, and 1880; barley was at its lowest price; hay was at the same price as in 1885, but lower than in any other year except 1884, 1881, 1880, and 1872; mangolds were lower than in any other

year except 1881 and 1873. On the other hand, the price of potatoes was higher than in any previous year except 1878, 1877, and 1874, and turnips were higher than in either of the other two years named.

1064. It will be observed that the price of wheat and hay was highest in 1877, that of oats, barley, maize, and potatoes in 1874, that of turnips in 1886, and that of mangolds in 1871; also that the price of wheat was lowest in 1885, that of barley in 1886, that of oats, potatoes, hay, and mangolds in 1881, that of maize in 1880, and that of turnips in 1884.

1065. The wholesale price of wheat per imperial quarter\* in London during 1885, varied from 35s. in January and 37s. in April, to from 30s. to 31s. in the last four months of the year—the average for the year being 32s. 10d. The price had fallen off considerably since 1882, and in 1885 was remarkable as being the lowest during the last 124 years—no lower price having been recorded since 1761, when it was 26s. 9d.† The following statement of the average *Gazette* price (wholesale) during the seven years ended with 1884 has been taken from an official source,‡ and that of the average price in 1885 has been taken from the London *Statist*:—

AVERAGE PRICE PER QUARTER OF WHEAT IN LONDON.

Month.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
January ...	51 11	39 3	45 11	42 5	45 7	40 2	38 7	34 11
February ...	51 4	38 0	43 5	41 9	46 0	40 11	37 3	32 0
March ...	49 7	39 7	45 7	42 7	44 7	42 3	37 7	32 7
April ...	51 3	41 0	48 1	44 6	45 11	41 11	37 5	36 8
May ...	51 11	41 0	45 2	44 5	47 3	43 2	37 9	34 11
June ...	48 0	41 9	45 1	44 6	47 5	42 10	37 2	32 8
July ...	44 11	44 6	43 9	46 5	48 5	42 2	37 0	33 11
August ...	44 9	49 1	43 11	48 6	50 0	43 6	36 11	33 3
September ...	43 8	47 6	41 2	52 3	43 11	41 10	33 9	30 10
October ...	39 7	48 10	41 9	47 1	39 7	40 5	32 3	31 4
November ...	40 4	48 9	43 9	45 11	40 10	40 3	31 5	30 9
December ...	40 3	46 7	44 1	44 7	41 2	39 6	31 1	30 2
The Year ..	46 5	43 11	44 4	45 4	45 1	41 7	35 8	32 10

1066. Another official authority§ gives the highest, lowest, and average *Gazette* price of wheat, barley, and oats, in England and Wales, as follows, during each of the ten years ended with 1884:—

\* The imperial quarter is equal to 8 bushels.  
 † See Supplement to "The Statist" for 1885.  
 ‡ Giffen's Statistical Abstract for the United Kingdom, 1870 to 1884.  
 § Report on the Agricultural Returns of Great Britain, dated 18th September, 1885, issued from the Privy Council Office, page 110.

AVERAGE PRICE OF WHEAT, BARLEY, AND OATS, IN ENGLAND  
AND WALES.

Year.	Average Price per Quarter.								
	Wheat.			Barley.			Oats.		
	Highest Weekly.	Lowest Weekly.	The Year.	Highest Weekly.	Lowest Weekly.	The Year.	Highest Weekly.	Lowest Weekly.	The Year.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1875	53 10	40 11	45 2	45 6	31 4	38 5	32 11	23 4	28 8
1876	50 8	42 8	46 2	40 2	30 11	35 2	31 2	23 10	26 3
1877	68 9	50 1	56 9	44 2	32 5	39 8	29 0	23 4	25 11
1878	52 4	39 0	46 5	44 8	30 9	40 2	28 5	20 7	24 4
1879	50 5	37 7	43 10	43 2	24 0	34 0	26 7	19 2	21 9
1880	48 4	39 5	44 4	37 7	25 7	33 1	28 2	20 2	23 1
1881	52 2	40 9	45 4	35 8	26 11	31 11	24 6	19 5	21 9
1882	51 3	39 2	45 1	36 11	25 10	31 2	25 9	19 1	21 10
1883	43 10	39 0	41 7	35 0	25 6	31 10	24 1	19 1	21 5
1884	39 0	30 5	35 9	32 8	27 1	30 8	23 5	18 10	20 3

Value of  
agricultural  
produce.

1067. The value of the agricultural produce raised in Victoria during the year ended 1st March, 1886, may be estimated at over 7 millions sterling. The following table shows the means whereby such an estimate is arrived at :—

VALUE OF AGRICULTURAL PRODUCE,\* 1885-6.

Name of Crop.	Gross Produce and Price.			Estimated Value.
		£	s. d.	£
Wheat ... ..	9,170,538 bushels	@	0 3 10	1,757,686
Oats ... ..	4,692,303 "	@	0 2 10	664,743
Barley ... ..	1,302,854 "	@	0 3 3	211,714
Other cereals ... ..	950,869 "	@	0 3 3	154,516
Potatoes ... ..	163,202 tons	@	5 0 0	816,010
Other root crops ... ..	40,817 "	@	5 0 0	204,085
Hay ... ..	442,118 "	@	3 14 0	1,635,836
Green forage ... ..	334,399 acres	@	2 10 0	835,997
Tobacco ... ..	13,734 cwt.	@	2 16 0	38,455
Grapes, not made into wine ... ..	39,651 "	@	1 0 0	39,651
Wine ... ..	1,003,827 gallons	@	0 4 0	200,765
Brandy ... ..	3,875 "	@	0 10 0	1,937
Hops ... ..	5,501 cwt.	@	5 2 6	28,193
Other crops ... ..	4,180 acres	@	5 0 0	20,900
Garden and orchard produce...	25,395 "	@	20 0 0	507,900
	Total ... ..			7,118,388

Specific  
weight of  
crops.

1068. 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 1885-6, ranged from 55 lbs. to 65 lbs.; oats, from 35 lbs. to 50 lbs.; barley, from 41 lbs. to 60 lbs.; and maize,

\* For a summary of the estimated value of agricultural produce during a series of years, see table "Value of Agricultural, Pastoral, and Mining Produce," *post.*

52 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, 40 lbs.; of barley, 52 lbs.; and of maize, 57 lbs.

1069. The following figures show an increase in the average rates paid to farm labourers, mowers, and reapers in 1885-6 as compared with the previous year, but a slight decrease in most other cases. Rations are allowed in all cases in addition to the wages quoted, except in the case of threshers and hop-pickers :—

RATES OF AGRICULTURAL LABOUR,\* 1885 AND 1886.

Description of Labour.	1884-5.		1885-6.	
	s.	d.	s.	d.
Ploughmen, per week ... ..	21	7	21	7
Farm labourers, " ... ..	18	3	19	3
Married couples, " ... ..	26	8	26	1
Females, " ... ..	10	10	10	9
Mowers, " ... ..	30	6	33	7
" per acre ... ..	5	4	5	4
Reapers, per week ... ..	32	0	35	1
" per acre ... ..	12	6	14	2
Threshers, per bushel (without rations) ...	0	7	0	6 $\frac{3}{4}$
Hop-pickers, " " ... ..	0	3 $\frac{1}{2}$	0	2 $\frac{1}{2}$
Maize-pickers, per bag " ... ..	0	6	0	6

1070. The number and power of steam engines used on farms, and the value of farming plant and improvements, were returned as follows for the year under review and the previous one :—

STEAM ENGINES, IMPLEMENTS, AND IMPROVEMENTS ON FARMS, 1885 AND 1886.

	1884-5.	1885-6.
Steam engines, number ... ..	520	535
" horse-power ... ..	4,164	3,990
Value of farming implements and machines... £2,638,933	£2,638,933	£2,674,613
" improvements on farms ... ..	£15,394,846	£16,017,098

1071. 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. An increase will be observed under most of the heads :—

MACHINE LABOUR, 1885 AND 1886.

Average Rates Paid for—	1884-5.		1885-6.	
	s.	d.	s.	d.
Machine reaping, per acre {	8	3	9	2
	4	8	4	8
" mowing, " ... ..	4	3	4	6
" threshing, per 100 bushels :—				
With winnowing ... ..	18	8	23	7
Without winnowing ... ..	13	7	17	10

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

Live stock,  
1881 and  
1886.

1072. 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, 1886, as derived from the municipal estimates alluded to :—

### LIVE STOCK, 1881 AND 1886.

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, 1886 (estimated)	304,098	333,898	956,892	1,290,790	10,681,837	239,837
Increase ...	28,582	4,700	...	4,523	321,552	...
Decrease ...	...	...	177	...	...	2,099

Goats, asses,  
and mules.

1073. 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.

Increase or  
contrary,  
1885.

1074. The estimates for 1886, as compared with the numbers returned at the census, show an increase in horses, cattle, and sheep, but a falling-off in 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.

Stock per  
square mile.

1075. Speaking roughly, there are now in Victoria, 3 horses, 15 head of cattle, 121 sheep, and 3 pigs, or, taking the different kinds together, 142 head of stock of these descriptions, large and small, to the square mile.

Poultry.

1076. 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, 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

1077. 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. Increase or decrease of poultry.

1078. The live stock in the United Kingdom and any British Possessions, respecting which the information is available, is officially stated to have been as follows in the years named:— Live stock in British Possessions.

LIVE STOCK IN BRITISH POSSESSIONS.

Possessions.	Year.	Number of—			
		Horses.	Cattle.	Sheep.	Pigs.
The United Kingdom ...	1885	1,909,000	10,869,000	30,086,000	3,687,000
Ceylon ...	1884	3,683	963,896	53,757	...
Mauritius ...	1884	12,000	15,000	30,000	30,000
Cape of Good Hope ...	1885	205,985	1,111,713	10,976,663	116,738
Natal... ..	1884	43,431	575,698	560,632	25,848
Canada ...	1881	1,059,358	3,514,989	3,048,678	1,207,619
Newfoundland ...	1875	4,057	13,938	28,766	...
Jamaica ...	1883	45,969	84,206	...	...
Australasia * ...	1884-5	1,272,020	8,178,745	74,345,954	939,031

1079. The following table contains a statement of the number of horses, cattle, sheep, and pigs in some of the principal Foreign countries. The information has been derived entirely from official documents:— Live stock in Foreign countries.

LIVE STOCK IN FOREIGN COUNTRIES (000's OMITTED).

Country.	Year.	Number of—			
		Horses.	Cattle.	Sheep.	Pigs.
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 ...	1881	2,845,	11,576,	22,302,	5,638,
Germany ...	1883	3,522,	15,787,	19,190,	9,206,
Holland ...	1883	269,	1,437,	703,	421,
Italy ...	1882	660,	4,783,	8,596,	1,164,
Hungary ...	1880-83	2,068,	4,597,	9,252,	...
Norway ...	1875	152,	1,017,	1,686,	101,
Russia ...	1882	20,016,	23,845,	47,509,	9,208,
Sweden ...	1883	472,	2,287,	1,412,	455,
United States ...	1884	11,565,	43,771,	50,360,	45,143,

\* For particulars relating to each colony, see third folding sheet *ante*; also Appendix A *post*.

Live stock  
slaughtered.

1080. 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 1884 and 1885, those for the latter year being smaller than those for the former in the case of cattle and sheep but larger in the case of pigs :—

## LIVE STOCK SLAUGHTERED, 1884 AND 1885.

Year.	Cattle and Calves.	Sheep and Lambs.	Pigs.
1884 ... ..	234,757	1,904,423	114,568
1885 ... ..	220,892	1,766,167	123,315
Increase ... ..	...	...	8,747
Decrease ... ..	13,865	138,256	...

Purposes for  
which stock  
was  
slaughtered.

1081. The purposes to which the carcasses of the slaughtered animals were appropriated in 1885 were returned as follow :—

## PURPOSES FOR WHICH LIVE STOCK WAS SLAUGHTERED, 1885.

Description of Live Stock.	Numbers Slaughtered for—			Total.
	The Butcher and Private use.	Preserving or Salting.	Boiling down for Tallow or Lard.	
Cattle and Calves ...	218,387	2,460	45	220,892
Sheep and Lambs ...	1,751,635	2,000	12,532	1,766,167
Pigs ... ..	63,170	60,078	67	123,315
Total ... ..	2,033,192	64,538	12,644	2,110,374

Stock  
slaughtered  
for  
preserving.

1082. In the 10 years ended with 1884, the returns show the average number slaughtered annually for preserving and salting to have been, of cattle—1,634, of sheep and lambs 158,286, and of pigs 32,837. These numbers, as regards cattle and pigs, are below, but as regards sheep, are much above the average numbers slaughtered for the same purposes in 1885.

Wool pro-  
duced, 1884  
and 1885.

1083. The quantity of wool produced in Victoria during the year 1885 may be set down as 53,390,100 lbs.,\* valued at £2,960,890. 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 61,369,000 lbs., valued at £3,879,620.

\* The quantity of *Victorian* wool exported in 1885, according to the Customs returns, was 93,353,873 lbs., or considerably more than the total quantity given above as produced in Victoria.—(See footnote to *Wool*, Order 24, in Table of Imports and Exports, page 366 *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*.

1084. The following is a statement of the quantity and value of wool produced in the various Australasian colonies in 1884 and the two preceding years. 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, to which has been added an estimate for the quantity used for manufacturing purposes in Victoria during each of the three years, but in the other colonies during 1884 only:—

Wool produced in Australasian colonies, 1882 to 1884.

WOOL PRODUCED IN THE AUSTRALASIAN COLONIES, 1882 TO 1884.  
(Excess of Exports over Imports.\*)

Colony.	1882.	1883.	1884.
<b>QUANTITY.</b>			
	lbs.	lbs.	lbs.
Victoria ...	56,223,000	65,930,000	61,369,000
New South Wales ...	145,035,230	182,873,449	171,612,279
Queensland ...	24,763,149	43,231,606	35,525,977
South Australia ...	40,150,640	42,254,621	47,296,784
Western Australia ...	4,819,758	3,861,927	4,272,948
Tasmania ...	7,748,542	8,257,765	8,215,101
New Zealand ...	65,306,591	68,123,194	82,138,718
<b>Total ...</b>	<b>344,046,910</b>	<b>414,532,562</b>	<b>410,430,807</b>
<b>DECLARED VALUE.</b>			
	£	£	£
Victoria ...	3,321,000	4,148,500	3,879,620
New South Wales ...	7,383,898	9,470,595	8,895,543
Queensland ...	1,329,019	2,277,878	1,889,504
South Australia ...	1,536,689	1,745,591	1,823,431
Western Australia ...	301,235	225,279	249,255
Tasmania ...	432,768	450,367	453,567
New Zealand ...	3,117,805	3,012,171	3,342,509
<b>Total ...</b>	<b>17,422,414</b>	<b>21,330,381</b>	<b>20,533,429</b>

1085. It appears by the figures that Victoria, in 1884, did not produce much more than a third as much wool as New South Wales, and did not produce so much as New Zealand by over 20 million pounds. She, however, produced nearly twice as much as Queensland, and nearly a third more than South Australia; Western Australia, notwithstanding the immense extent of her territory, produced little more than half as much as the island of Tasmania.

Wool produced in each colony

1086. The figures also show that the wool produced in the Australasian colonies, in 1884, was less by about 4 million pounds than in 1883, but exceeded by over 66 million pounds that in 1882; and, further, that the value of such wool was less in 1884 than in 1883 by nearly £800,000, but was greater than in 1882 by over £3,000,000.

Wool produce of three years compared

\* The estimated quantity of wool manufactured in Victoria has also been taken into account in each of the three years, but that in the other colonies in the last year only.

Fall in price  
of wool.

1087. The average price per lb. of Victorian wool in 1885, based upon its declared value before leaving this colony, as obtained from the Customs returns of exports, was 1s. 1 $\frac{3}{8}$ d., as against 1s. 5 $\frac{3}{4}$ d. in 1884, and 1s. 3 $\frac{3}{8}$ d. in 1883. There was thus a fall of nearly 4 $\frac{1}{2}$ d. (4 $\frac{3}{8}$ d.) per lb. as compared with 1884, and of 2d. per lb. as compared with 1883. This would depreciate the wool produced in Victoria during 1885 by nearly a million sterling as compared with a similar quantity in 1884, and by about £445,000 as compared with a similar quantity in 1883.\*

Price of  
wool in  
Melbourne

1088. In the export returns, all descriptions of wool are included in the one total, and it is possible that a variation in the quality may to a certain extent account for the difference in the declared value. The fall in the price of wools of like quality will, however, be readily recognized by means of the figures in the following table, which have been kindly supplied for this work by Messrs. R. Goldsbrough and Co. (Limited), Melbourne:—

AVERAGE PRICE OF WOOL IN MELBOURNE, 1885 AND 1886.

Description of Wool.	Average Price per lb. at the beginning† of—	
	1885.	1886.
	<i>d.</i>	<i>d.</i>
Greasy—		
Merino ... ..	10 $\frac{1}{2}$	8 $\frac{1}{2}$
Crossbred ... ..	9	8
Fleece or washed ‡	20	16
Scoured ‡ ... ..	19	15

Price of Aus-  
tralian wool  
in London.

1089. The average price of Australian wool in London has been officially computed from the returns of imports by the Agricultural Department§ of the Privy Council for the 20 years ended with 1884, with the following result:—

AVERAGE PRICE OF AUSTRALIAN WOOL IN LONDON, 1865 TO 1884.

			per lb.				per lb.
			<i>s. d.</i>				<i>s. d.</i>
1865	...	...	1 7 $\frac{3}{8}$	1875	...	...	1 4 $\frac{1}{4}$
1866	...	...	1 8 $\frac{13}{16}$	1876	...	...	1 3 $\frac{1}{4}$
1867	...	...	1 7 $\frac{1}{2}$	1877	...	...	1 3
1868	...	...	1 3 $\frac{15}{16}$	1878	...	...	1 2 $\frac{1}{2}$
1869	...	...	1 2 $\frac{15}{16}$	1879	...	...	1 2 $\frac{1}{2}$
1870	...	...	1 3 $\frac{1}{4}$	1880	...	...	1 2 $\frac{3}{4}$
1871	...	...	1 2 $\frac{1}{4}$	1881	...	...	1 2 $\frac{1}{2}$
1872	...	...	1 3	1882	...	...	1 0 $\frac{1}{2}$
1873	...	...	1 3 $\frac{1}{4}$	1883	...	...	1 0 $\frac{1}{2}$
1874	...	...	1 2 $\frac{3}{4}$	1884	...	...	1 0 $\frac{1}{2}$

\* See also paragraphs 795 to 798 *ante*, where the export value of all wool—not Victorian wool only—is dealt with.

† Shearing in Victoria takes place about the middle of September in the warmer districts; but in a few of the colder as late as the end of November. The selling season in Melbourne begins about the middle of October and lasts until February. The busiest shipping time is from the last fortnight in November until the New Year.

‡ Comprising both merino and crossbred.

§ Report dated 18th September, 1885, page 111.

1090. The average prices of English wool from sheep of different breeds, and of South African wool, during 1883 and 1884 have been published by the same Department,\* the former being got from the prices given weekly in the *Economist* newspaper, and the latter having been computed from the Customs returns of imports. The figures are as follow:—

AVERAGE PRICE OF ENGLISH AND SOUTH AFRICAN WOOL IN LONDON, 1883 AND 1884.

Description of Wool.	1883.		1884.	
	per lb.		per lb.	
	d.	d.	d.	d.
English Leicester ...	9	9½	8¾	9¼
„ Half-breds ...	9½	10¼	9	9½
„ Kent ...	9½	10	9	9¾
„ Southdown ...	10¾	14	10	13½
South African ...		14¼		13½

Price of English and Cape wool in London.

1091. The prices of the leading descriptions of wool in London at the close of each of the six years ended with 1885, are thus quoted by Messrs. Helmuth, Swartze, and Co.:—

Price of various wools in London.

AVERAGE PRICE OF WOOL OF DIFFERENT KINDS IN LONDON, 1880 TO 1885.

Description of Wool.	Average Price per lb. at end of—					
	1880.	1881.	1882.	1883.	1884.	1885.
	d.	d.	d.	d.	d.	d.
Port Phillip, good to superior combing	23½	22	22½	22	22½	17
„ good average grease ...	13	12	12½	12½	11½	9½
Sydney, average grease (short) ...	11	10½	10½	10	9½	8
Adelaide „ ...	10	9½	9	9	8	6½
New Zealand, super. grease ...	13½	12½	12½	12½	12	10
Australian, crossbred super. grease (fine)	14½	14	13½	13½	13½	11½
Cape, extra super. snow white ...	22½	21	21	20½	19½	16
„ average fleece ...	12	12	11½	11	10½	8½
Buenos Ayres, average fleece ...	7½	7	6¾	6½	6	4½
Peru, middling ...	11½	11	9½	10	7¼	7
Donskoi, average white carding ...	10½	9½	8¾	8	7¼	7¼
East India, Ferozepore, yellow ...	9¾	10¼	9½	9	7½	7¼
Lincoln, hogs ...	14½	13	10½	10¼	10¾	10

1092. The Supplement to the *Statist* (London journal) of the 30th January, 1886, gives the following quotations of the price of greasy wool produced in four of the Australasian colonies during the six years ended with 1885. The wool is described as “good average greasy”

Price of wool of each Australasian colony in London.

\* Report dated 18th September, 1885, page 111.

in the case of Victoria; "average greasy" in the case of New South Wales; and "superior greasy" in the case of New Zealand. The average price of "good to superior" Victorian wool is also given:—

AVERAGE PRICE OF THE WOOL OF EACH AUSTRALASIAN COLONY  
IN LONDON, 1880 TO 1885.

Year.	Prices per lb. on 31st December.				
	Greasy Wool, the Produce of—				Good to Superior Wool, the Produce of Victoria.
	Victoria.	New South Wales.	South Australia.	New Zealand.	
	<i>d.</i>	<i>d.</i>	<i>d.</i>	<i>d.</i>	<i>d.</i>
1880 ... ..	13	11	10	13½	23½
1881 ... ..	12	10½	9½	12½	22
1882 ... ..	12½	10½	9	12½	22½
1883 ... ..	12½	10	9	12½	22
1884 ... ..	11½	9½	8	12	22½
1885 ... ..	9½	8	6½	10	17

Value of pastoral produce.

1093. The following is an estimate of the gross value of pastoral produce raised on holdings of all descriptions in 1885-6:—

VALUE OF PASTORAL PRODUCE, 1885-6.

Nature of Produce.	Value.
	£
Milk, butter, and cheese, from 333,898 milch cows kept, @ £8 10s. ...	2,838,133
Estimated value of stock produced in 1885:—	
Cattle, 333,898, viz., 222,602, @ £8, and 111,296 (calves), @ 30s.	1,947,760
Sheep, 2,670,460, @ 7s. 6d. ... ..	1,001,422
Pigs, 71,950, @ £2 10s. ... ..	179,875
Horses, 15,200, @ £8 ... ..	121,600
Excess of exports over imports of wool, Customs value ... ..	2,826,043
Estimated value of wool used in the colony for manufacturing purposes, 1,797,950 lbs., @ 1s. 6d.	134,846
Total ... ..	9,049,679

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, the late Surveyor-General of Victoria, to have taken place during a series of years on nearly 3¼ 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.

1094. Australian-killed fresh meat was delivered in London for the first time in the year 1880, when the supply consisted of 60 carcasses of beef and 555 of mutton. New Zealand fresh meat was first delivered in 1882. The following, according to the Agricultural Department of the Privy Council,\* are the quantities delivered from Australasia in the four years ended with 1884:—

AUSTRALIAN AND NEW ZEALAND-KILLED FRESH MEAT DELIVERED IN LONDON, 1881 to 1884.

					cwt.
1881	...	...	...	...	11,300
1882	...	...	...	...	34,540
1883	...	...	...	...	93,420
1884	...	...	...	...	222,560

Australasian fresh meat in London.

1095. In the same four years the average prices of beef and mutton in London, by the carcass, are quoted as follow†:—

Price of meat in London

AVERAGE PRICE OF BEEF AND MUTTON IN LONDON, 1881 TO 1884.

		Beef per lb.		Mutton per lb.
1881	...	4½d. to 7¼d.	...	5d. to 9d.
1882	...	4¾d. ,, 8d.	...	5½d. ,, 9½d.
1883	...	5d. ,, 8d.	...	5¾d. ,, 9¾d.
1884	...	4¼d. ,, 7¾d.	...	5d. ,, 8¾d.

1096. Tame rabbits were kept in Victoria during the early years of the colony, but rabbits were first turned out upon an extensive scale by a landed proprietor in the Western district. They bred rapidly, and for several years there was much demand for specimens in most districts of the colony for breeding purposes. At that time no one seems to have thought of the nuisance they might eventually become, and of the large expenditure which would be necessary to keep down their numbers. There are now few parts of Victoria which are not infested with them, although, in consequence of the vigorous efforts which have been made by the Government, by Shire Councils, and by private individuals, to suppress the evil, there are not so many as formerly. It is found, however, that if efforts are relaxed they breed so rapidly that they soon become as numerous as ever. Some persons have advocated the introduction of animals hostile to rabbits, such as ferrets, weasels, or the mangouste (Indian ichneumon‡), but where this has been tried it has been found that the introduced animals have been so destructive to poultry that the rabbits were the lesser evil of the two. The most successful way of destroying rabbits has been found to be poisoning either with phosphorized oats or wheat, or with arsenic mixed with bran or chaff, or else with the fumes of bisulphide of carbon, which, being placed in their

Rabbits.

\* Report dated 18th September, page 100.

† *Ibid.*, pages 106 and 107.

‡ *Herpestes mangos* of Desmarest.

burrows, speedily effects its object if all the entrances are properly stopped. They are also largely trapped and shot, in which case, their flesh is available for food. The following account of the steps which have been taken to exterminate the rabbits has been written specially for this work by Mr. B. Brook, the officer attached to the Department of Crown Lands who is charged with the administration of the Rabbit Suppression Acts:—

#### RABBIT EXTIRPATION.

The first Rabbit Act came into force on 28th December, 1880. Its principal provisions are:—

Owners or occupiers are liable for destruction of rabbits on their land.

Licensees, part 2 Land Act 1869 and section 49 Land Act 1869, deemed owners.

Pastoral tenants not deemed owners or occupiers, and were exempted (altered by Act 813).

Crown liable for all unoccupied Crown land and land held under pastoral licence, but not liable to be served with notice by shire council to destroy rabbits, nor to be summoned in default of compliance (altered by Act 813).

The enforcement of the provisions of the Act (*re* the destruction of vermin on all private lands) entrusted to the shire councils with power to compel destruction of log, brushwood fencing, and stone walls when deemed to be harbour for vermin. Occupier failing to clear land after notice, council to clear and recover expenses in any court of competent jurisdiction.

The second Act No. 721 in force on 24th December, 1881, repealed section 7 of Act 683 conferred power on inspectors of the councils to serve notices and to enter and destroy (if not complied with after 14 days) and recover costs.

Under the third Act No. 813 in force 12th December, 1884:—

All licensees are owners and liable to be served with notices to destroy and be summoned in default of compliance after 14 days, shire to do the work and recover. It also places the Board of Land and Works in the same position, rendering it liable to be called upon to clear unoccupied Crown lands of rabbits, dead timber, and other harbour.

Gives power to Board of Land and Works to arrange with any shire to destroy rabbits on Crown lands on terms to be agreed upon.

Enables shires to recover expenses incurred in clearing private holdings before two justices in lieu of court of competent jurisdiction.

Authorizes shire council inspector to act on his own authority in lieu of waiting directions of shire council.

Provides that any person having a live rabbit in his possession be liable to a penalty up to £100 on conviction.

Provides that it shall be the duty of every shire council to take simultaneous action to destroy vermin on any day appointed by the Governor in Council, and continue such action till district is certified as clear. Any shire not complying may be proclaimed an infested district by Governor in Council, and a local committee appointed to attend to the matter, with power to perform all duties. Expenses not recoverable from an owner to be a debt due by council, and if not paid may be satisfied out of municipal subsidy.

Gives power to proclaim any animal a natural enemy of the rabbit and protect it.

The foregoing is a brief extract of the principal features of the present Rabbit Acts, and for further information it may be stated there are about 85 shires and boroughs in the colony of Victoria more or less infested with rabbits, but in many of them the pests have not, up to the present, increased to a sufficient extent to cause any damage. Active operations to destroy the vermin on Crown lands were not taken until towards the latter end of 1881. During the first two years the operations extended to only about 20 shires; but to such an extent had the evil spread, that it was early found imperative to extend the scope of operations, and at the present time the Department is working Crown lands in upwards of 60 shires.

The amounts voted by Parliament for rabbit extirpation are as follow :—

1879-80 ...	£1,280	1883-84 ...	£10,000
1880-81 ...	£2,600	1884-85 ...	£12,000
1881-82 ...	£10,000	1885-86 ...	£33,000*
1882-83 ...	£12,000	1886-87 ...	£25,422

These amounts include expenditure on labour, inspection, materials, cartage, &c., and for working unoccupied Crown lands; the administration and clerical portion of the work entail in addition a cost of less than £150 per annum.

The pest has during the past two years been largely diminished, and operations on the whole attended with marked success. The greatest obstacle in the way of effectually clearing land of the pest is found in the difficulty of enforcing simultaneous and continuous action; when once this difficulty is overcome by the whole operations being placed in the hands of the Government, with sufficient powers to enforce the working of all the infested lands at one time, the rabbits will soon be effectually destroyed, and a moderate expenditure suffice to keep them within a very small limit.

A few years ago, on one estate alone, upwards of £15,000 was expended in efforts to clear the land from the pest.

During the past ten years it is estimated that, including the expenditure of private individuals, shire councils, and the Government, loss by depreciation in grazing capabilities of land and destruction to crops, the colony has sustained a loss of about three millions by the introduction of these four-footed rodents; but the damage has been immensely reduced during the last three years, and at present is not great, though any relaxation of efforts would in two or three years result in the animals being as numerous as ever. Phosphorized wheat and oats, bran and chaff and arsenic, strychnine water, arsenic and carrots, have been amongst the most successful poisons, but where burrows abound, and can be got at, bisulphide of carbon is the most deadly and effective enemy of the rabbit, and never fails to destroy them when properly used, unless the soil be of too porous a nature to hold the gas; in this case digging out is the best remedy. In concluding, it may interest some persons who are not fully aware of the prolific nature of rabbits, to state that in three years, under favourable circumstances, two pairs of rabbits, if undisturbed in any way and sufficient food abounded, would increase to the enormous number of five millions, which fully shows the necessity that exists for continuous and vigorous action to destroy them.

1097. In 1886, as compared with 1885, a decrease of 5 occurred in the Flour mills. number of mills; the wheat operated upon fell off by 413,000 bushels, and the other grain operated upon by 161,000 bushels. The pairs of stones were fewer by 13, but this was more than made up by an increase of 44 in the sets of rollers in use. The hands employed fell off by 45. An increase of £72,433 took place in the estimated value of machinery, lands, and buildings, and an increase of 76 in the number of hands employed :—

FLOUR MILLS, 1885 AND 1886.

Year ended March.	Number of Mills.	Mills employing—		Amount of Horse-power of Steam Engines.	Number of Pairs of Stones.	Number of sets of Rollers.
		Steam-power.	Water-power.			
1885 ...	139	132	7	3,093	454	70
1886 ...	134	130	4	3,128	441	114
Increase	...	...	...	35	...	44
Decrease	5	2	3	...	13	...

\* Including an amount of £11,000 to cover additional expenditure incurred in 1884-5.

## FLOUR MILLS, 1885 AND 1886—continued.

Year ended March.	Number of Hands employed.	Grain operated upon.		Approximate Total Value of—		
		Wheat.	Other.	Machinery and Plant.	Lands.*	Buildings.
		bushels.	bushels.	£	£	£
1885 ...	869	7,631,963	637,448	251,420	73,013	117,300
1886 ...	824	7,218,805	475,997	256,170	85,126	172,870
Increase	...	...	...	4,750	12,113	55,570
Decrease	45	413,158	161,451	...	...	...

Value of  
materials  
used and  
produced.

1098. 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 :—

## 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>

Breweries.

1099. The same number of breweries have been returned in the last two years. The hands employed in breweries in 1886, as compared with those in the previous year, increased by 20, and considerable increases took place in the sugar, malt, and hops used. The beer brewed in the year under review exceeded by 352,000 gallons that in the previous year, and a higher value by £25,600 was set down for the machinery, plant, lands, and buildings :—

## BREWERIES, 1885 AND 1886.

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.
								lbs.	bushels.	lbs.
1885 ...	74	50	1	1	22	444	955	13,413,456	604,752	752,754
1886 ...	74	47	2	1	24	472	975	13,458,144	625,598	788,178
Increase	...	...	1	...	2	28	20	44,688	20,846	35,424
Decrease	...	3	...	...	...	...	...	...	...	...

\* The figures in this column apply to purchased lands only. One of the mills in both years was upon Crown lands; in these cases no valuation of the land has been given.

BREWERIES, 1885 AND 1886—continued.

Year ended March.	Beer made.	Approximate Total Value of—		
		Machinery and Plant.	Lands.*	Buildings.
	gallons.	£	£	£
1885 ... ..	14,400,749	138,660	134,595	217,700
1886 ... ..	14,753,152	146,265	138,693	231,620
Increase ...	352,403	7,605	4,098	13,920

1100. 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 :—

Value of materials used and produced.

BREWERIES, 1880-81.

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

1101. The beer made in Victoria during 1885-6 amounted to 14,753,152 gallons; and the quantity imported, after deducting exports, was 929,374 gallons. These numbers give a total consumption of 15,682,526 gallons or an average of 16 gallons per head. In the previous year, the beer brewed and imported amounted to 15,332,128 gallons, or an average of 16 gallons per head.

Consumption of beer per head.

1102. The large amount of building carried on, especially in Melbourne and suburbs, and the great demand for bricks resulting therefrom, led to the opening of nine new brick-making works in 1885-6, and increases occurred in the power of steam engines used, in the number of hands employed, and in the out-put of bricks and pottery. Moreover, the valuation placed upon plant, lands, and buildings was higher by over £76,000 than in the previous year. The following are the comparative figures of the last two years :—

Brickyards and potteries.

BRICKYARDS AND POTTERIES, 1885 AND 1886.

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.			
1885 ...	218	221	76	41	88	89	743	1,937
1886 ...	227	216	90	52	105	70	935	2,193
Increase	9	...	14	11	17	...	192	256
Decrease	...	5	...	...	...	19	...	...

\* The figures in this column apply to purchased lands only. Two of the breweries in 1885 and three in 1886 were on Crown lands.

## BRICKYARDS AND POTTERIES, 1885 AND 1886—continued.

Year ended March.	Number of Bricks made.	Approximate Total Value of—				
		Bricks made.	Pottery made.	Machinery and Plant.	Lands.*	Buildings
		£	£	£	£	£
1885 ... ..	129,933,000	259,866	41,532	109,539	127,466	88,672
1886 ... ..	158,990,150	317,981	48,130	135,959	169,575	96,288
Increase ...	29,057,150	58,115	6,598	26,420	42,109	7,616

Tanneries,  
fellmongeries,  
&c.

1103. The establishments for tanning and wool-washing were fewer by 18 in 1885-6 than in 1884-5, and the returns show a decrease of 63 in the hands employed, but an increase of £8,397 in the value of plant, lands, and buildings connected with that industry. The work done was greater than in the previous year; the hides and skins tanned being larger in number by 303,000, and the wool washed by over 2,000,000 lbs. The following are the particulars for the two years:—

TANNERIES, FELLMONGERIES, AND WOOL-WASHING ESTABLISHMENTS,  
1885 AND 1886.

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.			
1885 ... ..	170	67	1	1	18	83	801	1,863	4,018
1886 ... ..	152	63	2	1	18	68	786	1,800	3,912
Increase ...	...	...	1	...	...	...	...	...	...
Decrease ...	18	4	...	...	...	15	15	63	106

Year ended March.	Number of Hides and Skins Tanned.	Number of Skins Stripped of Wool.	Other Wool Washed.	Approximate Total Value of—		
				Machinery and Plant.	Lands.†	Buildings.
			lbs.	£	£	£
1885 ... ..	1,860,341	2,810,477	9,378,479	110,077	72,772	149,475
1886 ... ..	2,162,900	2,233,429	11,466,859	122,622	68,483	149,616
Increase ...	302,559	...	2,088,380	12,545	...	141
Decrease ...	...	577,048	...	...	4,289	...

\* The figures in this column apply to purchased lands only. Thirty-two of the brickyards in 1885 and thirty in 1886 were on Crown lands. In these cases no estimate of the value of the land is given.

† The figures in this column apply to purchased land only. Eight of the establishments in both years were on Crown lands. In these cases no valuation of the land is given.

1104. 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			£397,743, or 39 per cent.

1105. The number of woollen mills in 1885-6 was the same as in the previous year, but the value of plant, lands, and buildings is set down as £3,000 less than in that year. An increase of 296,000 lbs. occurred in the quantity of wool used, of 36,400 yards in the out-put of tweed, cloth, flannel, &c., of 1,475 in the pairs of blankets made, and 180 shawls appear to have been made against none in the previous year. The number of males employed fell off by 7, and the number of females by 27 :—

**WOOLLEN MILLS, 1885 AND 1886.**

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.
1885	9	880	1,501,960	1,077,800	1,430	...
1886	9	900	1,797,947	1,114,241	2,905	180
Increase	...	20	295,987	36,441	1,475	180

Year ended March.	Hands employed.		Approximate Total Value of—		
	Males.	Females.	Machinery and Plant.	Lands.	Buildings.
1885	453	361	£ 175,299	£ 6,382	£ 67,900
1886	446	334	163,186	8,958	74,401
Increase	...	...	...	2,576	6,501
Decrease	7	27	12,113	...	...

1106. 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 then £79,298. The following are the figures :—

**WOOLLEN MILLS, 1880-81.**

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

Soap and  
candle  
works.

1107. The soap and candle works returned in 1886 were more numerous by 1 than those in 1885, but the hands employed were fewer by 26. The weight of soap made was greater by 12,000 cwt. than in 1885, but—probably in consequence of the Apollo Candle Works having been burned down—the weight of candles manufactured was less by 19,000 cwt. than in that year, and a lower valuation by £10,700 was placed upon the machinery, lands, and buildings :—

#### SOAP AND CANDLE WORKS, 1885 AND 1886.

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.
1885 ...	32	21	11	367	438	cwt. 113,190	cwt. 56,612	£ 104,525	£ 23,105	£ 44,305
1886 ...	33	22	11	418	412	125,578	37,245	90,873	33,121	37,242
Increase ...	1	1	...	51	...	12,388	...	...	10,016	...
Decrease ...	...	...	...	...	26	...	19,367	13,652	...	7,063

Value of  
articles  
used and  
produced.

1108. 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.

Tobacco  
manufac-  
tories.

1109. The number of tobacco manufactories returned in 1885 and 1886 was identical, but the hands employed were fewer in the latter than in the former by 8; there was a considerable falling-off in the quantity of tobacco manufactured, but an increase in the quantity of snuff and in the number of cigars made. The value of lands and buildings fell off by £6,050, but the value of plant in use increased by £5,850 :—

\* The figures in this column apply to purchased land only. Four of the establishments in 1885 and two in 1886 were on Crown lands. In these cases no valuation of the land is given.

TOBACCO MANUFACTORIES, 1885 AND 1886.

Year ended March.	Number of Establishments.	Establishments employing—				Amount of Horse-power of Steam Engines.	Number of Hands employed.		Quantity of—			Approximate Total Value of—		
		Steam-power.	Water-power.	Gas-power.	Manual Labour.		Males.	Females.	Tobacco Manufactured.	Snuff Manufactured.	Number of Cigars Manufactured.	Machinery and Plant.	Lands.	Buildings.
1885 ..	12	4	1	..	7	54	504	202	lbs. 1,254,052	lbs. 2,213	8,044,270	£ 34,795	£ 45,400	£ 32,515
1886 ..	12	4	..	1	7	61	497	201	918,066	6,345	9,172,600	40,645	42,900	28,965
Increase ..	..	..	..	1	..	7	..	..	..	4,132	1,128,330	5,850	..	..
Decrease ..	..	..	1	..	..	..	7	1	335,986	..	..	..	2,500	3,505

1110. 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
Increased value	...	...	£72,870, or 58 per cent.

1111. Seven distilleries were returned in 1886, as against six in 1885; and the hands employed increased by 5, but the quantity of spirits made fell off by 21,000 gallons. An increase of £31,770 occurred in the valuation placed on lands and buildings, but a falling-off of £1,000 in that placed on machinery and plant. The following are the figures for the two years:—

DISTILLERIES, 1885 AND 1886.

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.
1885 ...	6	85	65	gallons. 237,104	£ 28,500	£ 30,500	£ 21,000
1886 ...	7	93	70	216,161	27,450	56,470	26,800
Increase ...	1	8	5	...	...	25,970	5,800
Decrease ...	...	...	...	20,943	1,050	...	...

Other manu-  
factories,  
works, &c.

1112. 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 fewer by 16 than those returned in 1885. It will be observed that the establishments employing manual labour decreased by 105, whilst there was an increase of 89 in those worked with the the aid of machinery. The males employed increased by 574, but there was a falling-off of 448 in the number of females employed. This is mainly accounted for by a reduction in the number of women and girls employed in clothing manufactories, chiefly in Melbourne and suburbs. The net value of lands, buildings, and plant shows an increase of nearly £602,000. The totals of the two years are subjoined :—

### MANUFACTORIES, WORKS, ETC., 1885 AND 1886.

(Exclusive of Flour Mills, Breweries, Distilleries, Brickyards, Potteries, Tanneries, Fellmongeries, Wool-washing Establishments, Woollen Mills, 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	
1885* ...	2,181	859	16	139	...	21	1,146	12,350
1886 ...	2,165	895	17	178	2	32	1,041	13,367
Increase	...	36	1	39	2	11	...	1,017
Decrease	16	...	...	...	...	...	105	...

Year ended March.	Number of Hands employed.		Approximate Total Value of—		
	Males.	Females.	Machinery and Plant.	Lands.	Buildings.
1885 ...	33,751	7,668	£ 3,381,882	£ 2,192,395	£ 2,327,451
1886 ...	34,325	7,220	3,660,723	2,576,083	2,266,781
Increase ...	574	...	278,841	383,688	...
Decrease ...	...	448	...	...	60,670

Manufac-  
tories of  
all descrip-  
tions.

1113. 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,

\* Excluding stone-crushing and tar-paving works now included under the head of stone quarries, but which were included in the figures given in the last *Victorian Year Book*.

distilleries, brickyards, potteries, tanneries, fellmongeries, wool-washing establishments, woollen mills, soap works, candle manufactories, and tobacco manufactories—it is found that during 1885–6 the total number of establishments decreased by 28 ; those establishments using steam or gas, however, increased by 80; and the amount of horse-power increased by 1,343, the hands employed by 231, and the value of machinery, lands, and buildings by £741,000. The returns of the two years are contained in the following table :—

### MANUFACTORIES, WORKS, ETC., 1885 AND 1886.

(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.
1885 ...	2,841	1,329	18,817	49,066	£ 10,166,463
1886 ...	2,813	1,409	20,160	49,297	10,907,885
Increase ...	...	80	1,343	231	741,422
Decrease...	28	...	...	...	...

1114. 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 1885–6. 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 :—

Names of  
manufac-  
tories.

\* 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 211 in both years.

## MANUFACTORIES, WORKS, ETC., 1881 AND 1886.

Description of Manufactory, Works, &c.	1880-81.			1885-6.		
	Number of Establishments.	Approximate Value of—		Number of Establishments.	Hands employed.	Approximate Value of Machinery, Plant, Lands, and Buildings.
		Materials used.	Articles produced.			
<b>BOOKS AND STATIONERY.</b>						
Account-book manufactories, manufacturing stationers	7	£ 62,386	£ 100,057	7	697	£ 180,525
Printing establishments* ...	89	202,475	569,797	139	3,629	731,609
<b>MUSICAL INSTRUMENTS.</b>						
Organ-building establishments ...	2	3,500	8,050	4	27	10,050
Pianoforte manufactories ...	5	1,700	4,150	4	19	4,250
<b>CARVING FIGURES, ETC.</b>						
Statuary works ...	...	...	...	2	8	2,800
<b>DESIGNS, MEDALS, AND DIES.</b>						
Die-sinkers, engravers, medalists, trade-mark makers	6	3,350	9,200	6	76	22,170
Indiarubber stamp manufactories † ...	2	350	1,700	...	...	...
Type foundry ...	1	...	...	...	...	...
<b>PHILOSOPHICAL INSTRUMENTS, ETC.</b>						
Electric-lighting apparatus manufactory	...	...	...	1	...	...
Philosophical instrument manufactories	1	...	...	4	16	5,220
<b>SURGICAL INSTRUMENTS.</b>						
Surgical instrument, truss—manufactories	6	2,400	5,600	4	21	6,035
<b>ARMS, AMMUNITION, ETC.</b>						
Blasting powder, dynamite, &c.—manufactories	3	9,964	16,737	6	65	34,260
Fuze manufactory ...	1	...	...	1	...	...
Shot manufactories ...	...	...	...	2	6	4,810
<b>MACHINES, TOOLS, AND IMPLEMENTS.</b>						
Agricultural implement manufactories	54	91,659	202,535	55	1,023	139,794
Cutlery, tool—manufactories ...	3	800	2,400	5	24	8,215
Domestic implement ‡ manufactories	2	...	...	8	64	14,365
Iron foundries and engineering establishments §	147	329,395	723,919 †	148	5,608	1,025,640
Nail manufactories ...	...	...	...	2	12	2,975
Pattern-makers ...	...	...	...	5	15	4,345
Sheet-iron and tin works ...	61	143,000	247,299	50	819	124,383
<b>CARRIAGES AND HARNESS.</b>						
Carriage lamp manufactories ...	3	900	2,950	2	24	4,450
Coach, waggon, &c.—manufactories	132	99,415	212,615	174	2,395	288,695
Perambulator manufactories ...	3	1,750	5,000	4	23	6,140
Saddle, harness—manufactories ...	47	35,792	81,130	63	579	89,905
Saddle-tree, &c., manufactories ...	4	2,400	6,860	4	21	5,100
Whip manufactories ...	3	940	2,950	2	17	1,500

\* Including paper-bag manufactories.

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

‡ Including bellows, churn, washing-machine, &c., makers.

§ Including brass-founders and pattern-makers.

## MANUFACTORIES, WORKS, ETC.—continued.

Description of Manufactory, Works, &c.	1880-81.			1885-6.		
	Number of Establishments.	Approximate Value of—		Number of Establishments.	Hands employed.	Approximate Value of Machinery, Plant, Lands, and Buildings.
		Materials used.	Articles produced.			
<b>SHIPS AND BOATS.</b>						
Ship, boat—builders ... ..	10	£ 3,570	£ 14,614	12	220	£ 12,710
Ships' wheels, blocks, &c.—manufactories	3	505	1,100	1	...	...
Floating-dock ... ..	1	...	...	} 7	166	436,118
Graving-docks ... ..	3	...	...			
Patent slips ... ..	2	...	...			
<b>HOUSES, BUILDINGS, ETC.</b>						
Architectural modelling works ...	11	3,584	8,900	} 10	68	17,450
Patent ceiling ventilator manufactories	2	250	1,600			
Enamelled mantlepiece manufactories	...	...	..	2	18	2,550
Line works ... ..	21	6,560	17,216	35	341	14,334
Roof-covering composition manufactories	2	944	2,180	...	...	...
Venetian blind manufactories ...	12	5,500	11,750	12	119	16,100
<b>FURNITURE.</b>						
Bedding, flock, and upholstery manufactories	15	13,350	26,880	25	197	57,921
Cabinet works, including billiard-table makers	63	131,000	258,188	75	1,264	207,143
Bedstead manufactory ... ..	...	...	...	1	...	...
Earth-closet manufactories ... ..	1	...	...	3	30	5,500
Iron-safe manufactories ... ..	2	670	970	2	14	2,950
Looking-glass manufactories ... ..	2	400	1,300	2	24	8,050
Picture-frame makers, &c. ... ..	13	5,627	11,550	7	33	21,860
Wood-carving and turnery works ...	10	4,965	10,800	16	76	15,810
<b>CHEMICALS.</b>						
Chemical works ... ..	6	25,160	43,600	10	150	85,500
Dye works ... ..	6	1,130	7,150	12	78	17,860
Essential oil manufactories ... ..	4	1,825	3,900	7	44	6,480
Ink, blacking, blue, washing-powder, &c.—manufactories	12	37,280	58,560	7	219	28,690
Ironfounders—charcoal manufactory	...	...	...	1	...	...
Japanner ... ..	...	...	...	1	...	...
Paint, varnish—manufactories ...	1	...	...	1	...	...
Printing ink manufactories ... ..	...	...	...	3	32	14,100
Salt works ... ..	8	4,882	10,810	5	29	1,580
<b>TEXTILE FABRICS.</b>						
Woollen mills ... ..	10	89,412	168,710	9	780	246,545
<b>DRESS.</b>						
Boot manufactories ... ..	105	355,418	686,922	91	4,100	205,773
Clothing factories ... ..	63	370,181	761,401	73	4,982	302,522
Fur manufactories ... ..	3	4,300	6,900	5	49	10,555
Hat, cap—manufactories ... ..	22	34,753	66,264	23	591	89,371
Hosiery manufactories ... ..	...	...	...	3	30	2,010
Oilskin, waterproof-clothing—manufactories	5	900	5,700	5	79	6,270
Umbrella and parasol manufactories	9	13,180	24,825	8	120	17,815
Wig manufactory ... ..	1	...	...	...	...	...

MANUFACTORIES, WORKS, ETC.—*continued.*

Description of Manufactory, Works, &c.	1880-81.			1885-6.		
	Number of Establishments.	Approximate Value of—		Number of Establishments.	Hands employed.	Approximate Value of Machinery, Plant, Lands, and Buildings.
		Materials used.	Articles produced.			
<b>FIBROUS MATERIALS.</b>						
Rope, twine, mat, bag, sack—manufactories	18	£ 66,975	£ 102,280	14	293	£ 96,730
Sail, tent, tarpaulin—manufactories	12	28,860	47,250	13	98	24,935
<b>ANIMAL FOOD.</b>						
Cheese factories ... ..	28	17,733	31,586	22	74	18,021
Meat-curing establishments ...	16	192,150	258,790	24	354	43,140
<b>VEGETABLE FOOD.</b>						
Arrowroot, maizena, oatmeal, starch—manufactories	5	5,620	8,000	1	...	...
Biscuit manufactories ... ..	13	106,110	181,840	7	599	65,450
Confectionery works ... ..	8	61,600	88,800	12	327	77,100
Flour mills ... ..	144	1,397,099	1,637,351	134	824	514,166
Jam, sauce, pickle—manufactories ...	20	75,930	117,570	26	530	80,620
Macaroni works ... ..	2	125	230	1	...	...
<b>DRINKS AND STIMULANTS.*</b>						
Aërated waters, gingerbeer, liqueur, &c.—works	114	91,849	196,810	139	922	203,254
Breweries ... ..	81	442,885	780,501	74	975	516,578
Coffee, chicory, cocoa, mustard, spice—works	12	235,355	322,786	14	310	153,405
Distilleries ... ..	6	26,368	44,500	7	70	110,720
Malthouses ... ..	14	67,635	98,000	15	106	76,800
Sugar, treacle—refineries ... ..	1	...	...	2	196	207,100
Tobacco, cigars, snuff—manufactories	16	126,450	199,320	12	698	112,510
Vinegar works ... ..	5	8,500	14,600	4	17	7,150
<b>ANIMAL MATTERS.</b>						
Boiling-down, tallow-rendering—establishments	15	28,303	77,000	20	116	30,844
Bone mills and bone manure manufactories	15	50,225	70,845	12	90	32,174
Brush manufactories ... ..	8	15,700	27,800	8	139	16,727
Comb manufactory ... ..	1	...	...	...	...	...
Catgut manufactories ... ..	2	800	2,000	1	...	...
Curled hair manufactories ... ..	3	1,700	2,565	1	...	...
Glue, oil—manufactories ... ..	7	8,200	12,700	6	33	10,715
Leather belting (machinery) manufactory	...	...	...	1	...	...
Morocco, fancy leather—manufactories	3	2,480	4,400	4	48	8,320
Portmanteau, trunk—manufactories	7	5,680	9,520	8	43	10,750
Soap, candle—works ... ..	38	288,340	450,924	33	412	161,236
Tanneries, fellmongeries, and wool-washing establishments	151	1,008,531	1,406,274	152	1,800	340,721
Ostrich feather factory ... ..	...	...	...	1	...	...

\* Places where wine is made are not included. The number of wine presses returned in 1885-6 was 427.

## MANUFACTORIES, WORKS, ETC.—continued.

Description of Manufactory, Works, &c.	1880-81.		1885-6.			
	Number of Establishments.	Approximate Value of—		Number of Establishments.	Hands employed.	Approximate Value of Machinery, Plant, Lands, and Buildings.
		Materials used.	Articles produced.			
		£	£			£
<b>VEGETABLE MATTERS.</b>						
Bark mills ... ..	8	17,000	25,650	3	17	3,880
Basket-making works ... ..	9	1,670	4,560	12	64	12,940
Broom manufactories * ... ..	2	6,200	13,000	2	39	3,020
Chaff-cutting, corn-crushing—works †	165	357,232	516,623	201	870	217,568
Cooperage works ... ..	24	17,829	35,243	26	182	30,115
Cork manufactories ... ..	2	2,100	3,100	1	...	...
Fancy-box, hat-box—manufactories	5	3,080	6,745	6	105	24,050
Paper manufactories ... ..	3	24,300	47,370	2	201	95,800
Saw mills, moulding, joinery, &c.—works	174	552,463	973,127	256	4,832	647,108
<b>COAL AND LIGHTING.</b>						
Gasworks ... ..	19	97,392	226,116	21	581	1,395,265
Electric-light works ... ..	...	...	...	1	...	...
<b>STONE, CLAY, EARTHENWARE, AND GLASS.</b>						
Artificial stone manufactory ... ..	...	...	...	1	...	...
Asbestos works ... ..	...	...	...	1	...	...
Brickyards and potteries ... ..	165	...	137,834	227	2,193	401,822
Filter manufactories ... ..	1	...	...	3	10	2,370
Glass manufactories, works ... ..	9	12,705	41,150	4	117	22,800
Stone-breaking, asphalte, tar-pavement—works ‡	9	10,640	27,783	...	...	...
Stone and marble sawing, polishing—works	43	50,583	104,614	43	675	86,342
<b>WATER. §</b>						
Ice manufactories ... ..	2	2,000	7,000	3	53	33,000
<b>GOLD, SILVER, AND PRECIOUS STONES.</b>						
Goldsmiths, jewellers, and electroplaters (manufacturing)	28	62,020	109,650	22	372	124,420
Royal mint ... ..	1	...	...	1	...	...
<b>METALS OTHER THAN GOLD AND SILVER.</b>						
Bell foundry ... ..	1	...	...	...	...	...
Brass and copper foundries ... ..	...	...	...	18	468	88,140
Lead, pewter, and zinc—works ... ..	5	17,850	23,800	2	15	19,100
Pyrites works ... ..	1	...	...	1	...	...
Smelting works ... ..	7	32,396	48,610	3	51	20,650
Wire-working establishments ... ..	10	3,650	9,800	9	74	19,800
Total where only one return was received for each of certain descriptions	...	257,910	400,080	...	263	169,726
<b>Total ... ..</b>	<b>2,468</b>	<b>7,997,745</b>	<b>13,370,836</b>	<b>2,813</b>	<b>49,297</b>	<b>10,907,885</b>

\* 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 18,421 in 1885-6.

‡ Now included under the head of Stone Quarries—*post*.

§ Works for the storage and supply of water are not included in the manufacturing tables. A table of water-works follows paragraph 1060 *ante*.

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

Value of materials used and produced.

1115. 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
		-----
Increased value	... ..	5,373,091, or 67 per cent.
		-----

Summary of manufactories at three periods.

1116. By comparing the particulars respecting these manufactories, as returned in 1886 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 10 per cent. between 1876 and 1881, and by 14 per cent. between 1881 and 1886; the hands employed increased by 28 per cent. and 29 per cent. in those intervals respectively; and the value of machinery, plant, lands, and buildings increased by 30 per cent. in the first, and by 46 per cent. in the second, interval. The following is the comparison referred to:—

SUMMARY OF MANUFACTORIES, WORKS, ETC., 1876, 1881, AND 1886.

Year ended March.	Total Number of Establishments.	Number of Establishments using Steam or Gas.	Horse-power of Engines.	Number of Hands employed.	Approximate Value of Lands, Buildings, Machinery, and Plant.
					£
1876 ...	2,241	904	12,562	29,821	5,753,491
1881 ...	2,468	1,048	14,502	38,141	7,465,328
1886 ...	2,813	1,409	20,160	49,297	10,907,885

Stone quarries.

1117. The stone quarries, stone crushing, and tar pavement works returned in 1886 were fewer by 5 than in 1885, and the out-put of stone fell off by 156,000 cubic yards, but the hands employed by 209. The following are the figures for the two years:—

STONE QUARRIES,\* ETC., 1885 AND 1886.

Year ended March.	Number of Quarries, &c.	Cubic Yards of Stone raised.					Steam Engines in use.	
		Bluestone.	Slate and Flagging.	Sandstone and Freestone.	Granite.	Other.	Number.	Horse-power.
1885	162	326,153	1,307	12,120	1,632	13,900	18	250
1886	157	488,901	1,750	11,150	860	8,537	20	352
Increase	...	162,748	443	...	...	...	2	102
Decrease	5	...	...	970	772	5,363	...	...

\* Including stone crushing and tar pavement works formerly included in the table of "Manufactories, works, &c."

STONE QUARRIES,\* ETC., 1885 AND 1886—continued.

Year ended March.	Number of Hands employed.	Approximate Total Value of—			
		Stone raised.	Machinery and Plant.	Lands.†	Buildings.
1885	1,057	£ 92,305	£ 34,972	£ 25,318	£ 12,573
1886	1,266	140,724	42,617	40,597	10,330
Increase	209	48,419	7,645	15,279	...
Decrease	...	...	...	...	2,243

1118. According to the estimate of the Mining Department, the gold raised in Victoria in 1885 was 735,218 oz., which is less than the quantity obtained in 1884 by 43,400 oz., representing, at £4 per oz., a diminished value of £173,600. The following are the figures for the two years :—

QUANTITY AND VALUE OF GOLD RAISED IN 1884 AND 1885.

Year.	Gold raised in Victoria.	
	Estimated Quantity.	Value, at £4 per oz.
1884	oz. 778,618	£ 3,114,472
1885	735,218	2,940,872
Decrease	43,400	173,600

1119. 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 the following three years, the yield in the last of these being less than in any other year since 1851. 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 1885.

1871	...	oz. 1,355,477	1879	...	oz. 758,947
1872	...	1,282,521	1880	...	829,121
1873	...	1,241,205	1881	...	858,850
1874	...	1,155,972	1882	...	898,536
1875	...	1,095,787	1883	...	810,047
1876	...	963,760	1884	...	778,618
1877	...	809,653	1885	...	735,218
1878	...	775,272			

1120. Carrying on to the end of 1885 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

\* See footnote to preceding page.

† The figures in this column apply to purchased land only. Fifty-two of the stone quarries in 1885 and thirty in 1886 were on Crown lands, and in these cases no valuation of the land has been given.

in 1851. The figures give an average per annum during the whole period of about 1,535,000 oz., which is more than twice the quantity raised in 1885:—

ESTIMATED TOTAL QUANTITY AND VALUE OF GOLD RAISED IN VICTORIA, 1851 TO 1885.\*

Gold raised in Victoria.		Estimated Quantity.	Value, at £4 per oz.
		oz.	£
Prior to 1885	...	52,992,768	211,971,072
During 1885	...	735,218	2,940,872
Total	...	53,727,986	214,911,944

Gold raised in Australasian colonies.

1121. 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 1884, is estimated to have amounted to over 78 million ounces, valued at over 306½ 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, up to the period to which the table relates, little, if any, gold had been discovered there:—

PRODUCE OF GOLD IN AUSTRALASIAN COLONIES.†

Colony.	Gold produced.					
	Prior to 1884.		During 1884.		Total.	
	Estimated Quantity.	Value.	Estimated Quantity.	Value.	Estimated Quantity.	Value.
	oz.	£	oz.	£	oz.	£
Victoria ...	52,214,150	208,856,600	778,618	3,114,472	52,992,768	211,971,072
New South Wales	9,432,759	34,971,319	105,933	390,229	9,538,692	35,361,548
Queensland ...	4,221,476	14,775,166	307,804	1,077,314	4,529,280	15,852,480
South Australia	133,181	529,771	21,455	80,893	154,636	610,664
Total of Australia	66,001,566	259,132,856	1,213,810	4,662,908	67,215,376	263,795,764
Tasmania ...	335,728	1,291,826	42,340	160,404	378,068	1,452,230
New Zealand ...	10,276,547	40,275,532	246,393	988,953	10,522,940	41,264,485
Total Australasia	76,613,841	300,700,214	1,502,543	5,812,265	78,116,384	306,512,479

NOTE.—The estimated quantity raised in 1885 was as follows:—Victoria, 735,218 oz.; New South Wales, 100,667 oz.; South Australia, 24,298 oz.; Tasmania, 41,241 oz.; New Zealand, 237,371 oz.

\* 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, New South Wales, and Queensland express the estimated quantity and value of all the gold raised in those colonies since the period of its discovery; 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.

1122. 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
<b>Total</b> ... ..	<b>1,448,</b>	<b>100·0</b>

1123. This would give an average of nearly £29,000,000 per annum, which is higher than the following estimate of the world's produce of gold between the years 1851 and 1882, taken from *L'Almanach de Gotha*‡:—

GOLD PRODUCE OF THE WORLD, 1851 TO 1882.

	oz.	£
1851 to 1860 ... Annual average ... ..	6,485,838	or 25,943,352
1861 to 1870 ... ..	6,059,153	„ 24,236,612
1871 to 1880 ... ..	5,512,353	„ 22,049,412
1881 ... Year ... ..	5,204,176	„ 20,816,704
1882 ... ..	4,988,438	„ 19,953,752

1124. By the following table, which, with the exception of the figures for Australasia, has been taken from the report for 1885 of Mr. James P. Kimball, Director of the United States Mint, it appears that during the three years ended with 1884 the value of the world's annual production of gold has averaged about 20 millions sterling, the largest quantity being produced in the United States, the next largest in Australasia, and the next in Russia:—

\* *Dictionary of Statistics*, page 220.

† According to an estimate made in the office of the Government Statist, Melbourne, the value of gold raised in Australia during the period named amounted to £282,980,000, or about 25 millions sterling in excess of this estimate.

‡ Page 1078, where only the quantities have been given, in kilogrammes, which have been converted into ounces on the assumption that a kilogramme is equal to 2·6785 lbs. troy. The values have been calculated at a uniform rate of £4 per oz.

## GOLD PRODUCE\* OF EACH COUNTRY, 1882 TO 1884.

Countries.	1882.		1883.		1884.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	£	oz.	£	oz.	£	oz.
Australasia ...	1,553,542	6,086,860	1,430,501	5,358,613	1,502,543	5,812,265
United States ...	1,572,199	6,770,833	1,451,251	6,250,000	1,489,928	6,416,666
Russia ...	1,154,603	4,972,486	1,154,603	4,972,486	1,055,452	4,545,480
Mexico ...	45,299	195,046	46,232	199,091	57,227	246,487
Germany ...	12,088	52,060	14,693	63,275	17,843	76,833
Austria-Hungary ...	50,797	218,764	52,662	226,795	53,305	229,522
Sweden ...	547	2,354	1,190	5,123	611	2,630
Italy ...	3,504	15,078	3,504	15,078	3,504	15,078
Turkey ...	322	1,385	321	1,385	322	1,384
Argentine Republic	3,794	16,364	3,794	16,364	3,794	16,363
Colombia ...	186,534	803,333	186,534	803,333	186,534	803,333
Bolivia ...	3,504	15,078	3,504	15,078	3,504	15,078
Chili ...	7,877	33,958	7,877	33,958	7,877	33,977
Brazil ...	35,879	154,520	8,230	35,473	8,230	35,473
Japan ...	30,607	131,775	30,607	131,775	30,607	131,774
Africa ...	96,450	415,375	96,450	415,375	96,450	415,376
Venezuela ...	125,514	540,641	161,457	695,429	161,457	695,429
Dominion of Canada	52,983	228,110	46,135	198,750	46,135	198,750
Peru ...	5,755	24,844	5,755	24,844	5,755	24,842
The World ...	4,941,798	20,678,864	4,705,300	19,462,225	4,731,078	19,716,740

Silver produce of each country.

1125. The next table has also been taken from Mr. Kimball's report for 1885, and shows that the average annual value of the world's production of silver during the three years ended with 1885 was nearly 24 millions sterling, or a fifth more than that of gold, the largest quantity being raised in the United States, the next largest in Mexico, and the next in Bolivia:—

## SILVER PRODUCE\* OF EACH COUNTRY, 1882 TO 1884.

Countries	1882.		1883.		1884.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	oz.	£	oz.	£	oz.	£
Australasia ...	79,571	21,433	69,155	18,629	89,634	24,158
United States ...	36,203,568	9,750,000	35,733,343	9,625,000	37,750,691	10,166,667
Russia ...	250,159	67,381	250,159	67,381	300,152	80,834
Mexico ...	22,617,782	6,091,208	22,869,806	6,160,120	21,086,156	5,678,726
Germany..	6,911,671	1,861,386	7,416,812	1,997,771	7,976,897	2,148,262
Austria-Hungary	1,514,844	407,963	1,565,962	421,801	1,588,982	427,931
Sweden ...	48,225	12,990	50,893	13,709	58,384	15,724
Norway ...	189,460	51,032	181,487	48,884	205,342	55,310

\* See U.S. Mint Report, 1885, pages 130 and 131, where the quantities are given in kilogrammes and the values in dollars. The former have been converted into ounces on the assumption that a kilogramme is equal to 2.6785 lbs. troy, and the latter into pounds sterling on the assumption that £1 is equal to 4 $\frac{2}{5}$  dollars.

## SILVER PRODUCE\* OF EACH COUNTRY, 1882 TO 1884—continued.

Countries.	1882.		1883.		1884.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	oz.	£	oz.	£	oz.	£
Italy ... ..	13,889	3,739	13,889	3,739	13,889	3,739
Spain ... ..	2,395,175	645,046	2,395,175	645,046	114,518	30,834
Turkey ... ..	69,573	18,733	69,573	18,733	69,573	18,733
Argentine Republic	325,004	87,547	325,004	87,547	325,004	87,547
Colombia... ..	587,798	158,333	587,798	158,333	587,798	158,333
Bolivia ... ..	8,509,366	2,291,666	12,377,268	3,333,333	12,377,268	3,333,333
Chili ... ..	4,118,608	1,109,375	4,118,608	1,109,375	4,118,608	1,109,375
Japan ... ..	679,040	182,869	679,040	182,869	679,040	182,869
Dominion of Canada ... ..	52,758	14,209	52,758	14,209	52,758	14,209
France ... ..	459,456	123,761	204,345	55,057	204,345	55,057
Peru ... ..	1,475,974	397,500	1,475,974	397,500	1,475,974	397,500
The World † ...	86,501,921	23,296,171	90,437,049	24,359,036	89,075,013	23,989,141

1126. Of the gold which was raised in Victoria during 1885, 453,400 oz. was obtained from quartz reefs, and 281,818 oz. from alluvial deposits. These figures, as compared with those for the previous year, show a decrease of 17,685 oz. in the yield of quartz reefs, and of 25,715 oz. in that of alluvial workings. The respective proportions of quartz and alluvial gold raised were 60 and 40 per cent. in 1884, and 62 and 38 per cent. in 1885. Gold derived from alluvial and quartz workings.

1127. The value of gold raised in Victoria in proportion to the number of miners at work † fell to its lowest point in 1879, when it only amounted to £76 1s. 2d. per head; but since then it has been increasing, and in 1885 reached to £108 15s. 9d. per head, which is the highest average in 26 years. The following figures, which have been taken from the reports of the Secretary for Mines, express this proportion for the last fifteen years:— Value of gold per miner.

## VALUE OF GOLD PER MINER, § 1871 TO 1884.

	£	s.	d.		£	s.	d.
1871 ... ..	93	6	1½	1879 ... ..	76	1	2¼
1872 ... ..	93	17	1½	1880 ... ..	81	18	11¾
1873 ... ..	93	16	2½	1881 ... ..	95	11	9½
1874 ... ..	99	8	3	1882 ... ..	95	19	7¾
1875 ... ..	104	4	4	1883 ... ..	95	6	3½
1876 ... ..	89	19	6¾	1884 ... ..	106	14	6¼
1877 ... ..	82	6	1¾	1885 ... ..	108	15	9¼
1878 ... ..	82	12	11½				

\* See footnote to preceding page.

† British India, which, according to another authority, produced silver to the value of £914,367 in 1883, does not appear to be included.

‡ For the number of gold miners at work in 1885, see paragraph 110 *ante*.

§ These amounts are sometimes incorrectly spoken of as the "average earnings" of the miners. It has been 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. For wages of miners, see table following paragraph 945 *ante*.

Value of gold  
per alluvial  
and quartz  
miner.

1128. In proportion to the number of miners engaged in alluvial and quartz mining, the yield of gold from the latter has frequently been more than twice as large as that from the former. The following are the figures for the last nine years :—

VALUE OF GOLD PER ALLUVIAL AND QUARTZ MINER, 1877 TO 1885.

	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
1884	76	4	2	144	9	10
1885	75	17	2	148	19	11

Estimated  
gold yield,  
1886.

1129. The estimated yield of gold in the first half of 1886 was 322,199 oz., as against 377,476 oz. in the first half of 1885.\* Twice the first quoted amount would give 644,398 oz. as the estimate for the whole of 1886, or 90,820 oz. less than the quantity actually raised in 1885.

Steam  
engines  
used in  
mining.

1130. 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 twelve years :—

STEAM ENGINES USED IN GOLD MINING, 1874 TO 1885.

	Number.			Horse-power.		
1874	...	...	1,141	...	...	24,866
1875	...	...	1,101	...	...	24,224
1876	...	...	1,081	...	...	23,947
1877	...	...	1,067	...	...	23,416
1878	...	...	1,036	...	...	22,711
1879	...	...	1,024	...	...	22,509
1880	...	...	1,030	...	...	22,499
1881	...	...	1,034	...	...	23,379
1882	...	...	1,074	...	...	24,692
1883	...	...	1,087	...	...	25,933
1884	...	...	1,104	...	...	26,228
1885	...	...	1,085	...	...	26,627

Mining  
machinery.

1131. The value of gold mining machines of all descriptions, as estimated by the Department of Mines, decreased from £1,888,214 in 1884 to £1,837,452 in 1885. In the latter year, the value of them used in quartz mining was £1,511,547, whilst that of those used in alluvial mining was only £325,905.

\* See "Mining Registrars' Reports" for first two quarters of 1886.

1132. The number of quartz reefs proved to be auriferous, as returned by the mining surveyors and registrars, was 3,768 in 1884, and 3,793 in 1885. 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. Auriferous reefs.

1133. The approximate area of auriferous ground worked upon during the last quarter of 1885 was stated to be 315 square miles. The figures are derived from estimates, not from actual surveys, and they vary from year to year. As the different gold-workings are abandoned by the miners, they are excluded from the returns, which only take into account the ground on which gold mining operations are actually being carried on. Extent of auriferous ground.

1134. 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 876,692 tons in 1884, and 843,251 tons in 1885. The average yield per ton of these crushings was 9 dwt. 21·07 gr. in the former, and 10 dwt. 1·28 gr. in the latter, year. From similar estimates, extending over the last ten years, and embodying information respecting the crushing of more than 9,000,000 tons of quartz, an average is obtained of about 9 dwt. 12·19 gr. of gold to the ton of quartz crushed. Average yield of quartz.

1135. The most productive gold mine in the colony has undoubtedly been that of the Long Tunnel Company at Walhalla, respecting which the manager, Mr. Ramsay Thomson, reports that "it was opened in 1867, and, since it became dividend-paying, up to the present date, there have been declared dividends equal to £417 per share or £1,000,800 in all. The total quantity of stone crushed was 302,670½ tons, yielding 473,275¼ oz. of gold, or an average of 1 oz. 11 dwt. 6·56 gr. per ton." This is the only mining company in Victoria which has paid over £1,000,000 in dividends. Richest gold mine in Victoria.

1136. The ten deepest shafts in the colony\* are those of the Magdala (now Moonlight) Company, Stawell, 2,409 feet; Lansell's 180 mine, Sandhurst, 2,040 feet; Victory and Pandora Company, Sandhurst, 2,000 feet; Newington Company, Pleasant Creek, 1,940 feet (not working); North Old Chum Company, Sandhurst, 1,841 feet; Prince Deep shafts.

\* See Reports of Mining Registrars for the Quarter ended 30th June, 1886.

Patrick Company, Pleasant Creek, 1,830 feet (not working); Great Extended Hustler's Company, Sandhurst, 1,820 feet; Crown Cross United Company, Pleasant Creek, 1,815 feet; Victoria Reef Quartz Company, Sandhurst, 1,793 feet; Prince Alfred Company, Pleasant Creek, 1,770 feet. The four deepest shafts in the world\* are said to be the shaft at Spesenberg, near Berlin, 4,175 feet (rock salt); that at Viviers, in Belgium, 3,542 feet (coal); that at Adalbert, in Bohemia, 3,288 feet (coal); and that at Ashton Moss, in England, 2,850 feet (coal). These are the deepest shafts, but a bore for artesian water has been put down at Potsdam, in the state of Missouri, U.S.A., to a depth of 5,500 feet, or 1 mile and 220 feet. This is believed to be the greatest depth to which the crust of the earth has yet been pierced.

Yield from  
deep mines.

1137. 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.\*

High  
chimneys.

1138. It is said† that the highest mining chimney in the colony (125 feet) is that of Koch's Pioneer Company at Sandhurst, and the next highest (110 feet) that of the Band and Albion Company at Ballarat. It is believed that the highest chimney in the colony (175 feet) is that at the Hoddle-street engine-house of the Melbourne Omnibus and Tramway Company, and the highest in the world (441½ feet) is that of the Mechernich Lead Mining Company, the next highest (435 feet) being that of Tennant's Chemical Works in Glasgow.

Gold-mining  
leases.

1139. Since the first issue of gold-mining leases, the total number granted has been 14,633, giving the right to mine over an area amounting in the aggregate to 273,212 acres. Of these leases, 427, for 8,066 acres, were granted in 1885, and 1,275, for 23,353 acres, were in force at the end of that year.

\* See Reports of the Mining Registrars for the Quarter ended 30th June, 1885.

† See Reports of the Mining Registrars for the Quarter ended 30th June, 1886.

1140. Silver, tin, copper, antimony, lead, and iron have been mined for at different times in Victoria, but, with the exception of a little lead, none of these ores were raised in 1885. Some silver was obtained in that year, but only such as was extracted at the mint during the process of refining the gold. Many attempts have been made to mine for coal, but the seams hitherto worked have been too thin to yield a profit; a seam 5 feet in thickness, however, has been discovered at Mirboo, in Gippsland, and it is anticipated that with improved means of communication a valuable coal-field will be opened up there. The following metals also exist in Victoria, but up to this date have not been discovered in paying qualities:—Bismuth, cobalt, cadmium, manganese, molybdenite, osmiridium, and zinc-blende. Various limestones and marbles, as well as kaolin and other clays, also exist, and have been worked to a certain extent.\*

Minerals other than gold existing in Victoria

1141. At the present time, the coal-producing colonies of Australasia are New South Wales, Queensland, Tasmania, and New Zealand.† In these 3,604,958 tons of coal were raised in 1885, but four-fifths of this quantity came from New South Wales. The following are the quantities returned as brought to the surface in each of those colonies during a series of years:—

Coal raised in Australasian colonies.

COAL RAISED IN AUSTRALASIAN COLONIES, 1876 TO 1885.

Year.	Tons of Coal raised in—			
	New South Wales.	Queensland.	Tasmania.	New Zealand.
1876	1,319,918	50,627	6,100	...
1877	1,444,271	60,918	9,470	...
1878	1,575,497	52,580	12,311	162,218
1879	1,583,381	55,012	9,514	231,218
1880	1,466,180	58,052	12,219	299,923
1881	1,769,597	65,612	11,163	337,262
1882	2,109,282	74,436	8,803	378,272
1883	2,521,457	104,269	8,872	421,764
1884	2,749,109	129,980	7,194	480,831
1885	2,878,863	209,698	5,334	511,063

1142. At the end of 1885, the following leases of Crown lands, conferring the privilege of working for minerals and metals other than gold, were in force in Victoria:—

Leases for other minerals.

\* See Report of the Secretary for Mines for 1885, page 11 *et seq.*

† Only 13,068 tons of coal has been produced in Victoria up to the present time.

## LEASES FOR MINERALS AND METALS OTHER THAN GOLD, 1885.

Metals and Minerals.	Leases in force at end of 1885.	
	Number.	Area.
Antimony ... ..	13	223
Coal ... ..	11	5,642
Copper and the ores of copper ... ..	9	539
Copper, galena, and coal ... ..	1	176
Copper, silver, and lead ... ..	1	93
Ironstone ... ..	1	320
Kaolin ... ..	1	26
Lead ... ..	1	154
Lignite ... ..	1	471
Marble ... ..	1	38
Red ochreous clay ... ..	1	2
Slate ... ..	8	354
Slate and flagging ... ..	1	14
Tin and the ores of tin ... ..	8	508
Total ... ..	58	8,560

Leases for other minerals, 1884 and 1885.

1143. The leases in force at the end of 1885, as shown in the table, were fewer by 16, and the area comprised therein was smaller by 6,343 acres, than at the end of 1884. The leases for antimony mining fell off by 3, those for coal mining by 8, and those for tin mining by 6.

Minerals other than gold raised.

1144. 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 1885 :—

VALUE OF MINERALS AND METALS OTHER THAN GOLD,  
1851 TO 1885.

Name.	Estimated Value.		
	1851 to 1884.	Year 1885.	Total.
Silver ... ..	£ 66,251	£ 5,790	£ 72,041
Tin ... ..	362,974	...	362,974
Copper ... ..	105,559	...	105,559
Antimony ... ..	169,295	...	169,295
Lead ... ..	4,922	404	5,326
Iron ... ..	15,636	...	15,636
Coal ... ..	17,399	...	17,399*
Lignite ... ..	3,184	54	3,238
Kaolin ... ..	7,444	...	7,444
Flagging ... ..	62,836	2,458	65,294
Slates ... ..	1,790	942	2,732
Gypsum ... ..	7	...	7
Magnesite ... ..	12	...	12
Ores, mineral earthy clays, &c. ... ..	10,901	...	10,901
Diamonds ... ..	108	...	108
Sapphires, &c. ... ..	630	...	630
Total ... ..	828,948	9,648	838,596

\* The quantity of coal raised was 13,068 tons.

1145. 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 1885. The total shows a falling-off of 67 as compared with 1884 :—

MINERS FOR MINERALS OTHER THAN GOLD.

							Number of Miners.
Antimony ...	...	...	...	...	...	...	25
Coal ...	...	...	...	...	...	...	35
Galena ...	...	...	...	...	...	...	7
Granite ...	...	...	...	...	...	...	31
Iron ...	...	...	...	...	...	...	12
Kaolin ...	...	...	...	...	...	...	13
Lignite ...	...	...	...	...	...	...	6
Slate and flag ...	...	...	...	...	...	...	86
							215
							215

1146. The revenue derived from the gold-fields amounted to £21,045 in 1883-4, and £20,147 in 1884-5. The amount in the latter year was made up of the following items :—

REVENUE FROM GOLD-FIELDS, 1884-5.

							£
Miners' rights ...	...	...	...	...	...	...	5,358
Business licences ...	...	...	...	...	...	...	339
Rents for leases of auriferous mineral lands...	...	...	...	...	...	...	13,728
Water-right and searching licences...	...	...	...	...	...	...	722
							20,147
							20,147

1147. 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, 1885 :—

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

1148. In 1883-4, £12,540, and in 1884-5, £17,115, was expended on the purchase and working (including office expenses) of diamond drills, as against which no amount appears in the revenue returns of the former, and only six shillings—for the use of boring rods—in those of the latter, year.

\* For number of gold miners, see paragraph 110 ante.

Mining on private property.

1149. An Act to legalize mining for gold and silver on private property,\* and to compensate the owner and occupier thereof for the damage sustained by reason of the land being taken, or of their being deprived of possession of the surface thereof, in consequence of mining operations, came into force on the 24th November, 1884, and between that date and the 31st December, 1885, 318 leases were issued under it, covering an area of 63,896 acres.

Value of mining produce.

1150. The estimated value of the produce raised from Victorian mines and quarries in 1885 is summarized as follows :—

VALUE OF MINING PRODUCE, 1885.

Gold ... ..	£	2,940,872
Other metals and minerals ... ..		9,648
Stone from quarries ... ..		140,724
Total ... ..		<u>£3,091,244</u>

Agricultural, pastoral, and mining produce.

1151. The estimated value of the agricultural, pastoral, and mining produce raised in Victoria, during each of the last twelve 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 1885.

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	10,203,914	3,357,252	20,933,309
1884 ...	6,565,527	9,887,229	3,228,738	19,681,494
1885 ...	7,118,388	9,049,679	3,091,244	19,259,311

\* The Mining on Private Property Act 1884 (48 Vict No 796).

† For prices of agricultural produce in different years; see table following paragraph 1065 ante.

‡ The pastoral produce referred to is that derived from the live stock kept by farmers as well as that kept by graziers and squatters.

Including the value of stone raised from quarries.

1152. 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.\* On the assumption that the value of manufacturing produce has increased since the census in the same proportion as the number of establishments, or by 14 per cent., the value in 1885 would be £6,125,300, which amount being 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 that year, amounting in the aggregate to £25,384,611.

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

1153. The patents for inventions applied for in 1885 numbered 459, or half as many again as in 1884 when they numbered 295, which was a larger number than in any previous year. Since 1854 the total number of patents applied for has been 4,404.

Patents.

1154. The Victorian Copyright Act (33 Vict. No. 350) came into force in December, 1869. Copyrights for literary productions have been unusually numerous during the last three years, during which period they averaged about 400 per annum; whereas prior to 1883 the largest number registered was 158. The following copyrights have been registered since the passing of the Act:—

Copyrights.

COPYRIGHTS, 1870 TO 1885.

Subject of Copyright.	Copyrights Registered.		
	Prior to 1885.	During 1885.	Total.
<b>DESIGNS.</b>			
Articles of manufacture, chiefly of—			
Metals ... ..	224	12	236
Wood, stone, cement, or plaster ...	47	3	50
Glass ... ..	9	...	9
Earthenware ... ..	3	...	3
Ivory, bone, papier-maché, &c. ...	35	1	36
Woven fabrics ... ..	15	...	15
Miscellaneous ... ..	16	...	16
<b>LITERARY PRODUCTIONS.</b>			
Literary works ... ..	1,876	421	2,297
Dramatic „ ... ..	71	17	88
Musical „ ... ..	82	5	87
<b>WORKS OF ART.</b>			
Paintings ... ..	4	1	5
Drawings ... ..	21	2	23
Engravings ... ..	910	87	997
Photographs ... ..	950	18	968
Sculpture ... ..	3	...	3
Total ... ..	4,266	567	4,833

\* See paragraph 1115 ante.

Trade-  
marks.

1155. 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 *primâ 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 1885, 1,190 trade-marks were submitted for registration, and 851 were registered. During the year 1885, the number submitted was 195—or 14 less than in 1884, and the number registered 110—or 35 less than in 1884.

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### PART VI.—LAW, CRIME, ETC.

Transfer of  
Land  
Statute.

1156. The system whereby persons acquiring possession of land, either by transfer, inheritance, or other means, may receive a title thereto direct from the Crown, was introduced into Victoria in the year 1862, and continues in force to the present period.\*

Lands under  
the Statute.

1157. All lands alienated from the Crown since the introduction of the system have come at once under its provisions; and lands alienated prior to its inauguration can be brought under them by application, provided a clear title be produced, or a title containing only a slight imperfection. In the latter case, the title is given subject to such imperfection, which is noted on the deed.

Assurance  
fund.

1158. The assurance and indemnity fund established under the Transfer of Land Statute, to secure the Government against possible losses, is formed chiefly by the payment of an amount equal to one halfpenny in the pound of the value of all lands which become subject to its operation. The balance to the credit of this fund on the 30th June, 1885, was £93,900, of which £65,743 had been invested in Government stock. Seven claims upon the fund, of which one for £1,586 was in 1884-5, have been substantiated since its first formation, and £2,870 has been paid to claimants.

Transactions  
under the  
Land  
Statute,  
1884 and  
1885.

1159. In 1885, as compared with 1884, a large increase took place in the extent and value of land brought under the Transfer of Land Statute (29 Vict. No. 301) by application, but a decrease in that brought under it by purchase from the Crown; moreover, a large increase

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\* This system was originated by the late Sir R. R. Torrens, whence it is commonly known as "Torrens's system." He first introduced it into South Australia, but it has since been adopted by all the Australasian colonies.