

as deposit banks, and some of the insurance companies, also receive deposits, but of these no returns are furnished:—

MONEYS ON DEPOSIT AT END OF YEARS 1877 TO 1881.

Amount deposited with—	1877.	1878.	1879.	1880.	1881.
	£	£	£	£	£
Banks	16,503,528	16,106,581	16,326,165	17,972,703	21,151,910
Savings banks ...	1,575,305	1,510,273	1,520,296	1,661,409	2,569,438
Building societies	748,253	703,463	742,542	829,941	836,327
Total	18,827,086	18,320,317	18,589,003	20,464,053	24,557,675

945. It will be observed that the moneys known to be on deposit about the close of the last year amounted in the aggregate to over twenty-four and a half millions sterling. Moneys on deposit, 1881.

PART VIII.—PRODUCTION.

946. 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. Sales of Crown land by auction.
Special surveys.

947. 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. This Act imposed no conditions as to residence, cultivation, or improvement. Land Act 1860 (24 Vict. No. 117).

* Much of the information in this and the next four paragraphs has been gathered from the Report of the Honorable the Minister of Lands for the year 1873.

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

949. The next change was made in 1865, when an Act was passed providing that agricultural land could be acquired by payment of 2s. per acre per annum during three years, and by effecting improvements to the extent of 20s. per acre within two years of the commencement of the lease. These conditions having been complied with, the lessee might, at the expiration of three years, if he resided upon the land, purchase his holding at £1 per acre; or, if not, he could require his leasehold to be offered at auction at the uniform price of 20s. per acre, with the value of improvements added in his favor. There was also a clause* whereby land adjacent to goldfields 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 goldfields, but its operation was gradually extended by regulation to a circuit of thirty miles around goldfields, and the same individual was allowed to hold several 20-acre licenses 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.

950. 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 license 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

* The 42nd clause.

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

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

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

improvements to the value of 20s. per acre. The rent payable during this period was 2s. per acre per annum, which was credited to the selector as part payment of the principal. At the expiration of the three years' license, 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 license 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 contains provision for the sale of Crown lands by auction at an upset price of £1 per acre, or such higher sum as the Governor may direct, the whole extent to be sold in any one year not to exceed 200,000 acres.

951. The Land Act of 1869, just described, as amended by the Land Act 1878 (42 Vict. No. 634), which came into operation at the beginning of 1879, is the one at present in force. The principal alterations made by the amending Act as regards selection for agricultural purposes was to increase the period during which the land is held under license 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 license or lease from 2s. to 1s., thereby allowing the payments to extend over a period of twenty years instead of ten years as formerly. It also contains provision for selection by persons who need not reside on their selections. In such cases, however, the rent is 2s. per acre, and the total price to be paid for the land £2 per acre. Improvements to the value of £2 per acre, moreover, have to be made during the six years' license, of which at least half must be made before the expiration of the third year. Such licenses are not to be issued in any one year for an aggregate area of more than 200,000 acres. Both these Acts will, unless further continued, expire by effluxion of time on the 31st December 1882.

Present land system.

952. A Bill to continue and further amend the Land Act 1869 is now (October 1882) before Parliament, providing for the increase of the maximum area which may be selected from 320 to 640 acres; the rent, period of license, and period of residence to be as now, 1s. per acre, six years and five years respectively; 1 acre in 40 acres instead of 1 acre in 10 acres to be the minimum required to be cultivated; and improvements to be made to the minimum value of 10s. instead of £1 per acre. Non-resident licenses and leases to be granted as before, the rent to be 1s 6d. instead of 2s. per acre, and the necessary improvements £1

Land Bill 1882.

instead of £2 per acre. Licensees are not to be allowed to transfer their licenses, but with the written sanction of the Board of Land and Works are to be allowed to grant liens upon them, which, if not cancelled before the lease or Crown grant is obtained, are to remain afterwards as a mortgage upon the land.

953. 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 persons 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 :—

CONDITIONS OF LAND SELECTION IN AUSTRALASIAN COLONIES,
1882.

Conditions of Selection.	Victoria.	New South Wales.	Queens-land.	South Australia.	Western Australia.	Tasmania.	New Zealand.
1. Maximum area allowed Acres	320	640†	640 to 5,120‡	640 to 1,000§	500	320	320
2. Price per acre ... £	1	1||	2 to ¼	1||	½	1||	1¶
3. Time over which purchase may extend ... Years	20	18	10	20	10	14	10
4. Minimum time in which fee-simple may be acquired ... Years	6	5	3	5	3	Anytime	3
5. Annual payment per acre, s.	1	1**	4 to ½	...	1	2||	2
6. Value of necessary improvements per acre ... s.	20	10	5 to 10	10	Not stated	...	20
7. Time allowed for making improvements ... Years	6	5	5	4	10	...	6
8. Acres in every 100 to be cultivated ...	10	...	...	20	25	...	20
9. Period of residence necessary ... Years	5	5	10††	20††	2½	14††	6 ††

NOTE.—Married women and minors under the age of 18 are ineligible to select land in nearly all the colonies.

* A complete account of the land system of each colony was published in the *Victorian Year-Book* 1879-80, page 394 *et seq.* A few changes have taken place since.

† In addition, the selector is permitted to occupy three times the area as a "grazing right" at an annual rental of £2 per 640 acres.

‡ Within these limits, the maximum allowed may be varied in any district by the Government.

§ Reclaimed land, 640 acres; country or improved land, 1,000 acres.

|| Not including interest, for which 33½ per cent. is added in Tasmania for the term of fourteen years, 5 per cent. per annum in New South Wales, and about 3½ per cent. in South Australia.

¶ This is the minimum price. The price varies, however, with the quality of the land.

** But for the first term of three years 5s. per acre is paid in advance.

†† Personally, or by substitute.

‡‡ Or until the purchase-money is paid in full.

954. The total extent of Crown land sold in Victoria up to the end of 1881 was 12,606,093 acres, and the extent granted without purchase was 8,307 acres. The whole area alienated in fee-simple was thus 12,614,400 acres, of which 6,184,809 acres, or nearly half, was acquired by selection under the system of deferred payments. Crown lands alienated to end of 1881.

955. The selected lands of which the purchase had not been completed up to the end of the year amounted to 10,135,682 acres. Of this extent it is estimated that 2,990,320 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 7,145,362 acres. Crown lands selected.

956. 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 to 19,759,762 acres, it will follow that the residue, representing the Crown lands neither alienated nor in process of alienation, amounted at the end of 1881 to 36,485,998 acres. Crown lands unalienated.

957. The whole of this residue, however, is not available for selection, for it embraces lands occupied by roads, the unsold portions of the sites of towns, the State forests, auriferous, pastoral, and timber reserves, and land which is at present useless, owing to its mountainous character or to its being covered with mallee scrub. Deducting these lands from the extent unalienated and unselected, already stated to have been 36,485,998 acres, it will be found that the area open for selection is narrowed to 8,796,380 acres. This will be at once seen by the following table, which shows the position of the public estate at the end of 1881 :— Public estate, 1881.

PUBLIC ESTATE OF VICTORIA ON 31ST DECEMBER 1881.

Condition of Land.	Number of Acres.
Land alienated in fee-simple	12,614,400
Land in process of alienation under deferred payments	7,145,362
Roads in connection with the above	1,137,504
Unsold land included in cities, towns, &c.	302,000
Unselected auriferous land* (about)	973,802
Timber reserves	218,412
Other reserves	689,870
State forests	832,530
Mountain forests	12,000,000
Mallee country	11,535,500
Area available for selection at end of 1881	8,796,380
Total area of Victoria	56,245,760

* This land may be selected for residence or cultivation under section 49 of the Land Act 1869, in lots not exceeding 20 acres. The total extent already selected under this section is included in the first two items, and amounts to 180,782 acres.

Crown lands available for selection.

958. Omitting the 23,535,500 acres of mallee country and mountain forests, the remainder of the colony, amounting to 32,710,260 acres, or about 58 per cent. of the total area, may be said to be at present suitable for occupation. Of this extent, at the end of 1881, 19,759,762 acres, or 60 per cent., were already alienated or in process of alienation; 4,154,118 acres, or 13 per cent., were occupied by reserves; and 8,796,380 acres, or 27 per cent., were available for selection.

Number of selectors there is space for.

959. The maximum area which the law allows one person to select is 320 acres.* It will be at once seen that, supposing every selector should take up his full amount, there would be room for 27,500 selectors in the portion of the colony still remaining available for selection. Should the maximum be increased to 640 acres, there would of course be space for only half that number of selectors, or 13,750.

Extent available for selection, 1880 and 1881.

960. The difference between the extent available for selection at the end of 1880 and at the end of 1881 was 815,552 acres. The extent so available was equal at the former period to 17·1 per cent., and at the latter period to 15·6 per cent., of the whole area of the colony.

Crown lands alienated, 1881.

961. The land alienated from the Crown in fee-simple during 1881 amounted to 461,873 acres. Of this extent, 458,636 acres were sold, and 3,237 acres were granted without purchase. A gradual falling-off in the area alienated annually had taken place between 1872 and 1879, but the extent alienated in 1880 was greater than in either of the last three years of that period, whilst that alienated in 1881 was greater than in 1880 by 48,898 acres.

Crown lands sold by auction.

962. Of the area sold, 24,753 acres, or about an eighteenth, were disposed of by auction. Nearly the whole of the remainder was in the first instance selected under the system of deferred payments. The extent sold by auction in 1881 was less than in 1880 by over 2,500 acres, and was also much less than in any other of the previous eleven years except 1873.

Amount realized on Crown land sales, 1881.

963. The amount realized for Crown lands sold in 1881 was £574,382, or at the rate of £1 5s. per acre. Of this sum, only £222,016 was received during the year, the remainder having been paid in former years as rents and license fees. The proportion sold by auction realized £130,468, or an average of £5 5s. 5d. per acre; and the proportion sold otherwise than at auction realized £443,914, or an average of £1 0s. 6d. per acre.

Amount realized, 1836 to 1881.

964. From the period of the first settlement of the colony to the end of 1881 the amount realized by the sale of Crown lands was £20,182,778, or at the rate of £1 12s. per acre.

* See paragraph 950 *ante*.

965. The total area selected, with right of purchase, in 1881, amounted to 570,428 acres, or 165,782 acres less than in 1880. Of this extent, 564,306 acres were taken up under the residence clauses of the Land Acts of 1869 and 1878, and 6,122 acres under the non-residence clause* of the latter. The average area to each resident selector was 181 acres and to each non-resident selector 146 acres. The area selected was considerably less than in any previous year since 1871, as will be observed by the following figures, which show the number of approved applications (approximating closely to the number of selectors) and the number of acres selected in each of the 12 years ended with 1881 :—

Selectors and area selected, 1870 to 1881.

SELECTORS AND LAND SELECTED,† 1870 TO 1871.

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

966. Of land which had been selected with right of purchase in former years, as many as 201,389 acres were abandoned or forfeited to the Crown for non-fulfilment of conditions during the year 1881, resulting in a gain to the Treasury of £11,431.

Selected land forfeited, 1881.

967. The squatting runs in 1881 numbered 553, or 59 less than in 1880. The area of Crown lands embraced in runs amounted in 1881 to 12,964,079 acres, or 1,372,962 acres less than that in 1880.

Squatting runs: number and area.

968. The decrease in the number of squatting runs from year to year is accounted for by the fact that the best portions of the runs are often taken up by selectors, and the assessment of the remainder being considered excessive, the pastoral lessees abandon their leases, which are forfeited, and the lands are offered for re-occupation for grazing purposes, subject to annual licenses, under the 47th section of the Land

Decrease in number of squatting runs.

* See paragraph 951 ante.

† Not including residence selectors on the goldfields. See footnote to table following paragraph 957 ante.

Act 1869. The highest tender for the grazing license, which is frequently that of the former occupant, is generally accepted.

Squatting runs: average size.

969. The average size of squatting runs was 23,427 acres in 1880, and 23,443 acres in 1881. This is exclusive of any purchased land attached thereto.

Rent of runs.

970. The rent of runs is assessed in accordance with the number of stock the land is estimated to be able to depasture, viz., 5s. yearly for each head of cattle or horses, or 1s. yearly for each sheep. In 1880 the amount of rent payable was £86,727, or 1.452d. (nearly 1½d.) per acre; and in 1881 the amount was £70,732, or 1.309d. (under 1½d.) per acre.*

Land revenue.

971. 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 licenses, 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, licenses, &c. In 1881, as compared with 1880, there was an increase under the first and third of these heads, but a decrease under the second; the total net increase amounting to £41,600, as will be seen by the following figures:—

LAND REVENUE, 1880 AND 1881.

Heads of Land Revenue.	Amounts Received.		Increase.	Decrease.
	1880.	1881.		
	£	£	£	£
Alienation in fee-simple and progressive	666,103	713,478	47,375	...
Temporary occupation	109,367	97,770	...	11,597
Penalties, fees, interest, &c. ...	37,925	43,750	5,825	...
Total	813,395	854,998	41,603†	...

Agricultural statistics.

972. The agricultural statistics of Victoria are collected by the municipal bodies, which, under the Local Government Act (38 Vict. No. 506), are required each year to furnish to the Government Statist, on or before the 31st March, at their own cost, 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

* The sums actually received were £88,065 in 1880 and £71,036 in 1881, but arrears from previous years are included in both these amounts.

† Net figures.

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.

973. The agricultural statistics* to which reference will now be made are those for the year ended 31st March 1882. Tables embodying the general results of these statistics were sent for publication in the *Government Gazette* on the 8th May last, and these, with additional tables, form portion of the *Statistical Register of Victoria*. Agricultural statistics, 1881-2.

974. The extent of land returned as under cultivation amounted to 1,821,719 acres, as against 1,997,943 acres in 1880-1. The falling-off shown by the figures was therefore 176,224 acres. Land under tillage.

975. Notwithstanding this apparent falling-off, however, there is little doubt that as much land was placed under crop in the year under review as in the previous one, but as in some parts of the country the crops were entirely destroyed by drought, or promised so badly that stock were allowed to feed on what little vegetation appeared above the surface of the ground, it is probable that in many instances the occupiers did not consider it worth while to make any return to the collectors. Reasons of apparent falling-off in tillage.

976. Except upon the present occasion, the returns from year to year have almost invariably shown a considerable increase in the extent of land under tillage. During the decenniad ended with the year under review the total increase has been 884,499 acres, or 94 per cent. Increase of tillage in ten years.

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

AVERAGE AREA CULTIVATED TO EACH PERSON IN THE COLONY.

1871-2	...	...	...	...	1.25 acres
1876-7	...	...	...	...	1.53 „
1881-2	...	...	...	...	2.06 „

978. The following table shows the area per head cultivated in each Australasian colony during the seven seasons ended with that of 1880-1, also the mean of those seasons, the colonies being placed in order according to the average extent of land per head that each cultivates :— Area cultivated per head in Australasian colonies.

* A summary of the agricultural statistics of each year since the first settlement of the colony will be found at the commencement of this work (second folding sheet). The mode of collecting agricultural statistics is described in the *Victorian Year-Book*, 1874, paragraphs 381 to 384.

CULTIVATION PER HEAD IN AUSTRALASIAN COLONIES, 1875 TO 1881.*

Colony.	Acres under Tillage per Head of Population.							Mean.
	1874-5.	1875-6.	1876-7.	1877-8.	1878-9.	1879-80.	1880-1.	
1. South Australia ...	6·50	6·86	6·71	7·72	8·09	8·75	9·62	7·75
2. Tasmania ...	3·13	3·21	3·15	3·26	3·23	3·26	3·25	3·21
3. New Zealand† ...	1·61	1·62	1·97	2·30	2·62	2·67	2·12	2·13
4. Western Australia	1·73	1·78	1·68	1·82	1·81	2·28	2·20	1·90
5. Victoria ...	1·29	1·42	1·54	1·74	1·95	2·01	2·32	1·75
6. New South Wales	·80	·74	·82	·83	·88	·90	·96	·85
7. Queensland ...	·39	·43	·46	·52	·56	·49	·53	·47

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

980. The principal crops grown in Victoria are wheat, oats, barley, potatoes, hay, and green forage. In 1881-2, as compared with 1880-1, a smaller area was placed under each of these except oats. The extent under wheat, barley, and hay, however, was greater in 1881-2 than in any previous year except 1880-1; but that under oats and potatoes was exceeded in four and that under green forage in seven other years. During the past six years wheat was much more extensively cultivated than formerly. Prior to 1877, the extent under that crop never reached 400,000 acres. The following table shows the extent of land under each of these crops in the last two seasons:—

LAND UNDER PRINCIPAL CROPS, 1881 AND 1882.

Year ended 31st March.	Wheat.	Oats.	Barley.	Potatoes.	Hay.	Green Forage.
	acres.	acres.	acres.	acres.	acres.	acres.
1881 ...	977,285	134,089	68,630	45,951	249,656	264,611
1882 ...	926,729	146,995	48,652	39,129	212,150	241,947
Increase ...	...	12,906	...	...	...	...
Decrease...	50,556	...	19,978	6,822	37,506	22,664

981. The gross yield of wheat, barley, and hay was not so great in the last as in the two preceding seasons, but was heavier than in any other season; whilst that of potatoes was exceeded on one occasion, and that of oats on three occasions. No return is made of the quantity

* For the population and number of acres under tillage in each Australasian colony during the nine years ended with 1881, see Summary of Australasian Statistics (third folding sheet) *ante*; also Appendix E *post*.

† Land under artificial grass in New Zealand is not considered to be under tillage, but it is so in most of the other colonies.

Results in
different
colonies
compared.

Land under
principal
crops.

Produce of
principal
crops.

of green forage produced, but the following is a statement of the gross yield of the other principal crops in 1880-1 and 1881-2 :—

GROSS PRODUCE OF PRINCIPAL CROPS, 1881 AND 1882.

Year ended 31st March.	Wheat.	Oats.	Barley.	Potatoes.	Hay.
	bushels.	bushels.	bushels.	tons.	tons.
1881 ...	9,727,369	2,362,425	1,068,830	129,262	300,581
1882 ...	8,714,377	3,612,111	927,566	134,290	238,796
Increase ...	...	1,249,686	...	5,028	...
Decrease...	1,012,992	...	141,264	...	61,785

982. 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-producing counties.

WHEAT RAISED IN TWELVE COUNTIES, 1877 TO 1882.

Counties.	Number of Bushels Produced.					
	1876-7.	1877-8.	1878-9.	1879-80.	1880-1.	1881-2.
Bendigo ...	763,984	795,398	727,195	871,278	1,007,979	517,342
Bogong ...	264,571	333,414	136,574	305,951	268,210	294,470
Borong ...	336,156	720,007	1,291,947	1,509,759	1,542,000	1,503,604
Dalhousie...	170,817	192,080	106,305	204,299	134,554	206,000
Delatite ...	252,946	278,947	115,639	265,478	176,934	236,936
Gladstone...	342,485	472,224	578,157	700,925	723,419	385,181
Gunbower..	169,105	250,298	218,348	321,230	697,569	230,952
Kara Kara	436,834	598,661	651,142	681,868	950,096	678,846
Lowan ...	53,681	59,591	220,334	284,407	406,090	540,539
Moira ...	568,004	889,774	317,465	1,671,507	1,655,322	1,865,846
Rodney ...	697,027	1,016,849	451,435	1,088,854	1,068,673	1,007,787
Talbot ...	462,695	449,405	414,473	397,621	302,987	377,893
Total	4,518,305	6,056,648	5,229,014	8,303,177	8,933,833	7,845,396

983. In 1881-2 six-sevenths of the wheat raised in Victoria was grown in these twelve counties, and in the previous five years the proportion was never lower than five-sixths. In Bogong, Dalhousie, Delatite, Lowan, Moira, and Talbot, the gross yield was greater in 1881-2 than in the previous year ; but in the other six counties it was below the yield of that year, the falling-off being especially marked in Bendigo, Gladstone, Gunbower, and Kara Kara, a group of counties situated in a part of the country which suffered more than any other from the effects of the drought already alluded to.*

Yield of wheat in twelve counties.

984. The average produce of wheat per acre in the various counties and in the whole colony in 1881-2 is compared in the following table with that in each of the five previous years. The counties are arranged

Yield of wheat in each county.

See paragraph 975 ante.

according to the average yield in the past season, and the twelve counties just referred to are marked with asterisks :—

AVERAGE PRODUCE OF WHEAT IN EACH COUNTY, 1877 TO 1882.

County.	Bushels of Wheat per Acre.					
	1876-7.	1877-8.	1878-9.†	1879-80.	1880-1.†	1881-2.†
Villiers ...	24·67	22·27	12·65	26·20	11·73	26·15
Tambo ...	25·43	13·91	19·12	30·39	12·52	24·51
Grant ...	18·95	17·55	13·64	24·57	12·78	22·56
Buln Buln ...	21·04	17·10	10·43	20·87	9·23	22·34
Heytesbury ...	19·65	17·95	13·60	24·14	13·16	21·97
*Dalhousie ...	17·69	15·09	8·42	20·89	9·75	21·58
Croajingolong ...	...	6·69	12·48	10·57	10·41	21·51
Mornington ...	18·59	20·53	5·87	27·79	8·16	21·30
Hampden ...	14·81	13·26	11·42	18·54	9·31	21·02
Benambra ...	20·89	20·56	11·44	21·27	12·73	20·92
Bourke ...	20·23	16·06	11·21	23·74	12·05	20·65
Tanjil ...	24·10	18·24	12·01	22·11	7·71	20·50
Evelyn ...	21·03	16·31	4·86	21·86	8·26	20·16
Dundas ...	16·18	17·85	14·23	19·61	10·11	20·01
Wonnangatta ...	14·43	10·15	5·99	16·85	4·69	18·80
Dargo ...	23·85	20·17	13·49	22·27	10·27	18·59
Polwarth ...	23·72	16·56	9·30	25·07	3·27	18·02
Anglesey ...	15·50	13·75	7·21	19·97	9·49	17·99
Normanby ...	16·52	16·77	12·18	19·37	8·14	16·81
Grenville ...	14·89	12·42	13·74	18·52	8·40	16·71
*Talbot ...	13·82	13·02	11·99	15·95	10·07	16·53
Ripon ...	14·14	13·38	14·36	17·35	12·14	15·67
*Delatite ...	16·03	14·16	5·38	14·53	8·29	13·90
*Bogong ...	13·83	14·59	6·00	13·63	9·92	13·49
*Moirā ...	13·82	14·64	3·89	16·98	12·71	12·91
*Rodney ...	13·41	12·82	5·54	15·09	12·34	12·68
Follett ...	16·74	22·13	11·80	18·44	8·43	12·61
*Lowan ...	10·60	9·63	13·46	13·75	10·01	10·65
*Kara Kara ...	12·05	10·14	10·73	9·97	9·45	7·39
*Borong ...	8·58	10·05	10·95	10·98	7·92	7·00
*Bendigo ...	12·55	11·48	8·79	11·58	10·87	6·48
*Gladstone ...	12·13	10·78	10·08	12·55	9·68	5·56
*Gunbower ...	8·97	9·18	6·47	7·67	9·29	4·16
Tatchera ...	10·97	5·45	10·55	10·76	5·85	2·37
Karkaroc ...	...	...	...	10·87	3·93	...
Total ...	13·15	12·41	8·76	13·29	9·95	9·40

985. It will be observed that in all the counties except the last seven the average yield of wheat was considerably higher in the past than in the previous season ; but since four-fifths of the total quantity of wheat produced in the colony is grown in five of those counties, the average yield for the whole colony was even less in the last year than in the previous one, and was not much above the unusually low yield of 1878-9. A severe drought prevailed in 1880-1 as well as in 1881-2,

† In 1878-9 the crops were much affected by rust and drought, and in 1880-1 and 1881-2 by the latter.

which was more general in the former season, but more severe in certain districts in the latter one. Nearly all the principal wheat-producing counties were particularly affected by drought in both years. In the last season, only Dalhousie and Talbot, which lie to the south of the others, yielded over 14 bushels, and five of them yielded less than 8 bushels, to the acre; whereas no less than thirteen of the remaining counties yielded over 20 bushels, and not one yielded less than 10 bushels, to the acre.

986. 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 1881-2, less than 1,000 bushels of wheat were grown in Croajingolong, less than 2,000 bushels in Evelyn, Polwarth, and Wonnangatta, and less than 3,000 bushels in Mornington and Tambo.

987. 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, 1880-1 AND 1881-2.

Counties.	Average Produce to the Acre of—							
	Oats. (bushels.)		Barley. (bushels.)		Potatoes. (tons.)		Hay. (tons.)	
	1880-1.	1881-2.	1880-1.	1881-2.	1880-1.	1881-2.	1880-1.	1881-2.
Anglesey ...	14·56	31·64	15·28	25·60	1·84	2·30	1·20	1·56
Benambra ...	17·65	29·00	17·65	19·12	3·13	3·16	1·07	1·42
Bendigo ...	16·54	8·69	12·85	6·85	1·91	·93	·98	·55
Bogong ...	16·17	22·85	13·73	14·55	2·28	1·95	1·02	1·09
Borong ...	12·56	15·46	9·46	6·69	1·30	1·09	·71	·52
Bourke ...	21·08	36·15	21·80	28·89	2·74	3·00	1·77	1·76
Buln Buln ...	16·51	29·60	15·70	23·12	3·61	4·33	1·71	2·31
Croajingolong	24·05	25·16	13·44	14·69	4·18	4·23	1·11	1·55
Dalhousie ...	17·45	32·14	13·35	30·78	1·64	1·72	1·18	1·96
Dargo ...	17·72	30·58	16·98	23·86	4·17	6·14	1·89	2·35
Delatite ...	13·25	22·77	11·25	18·20	2·01	1·44	1·01	1·26
Dundas ...	15·85	30·28	16·33	30·52	1·77	2·30	1·49	2·00
Evelyn ...	17·30	28·66	15·90	29·18	2·49	3·36	1·43	1·92
Follett ...	14·16	24·46	11·38	15·67	1·61	3·02	1·22	1·60
Gladstone ...	15·17	10·15	12·56	5·34	·85	...	·91	·43
Grant ...	20·59	35·47	21·88	33·23	2·83	3·19	1·64	1·53
Grenville ...	15·18	25·28	14·72	20·52	2·17	2·32	1·28	1·67
Gunbower ...	16·82	4·43	12·21	5·80	·75	·17	·96	·44
Hampden ...	18·85	35·79	15·30	29·21	3·12	3·47	1·49	1·81
Heytesbury ...	19·22	27·73	20·39	36·24	2·57	3·38	1·54	2·17
Kara Kara ...	14·93	16·62	9·62	9·65	1·12	1·36	·86	·53
Karkaroc ...	...	...	...	...	...	...	·50	...
Lowan ...	12·08	16·50	13·20	14·02	1·32	1·46	·93	·79
Moira ...	18·97	18·01	15·30	15·62	1·07	1·29	1·04	·93

Small gross yield of wheat in some counties.

Yield of other principal crops in each county.

AVERAGE PRODUCE OF OATS, BARLEY, POTATOES, AND HAY IN EACH COUNTY, 1880-1 AND 1881-2—continued.

Counties.	Average Produce to the Acre of—							
	Oats. (bushels.)		Barley. (bushels.)		Potatoes. (tons.)		Hay. (tons.)	
	1880-1.	1881-2.	1880-1.	1881-2.	1880-1.	1881-2.	1880-1.	1881-2.
Mornington ...	15·77	28·98	11·76	21·59	3·17	4·36	1·23	1·88
Normanby ...	14·68	23·65	15·40	18·94	2·12	3·08	1·23	1·69
Polwarth ...	14·72	33·09	9·07	21·62	3·34	3·32	1·43	2·23
Ripon ...	19·00	26·62	16·76	29·06	1·97	2·08	1·50	1·86
Rodney ..	18·18	16·08	14·82	17·24	1·15	·83	·99	·80
Talbot ...	19·95	32·24	18·45	28·67	2·03	1·84	1·33	1·50
Tambo ..	16·88	30·92	15·76	23·75	3·65	4·46	1·80	2·35
Tanjil ...	16·21	29·63	15·48	30·63	3·47	3·96	1·51	2·26
Tatchera ...	8·44	7·86	8·69	2·31	·25	...	·47	·26
Villiers ...	20·68	31·84	29·99	45·20	3·90	5·27	1·80	2·36
Weeah ...	...	...	...	...	...	...	·40	...
Wonnangatta	10·20	33·13	8·00	20·00	2·79	2·34	1·12	1·60
Total ...	17·62	24·57	15·57	19·07	2·81	3·43	1·20	1·13

Yield of oats, barley, potatoes, and hay, 1881-2.

988. It will be noticed that in 1881-2 the highest acreable yield of oats was in Bourke, and the next in Hampden and Grant; that the average yield of barley was highest in Villiers; that potatoes yielded the largest crop per acre in Dargo and Villiers, in which counties it was more than 5 tons, and that 4 tons per acre was exceeded in Buln Buln, Croajingolong, Mornington, and Tambo; that the highest yields of hay were in Villiers, Dargo, Tambo, and Buln Buln, in which counties this crop averaged as much as $2\frac{1}{3}$ tons to the acre

Yield of principal crops in two past seasons.

989. Comparing the averages in 1881-2 with those of the previous season, a falling-off in the yield per acre of all the crops is observed in Bendigo, Gladstone, Gunbower, and Tatchera—the first three being amongst the four counties already mentioned as having especially suffered from the drought—and of all the crops except oats in Borung; also a falling-off in the yield of oats in Moira and Bogong; in that of potatoes in Bogong, Delatite, Rodney, Talbot, and Wonnangatta; and in that of hay in Bourke, Grant, Kara Kara, Lowan, Moira, and Rodney; but increased yields are noticeable in all other cases.

Yield of principal crops, 1872 to 1882.

990. In the past season, over the colony as a whole, the acreable yield of hay was lower than in any of the ten previous ones; that of wheat was lower than in any except 1878-9; and that of barley than in any except 1878-9 and 1880-1; but the acreable yield of oats was higher than in any of the ten previous seasons; and that of potatoes higher than in any except 1872-3, 1874-5, and 1879-80. This will be seen by the following table, which shows the acreable yield

of those five crops during each of the last eleven years, also the average during the whole period :—

AVERAGE PRODUCE OF PRINCIPAL CROPS, 1872 TO 1882.

Year ended 31st 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
Mean of eleven years ...	12·77	19·77	20·22	3·26	1·28

991. In the following table the average yield of wheat, oats, 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 eight years ended with 1881 :—

Average produce in Australasian colonies.

AVERAGE PRODUCE OF PRINCIPAL CROPS IN AUSTRALASIAN COLONIES, 1874 TO 1881.

Colony.	Year ended 31st March.								Mean.
	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.	

WHEAT : BUSHELS PER ACRE.

Victoria	13·58	14·57	15·49	13·15	12·41	8·76	13·29	9·95	12·65
New South Wales ...	13·43	12·87	14·66	16·43	13·84	14·74	15·48	14·69	14·52
Queensland... ..	...	...	...	...	10·63	13·56	8·11	20·40	13·17
South Australia ...	7·87	11·75	11·95	5·40	7·76	7·15	9·78	4·96	8·33
Western Australia ...	13·44	12·00	11·00	12·00	11·00	9·97	14·94	...	12·05
Tasmania	16·17	18·51	16·38	19·30	18·12	16·10	23·22	14·99	17·85
New Zealand	25·61	28·15	31·54	28·63	26·03	22·94	28·16	25·07	27·02

OATS : BUSHELS PER ACRE.

Victoria	15·69	18·46	21·92	19·91	19·39	17·60	24·00	17·62	19·32
New South Wales ...	18·71	16·31	18·72	21·16	19·31	20·24	21·64	19·87	19·50
Queensland... ..	...	...	...	...	10·11	9·65	24·74	17·94	15·61
South Australia ...	10·61	14·61	16·69	10·65	11·96	12·01	15·02	11·50	12·88
Western Australia ...	19·22	16·00	15·00	15·00	14·00	18·02	19·00	...	16·60
Tasmania	20·98	26·82	25·40	24·21	22·32	24·82	28·61	22·13	24·41
New Zealand	29·81	35·22	39·34	31·24	31·68	30·11	36·53	32·05	33·24

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

AVERAGE PRODUCE OF PRINCIPAL CROPS IN AUSTRALASIAN
COLONIES, 1874 TO 1881—*continued.*

Colony.	Year ended 31st March.								Mean.	
	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.		
POTATOES : TONS PER ACRE.										
Victoria ...	2·86	3·53	3·37	3·31	3·11	2·71	4·04	2·81	3·22	
New South Wales ...	2·98	2·83	2·98	3·03	2·52	3·20	3·23	2·73	2·94	
Queensland...	...	...	...	...	1·91	2·33	3·03	2·65	2·48
South Australia ...	3·41	3·72	4·52	2·84	2·51	2·67	3·80	2·89	3·30	
Western Australia ...	2·67	3·00	3·00	3·00	2·00	2·49	3·50	...	2·80	
Tasmania ...	3·16	3·75	3·54	3·43	3·25	3·37	3·18	3·12	3·35	
New Zealand ...	4·46	5·24	4·89	5·36	5·38	4·98	5·62	4·94	5·11	

HAY : TONS PER ACRE.

Victoria ...	1·27	1·32	1·33	1·22	1·17	1·21	1·45	1·20	1·27
New South Wales ...	1·54	1·37	1·15	1·43	1·22	1·66	1·45	1·33	1·39
Queensland...	...	...	...	...	1·30	1·33	1·96	1·95	1·64
South Australia ...	1·02	1·26	1·21	1·95	1·13	·97	1·12	·96	1·20
Western Australia ...	2·00	1·50	1·00	1·00	1·00	1·00	1·25	...	1·25
Tasmania ...	1·08	1·35	1·42	1·21	1·13	1·19	1·52	1·13	1·25
New Zealand ...	1·43	·84	1·46	1·31	1·30	1·22	1·51	1·27	1·29

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 nine years ended with 1881-2, see Summary of Australasian Statistics (third folding sheet) *ante*; also Appendix E *post*.

Colonies with highest and lowest average yields.

992. It will be observed that according to the mean of the octennial period, the average produce of wheat, oats, and potatoes is much the highest in New Zealand, and that of hay in Queensland. The lowest yield of wheat, oats, and hay is in South Australia; and the yield of potatoes is lowest in Queensland. Victoria stands fifth in regard to the average per acre of wheat, but fourth in regard to each of the other crops named.

Average produce 1880-1 and previous years compared.

993. It will further be noticed that in the latest year respecting which the table affords information the average produce of wheat and oats in New South Wales, and of all the crops in Queensland, was above the mean of the eight years to which reference is made; but that in the other colonies the average produce of all the crops was below the mean of that period.

Land under crop in British and Foreign countries.

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

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

Country.	Year.	Number of Acres under—				
		Wheat.	Oats.	Barley.	Rye.	Potatoes.
The United Kingdom ...	1880	3,066,	4,192,	2,695,	48,	1,381,
Cape of Good Hope ...	1875	188,	114,	29,	...	9,
Austria ...	1878	2,499,	4,422,	2,612,	4,774,	2,403,
Baden ...	1876	89,	139,	153,	...	207,
Belgium ...	1866	700,	567,	108,	714,	423,
Denmark ...	1876	140,	864,	699,	575,	96,
France ...	1880	16,993,*	8,580,	2,599,	4,565,	3,230,
Holland ...	1879	330,	282,	117,	497,	351,
Hungary ...	1879	6,088,	2,689,	2,428,	...	1,015,
Italy ...	1874	11,551,	985,	1,148,	...	169,
Norway ...	1875	11,	224,	138,	37,	86,
Prussia ...	1876	4,196,	6,714,	3,357,	...	...
Russia in Europe ...	1872	28,743,	32,819,	15,512,	66,399,	3,169,
Saxony ...	1876	108,	411,	98,	...	253,
Sweden ...	1879	...	2,355,†	...	1,065,‡	381,
Württemberg ...	1876	47,	331,	244,	...	189,
United States... ..	1880	37,987,	16,188,	1,843,	1,768,	1,841,

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

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

Country.	Year.	Number of Bushels§ raised of—				
		Wheat.	Oats.	Barley.	Rye.	Potatoes.
Cape of Good Hope ...	1875	1,688,	918,	448,	...	371,
Austria ...	1878	44,401,	95,068,	46,987,	81,884,	252,603,
Baden ...	1876	1,321,	2,927,	2,904,	...	24,042,
Belgium ...	1866	14,203,	23,364,	3,666,	17,562,	67,737,
Denmark ...	1876	3,894,	24,267,	17,998,	13,791,	10,357,
France ...	1880	273,547,*	230,424,	54,473,	69,626,	381,060,
Holland ...	1879	4,869,	11,640,	3,989,	9,264,	28,414,
Hungary ...	1879	50,692,	28,820,	25,301,	...	43,590,
Italy ...	1874	142,423,	19,370,	18,417,	...	19,387,
Norway ...	1875	276,	8,896,	4,285,	1,016,	19,591,
Prussia ...	1876	86,640,	224,245,	89,698,	...	...
Russia in Europe ...	1872	157,938,	543,623,	124,754,	546,832,	370,876,
Saxony ...	1876	2,425,	13,663,	2,456,	...	43,829,
Sweden ...	1879	2,896,	45,076,	13,593,	16,538,	32,263,
United States ...	1880	483,318,	405,117,	43,785,	23,790,	163,241,
Württemberg ...	1876	836,	9,300,	5,673,	...	22,419,

* Including spelt (*Triticum spelta*). † Including barley and mixed corn. ‡ Including wheat.

§ The produce was originally given in Imperial bushels except in the case of Baden, Saxony, and the United States. In the first two of these it was quoted in centners, and in the last in Winchester bushels. These have been converted into Imperial bushels upon the assumption that a centner is equivalent to 110.232 lbs., and a Winchester bushel to .969,447 of an Imperial bushel. For the standard weight of cereals per Imperial bushel see paragraph 1026 post. An Imperial bushel of potatoes weighs about 56 lbs.

Average
yield of
wheat in
United
Kingdom.

996. Although, as has been already said, no official return is made of the produce of crops in the United Kingdom, estimates more or less reliable have frequently been made by private persons, especially of the wheat yield. The *London Times* of the 1st November 1879 gives a statement, evidently prepared with great care, of the assumed yield per acre of this crop in the fourteen years ended with 1879, with the following result:—

AVERAGE PRODUCE PER ACRE OF WHEAT IN THE UNITED KINGDOM, 1866 TO 1879.

			Bushels per Acre.				Bushels per Acre.
1866	...	...	27	1873	...	...	25
1867	...	...	25	1874	...	...	31
1868	...	...	34	1875	...	...	23
1869	...	...	27	1876	...	...	27
1870	...	...	32	1877	...	...	22
1871	...	...	27	1878	...	...	30
1872	...	...	23	1879	...	...	18

Wheat yield
in United
Kingdom
and colonies
compared.

997. The average produce in the 14 years was $26\frac{1}{2}$ bushels per acre, which is much above the yield in any of the Australasian colonies, except New Zealand. The yield in 1879 (18 bushels to the acre) is stated to have been the lowest for 63 years, or since 1816, but even this is much above the average in any of these colonies, except New Zealand and Tasmania.

Average
yield of
crops in
Foreign
countries.

998. The average produce per acre in most of the countries named in a previous table has been ascertained, and is given in the following table:—

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

Country.	Year.	Bushels* per Acre of—					
		Wheat.	Oats.	Barley.	Rye.	Potatoes.	
Cape of Good Hope	...	1875	9·0	8·1	15·4	...	41·2
Austria	...	1878	17·8	21·5	18·0	17·1	105·2
Baden	...	1876	14·8	21·0	19·0	...	116·1
Belgium	...	1866	20·3	41·2	33·9	24·6	160·1
Denmark	...	1876	27·8	28·1	25·7	24·0	108·0
France	...	1880	16·4†	26·9	21·0	15·3	118·0
Holland	...	1879	14·8	41·3	34·1	18·6	81·0
Italy	...	1874	12·3	19·6	16·0	...	114·7
Norway	...	1875	25·1	39·7	31·0	27·5	227·8
Prussia	...	1876	20·7	33·4	26·7	...	...
Russia in Europe	...	1872	5·5	16·5	8·0	8·2	117·0
Saxony	...	1876	22·5	33·2	25·0	...	173·2
Sweden	...	1879	...	10·1	...	15·5	84·7
United States	...	1880	12·3	25·1	23·8	13·5	88·7
Württemberg	...	1876	17·8	28·1	23·2	...	118·8

* See footnote (§) to table following paragraph 995 ante.

† Including spelt (*Triticum spelta*).

999. It will be observed that the acreable yield of wheat in the year named was nearly 28 bushels in Denmark, 25 bushels in Norway, and over 20 bushels in three other countries, but in only four European countries—Baden, Holland, Italy, and Russia—was it below 15 bushels per acre. In all the Australasian colonies,* on the other hand, except New Zealand, where it is nearly as high as in Denmark, and Tasmania, where it is about 18 bushels, the average yield is below 15 bushels to the acre. In Victoria the yield is about the same as in the United States and Italy, is higher than in the Cape of Good Hope or European Russia, and is below the yield in any of the other countries.

Yield of wheat in Foreign countries and Australasia.

1000. According to the figures, the average yield of oats is higher in Victoria than in the Cape of Good Hope or European Russia, and about equal to that in Italy or Sweden, but lower than in any other of the countries named; the yield of barley is higher than in the Cape of Good Hope, Austria, Baden, Italy, or European Russia, but below that in the other countries. Assuming a bushel of potatoes to weigh 56 lbs., the yield in Victoria would appear to be above that in any of the countries named except Belgium, Holland, Norway, and Saxony.

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

1001. 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 Cashel, 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.

Government Experimental Farm.

* See table following paragraph 991 *ante*.

Present
state of Ex-
perimental
Farm.

1002. Since then the farm has had some difficulties to contend with, but these have now been surmounted, and there is every reason to believe that in a short time it will become self-supporting. During the financial year 1881-2 the receipts from the sale of produce were £1,614 18s. 8d., and the total expenditure, including the payment of liabilities incurred in previous years, was £1,362 3s. 3d., thus leaving a credit balance of £252 15s. 5d. The live stock now on the farm consists of 25 horses, 53 shorthorned cattle, 14 Hereford cattle, 140 store and milch cows, 2,600 sheep and lambs, 13 pigs, and 80 fowls, the whole being valued at £2,726 5s. Additional permanent improvements costing £320 have been made during the year ; additions have also been made to the stock of farming implements, furniture, &c. ; 265 acres are now under cultivation, exclusive of the olive plantation, vineyard, &c., and 652 acres have been grubbed and cleared. The principal crops in 1881-2 were wheat, 149 acres, yielding 3,212 bushels ; barley, 29 acres, yielding 664 bushels ; oats, 17 acres, yielding 360 bushels ; and pease, 5 acres, yielding 20 bushels.

Employment
of Indus-
trial School
boys.

1003. Originally, students were received at the farm, but these left after a trial of two years, when it was decided not to take any more, but, instead, to educate to farming pursuits boys to be selected from the inmates of the Industrial Schools, who, it was judged, would, in consequence of this training, be enabled to obtain situations in the country the more readily. The suggestion having been adopted, 16 boys were chosen, and are now regularly employed on the farm. The farm manager has reported very favorably on their conduct, and there is no doubt that the change will be exceedingly beneficial to the boys, both as regards their health and fitting them to become useful members of society.

Breadstuffs
available
for con-
sumption.

1004. Only in the last five 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 eight years there was a surplus of Victorian-grown wheat remaining for export, which amounted in 1881 to nearly four million, in 1880 to over three and a half million, and in each of the two previous years to about a million, bushels. This will be seen by the following table, which shows for each of the years from 1840 to 1881 the mean population of Victoria, the quantity of breadstuffs available for consumption, distinguishing the Victorian-grown from the imported ; also the probable manner of consumption, distinguishing the estimated quantity of wheat used for seed, or for the feeding of live stock, poultry, &c., from the wheat, flour, bread, and biscuit used for food, the total quantity of the latter being shown as well as the quantity per head:—

BREADSTUFFS AVAILABLE FOR CONSUMPTION, 1840-1881.

Year.	Mean Population.	Wheat, Flour, Bread, and Biscuit.*					
		Available for Consumption.			Probable Manner of Consumption.		
		Grown in Victoria.	Imported after deducting Exports.	Total.	For Seed, &c.†	Total.	Per Head.
	bushels.	bushels.	bushels.	bushels.	bushels.	bushels.	
1840	8,056	12,600	57,771	70,371	3,880	66,491	8·25
1841	15,353	50,420	116,350	166,770	3,404	163,366	10·64
1842	22,107	47,840	119,004	166,844	4,864	161,980	7·33
1843	23,951	55,360	58,616	113,976	9,348	104,628	4·37
1844	25,418	104,040	98,581	202,621	13,839	188,782	7·43
1845	29,007	138,436	74,699	213,135	22,933	190,202	6·56
1846	34,807	234,734	43,928	278,662	31,604	247,058	7·10
1847	40,635	345,946	36,871	382,817	35,359	347,458	8·55
1848	47,163	349,730	64,726	414,456	38,775	375,681	7·97
1849	58,805	410,220	76,092	486,312	48,494	437,818	7·45
1850	71,191	525,190	55,564	580,754	57,020	523,734	7·36
1851	86,825	556,167	216,811	772,978	59,247	713,731	8·22
1852	132,905	733,321	1,208,006	1,941,327	33,646	1,907,681	14·35
1853	195,378	498,704	1,499,994	1,998,698	15,107	1,983,591	10·15
1854	267,371	154,202	1,385,465	1,539,667	25,654	1,514,013	5·66
1855	338,315	250,091	1,985,496	2,235,587	85,372	2,150,215	6·36
1856	380,942	1,148,011	2,236,406	3,384,417	160,310	3,224,107	8·46
1857	430,347	1,858,756	1,958,905	3,817,661	174,460	3,643,201	8·47
1858	483,827	1,808,439	1,504,760	3,313,199	156,468	3,156,731	6·52
1859	517,390	1,563,113	1,957,610	3,520,723	214,185	3,306,538	6·39
1860	534,055	2,296,157	1,565,423	3,861,580	322,503	3,539,077	6·62
1861	539,824	3,459,914	1,522,517	4,982,431	393,844	4,588,587	8·50
1862	548,080	3,607,727	183,106	3,790,833	324,018	3,466,815	6·33
1863	562,960	3,008,487	191,107	3,199,594	298,784	2,900,810	5·15
1864	586,450	1,338,762	1,868,990	3,207,752	250,080	2,957,672	5·04
1865	611,218	1,899,378	1,800,932	3,700,310	357,256	3,343,054	5·47
1866	629,038	3,514,227	1,754,699	5,268,926	417,176	4,851,750	7·71
1867	644,276	4,641,205	15,190	4,656,395	433,978	4,222,417	6·55
1868	663,092	3,411,663	162,038	3,573,701	519,608	3,054,093	4·61
1869	687,202	4,229,228	719,589	4,948,817	577,028	4,371,789	6·36
1870	713,195	5,697,056	- 95,654	5,601,402	568,334	5,033,068	7·06
1871	737,005	2,870,409	1,179,583	4,049,992	669,218	3,380,774	4·59
1872	753,198	4,500,795	389,963	4,890,758	653,128	4,237,630	5·63
1873	765,511	5,391,104	-138,088	5,253,016	699,952	4,553,064	5·95
1874	777,656	4,752,289	- 40,714	4,711,575	665,872	4,045,703	5·20
1875	787,337	4,850,165	200,369	5,050,534	642,802	4,407,732	5·60
1876	796,558	4,978,914	258,931	5,237,845	802,834	4,435,011	5·57
1877	808,605	5,279,730	- 384,118	4,895,612	1,129,128	3,766,484	4·66
1878	821,466	7,018,257	-1,005,968	6,012,289	1,383,244	4,629,045	5·64
1879	834,030	6,060,737	- 957,384	5,103,353	1,414,376	3,688,977	4·42
1880	850,343	9,398,858	-3,578,733	5,820,125	1,954,570	3,865,555	4·55
1881	868,942	9,727,369	-3,892,974	5,834,395	1,853,458	3,980,937	4·58

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

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

† The figures in this column 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, it is not thought that the allowance made is too high.

Consumption
of bread-
stuffs per
head.

1005. 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 the last three years. Except those for 1880, 1879, and 1843, the figures for 1881 show a smaller average than those for any previous year.

Average con-
sumption of
breadstuffs.

1006. The quantity of breadstuffs available for annual food-consumption per head has averaged $5\frac{4}{5}$ bushels over the whole period of forty-two years, but during the last five years it has averaged about $4\frac{3}{4}$ bushels. In the present state of our population, it may be fair to assume that an allowance of 5 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.

1007. 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 fourteen harvest years (or periods extending from the 1st September to the 31st August) ended with 1879-80; 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 1880.

Years ended 31st August.	Mean Population.	Bushels of Wheat* available for Food.	
		Total Number.	Number per Head.
1867	30,248,936	152,320,000	5·03
1868	30,523,478	155,200,000	5·08
1869	30,814,914	189,360,000	6·14
1870	31,108,133	176,560,000	5·68
1871	31,410,776	176,400,000	5·61
1872	31,728,316	170,320,000	5·37
1873	32,028,317	174,640,000	5·45
1874	32,325,778	174,240,000	5·39
1875	32,641,568	202,720,000	6·21
1876	32,978,682	184,512,000	5·59
1877	33,329,099	174,568,000	5·24
1878	33,681,904	175,520,000	5·21
1879	34,036,546	209,936,000	6·17
1880	34,388,503	192,000,000 †	5·58

* The total number of bushels of wheat available for consumption has been taken from an able article entitled, "The Great Harvest Failure," in the *Statist*, London Journal, of the 8th November 1879. The calculations have been made in the office of the Government Statist, Melbourne.

† Estimated.

1008. In the fourteen years named in the table, the average quantity of wheat available for consumption in the United Kingdom was 5·55 bushels per head, or upwards of half a bushel per head more than is found sufficient for the requirements of the Victorian population.

Average consumption of wheat in United Kingdom.

1009. 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 is, it will be observed, somewhat more 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 less than that shown by the figures.

Consumption of breadstuffs per head in United States.

1010. The imports and exports of breadstuffs during the forty-five years, 1837 to 1881, are set down in the following table. It will be observed that, after deducting the value of the quantities sent away, there remains a balance amounting to over 9½ millions sterling paid by the colony for breadstuffs imported :—

Imports and exports of breadstuffs, 1837 to 1881.

IMPORTS AND EXPORTS OF BREADSTUFFS,† 1837 TO 1881.

Wheat, Flour, Bread, and Biscuit.	Quantity.	Value.
	bushels.	£
Imported, 1837 to 1881	32,415,365	13,782,537
Exported, „ „	15,855,773	4,426,181
Imports in excess of exports ...	16,559,592	9,356,356

1011. The following are the values of the net imports—*i.e.*, the values of imports after the values of the exports have been deducted—of certain articles of farm and garden produce during each of the six years ended with 1881. 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 agricultural products.

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

† 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*.

NET IMPORTS* OF CERTAIN ARTICLES OF AGRICULTURAL PRODUCE, 1875 TO 1881.

Articles.	Balance of Imports over Exports in—					
	1876.	1877.	1878.	1879.	1880.	1881.
	£	£	£	£	£	£
Wheat	87,247	...	...	...	...	...
Oats	112,430	95,071	80,140	92,176	12,938	74,924
Oatmeal	261	...	...	...	...	...
Barley	35,318	25,481	48,328	87,982	21,000	...
Pearl barley	2,825	1,368	1,584	2,907	248	...
Malt	68,401	76,867	37,162	54,716	18,661	...
Maize	117,951	123,357	164,578	154,717	105,849	105,739
Maizena	4,988	7,365	2,359	3,668	4,171	7,654
Beans, pease, and split pease	2,266	2,456	2,057	2,191	...	...
Fruit—green, bottled, dried, currants and raisins	116,202	153,414	88,171	107,319	111,603	154,637
Jams, jellies, and pre- serves	6,450	350	...	...	...	...
Nuts, almonds, walnuts	7,774	6,064	4,565	5,497	3,208	7,349
Hops	64,600	43,782	41,461	20,596	24,637	28,442
Chicory	1,798	3,300	1,906	257	...	...
Pickles	12,892	4,284	1,843	6,457	295	5,508
Tobacco, cigars, and snuff	78,192	148,688	45,372	24,921	...	31,270
Vegetables (preserved)	1,397	...	1,409	498	717	...
Canary seed	4,970	1,857	1,228	1,008	1,260	1,248
Grass and clover seed	10,985	19,618	12,616	13,704	5,226	2,990
Total ...	736,947	713,322	534,779	578,614	309,813	419,761

Decreased imports of agricultural products.

1012. It will be observed that wheat and oatmeal are absent from the list for the last five years, jams and preserves for the last four years, beans and pease, and chicory for the last two years, and barley, malt, and preserved vegetables for the last year; the exports of those articles having exceeded the imports.

Net imports of eggs.

1013. 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 1875 to the value of £12,471, but none were exported. The value of the imports of eggs in 1876 exceeded that of the exports by £16,093, in 1877 by £13,550, in 1878 by £11,597, in 1879 by £9,479, in 1880 by £6,693, and in 1881 by £6,926

Proportion of land under each crop.

1014. Of every thousand acres cultivated during the past season, 509 acres were placed under wheat; 81 under oats; 27 under barley; 21 under potatoes; 116 under hay; 133 under green forage; and 113

* The total imports and total exports of these articles during 1881 will be found in the table of imports and exports following, paragraph 617 *ante*, chiefly under Order 22.

under other kinds of crops. The tendency of late years has been to crop a larger extent of land, relatively to the whole area under tillage, 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 eight years :—

PROPORTION OF LAND UNDER EACH CROP TO TOTAL UNDER CULTIVATION, 1875 TO 1881.

Land under—	Proportion to Total Land under Tillage.							
	1874-5.	1875-6.	1876-7.	1877-8.	1878-9.	1879-80.	1880-1.	1881-2.
	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.
Wheat ...	32·90	28·52	32·61	39·74	42·98	41·89	48·91	50·87
Oats ...	11·36	11·01	9·36	7·41	8·35	9·93	6·71	8·07
Barley ...	2·92	2·80	2·03	1·35	1·42	2·56	3·44	2·67
Potatoes ...	3·48	3·27	3·29	2·61	2·27	2·46	2·30	2·15
Hay ...	11·76	13·78	11·97	12·46	10·74	11·93	12·50	11·65
Green forage	25·14	27·37	29·45	27·48	24·94	18·11	13·24	13·28
Other tillage	12·44	13·25	11·29	8·95	9·30	13·12	12·90	11·31
Total ...	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00

1015. 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 a smaller extent than one acre, 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,* 1877 TO 1882.

Nature of Crop.	1876-7.	1877-8.	1878-9.	1879-80.	1880-1.	1881-2.
Arrowroot ...	acres ...	...	...	4	3	5
	tons (root)	...	...	3	17	8
	cwt., manfd.	...	...	7	10	...
Artichokes ...	acres ...	...	...	...	3	...
	tons ...	...	...	...	45	...
Beet, carrots, parsnips, and cabbage	acres ...	571	470	402	374	286
	tons ...	3,430	2,272	1,272	2,504	2,737
Broom millet...	acres ...	8	7	6	...	5
	fibre, cwt.	8	...	...	...	...
	seed, bush.	...	...	...	...	100

* Exclusive of those grown in gardens.

MINOR CROPS,* 1877 TO 1882—continued.

Nature of Crop.			1876-7.	1877-8.	1878-9.	1879-80.	1880-1.	1881-2.
Buckwheat	... {	acres ...	...	2	...	1	...	...
		bushels ...	...	11	...	12	...	...
Canary seed	... {	acres ...	30	82	4	1	57	127
		bushels ...	183	825	150	2	341	1,241
Chicory	... {	acres ...	225	256	155	392	230	207
		tons ...	980	1,333	653	1,764	960	781
Coriander Seed	... {	acres ...	...	...	...	...	...	2
		lbs. ...	...	...	...	...	...	1,008
Currants	... {	acres ...	...	...	...	...	1	...
		bushels ...	...	...	...	...	8	...
Flax	... {	acres ...	3	33	4	5	13	21
		fibre, cwt.	2 $\frac{1}{4}$	40	...	12	31	21
		linseed, bsh.	52	125	...	30	67	91
Garden seeds—								
Mixed	... {	acres ...	50	16	...	112	29	21
		cwt. ...	...	...	...	465	812	119
Radish	... {	acres ...	1	...	4	5	...	...
		lbs. ...	560	...	672	2,240	...	...
Grass and clover seeds	... {	acres ...	1,993 \dagger	1,846	2,824	2,237	2,817	2,061
		bushels ...	29,229	28,840	34,432	32,031	26,320	32,085
Green pease	... {	acres ...	11	...	37	...	...	21
		tons ...	18	...	50	...	...	26
Hops	... {	acres ...	225	274	203	267	428	564
		lbs. ...	129,136	218,848	130,816	284,480	307,328	453,040
Lucerne for seed	... {	acres ...	...	...	3	7	...	...
		bushels ...	...	...	16	50	...	...
Maize	... {	acres ...	1,609	1,215	1,939	2,447	1,769	1,783
		bushels ...	25,909	22,050	40,754	61,887	49,299	81,007
Mangel-wurzel	... {	acres ...	1,285	1,320	888	1,027	1,284	1,044
		tons ...	15,386	15,465	8,275	14,897	12,640	14,989
Medicinal herbs	... {	acres ...	1	...	...	...	2	...
		tons ...	5	...	...	...	...	...
Mulberry trees	... {	acres ...	11 \dagger	21	18	4	14	4
		number ...	11,010	14,310	12,460	...	...	...
Mustard	... {	acres ...	74	58	39	92	233	97
		cwt. ...	185	167	121	447	771	444
Olives	... {	acres ...	...	10	20	10	17	§ 10
		fruit, cwt.	...	...	9	...	17	...
		oil, gallons	...	...	...	...	15	...
Onions	... {	acres ...	720	816	1,069	1,040	1,056	1,134
		tons ...	3,579	3,055	3,600	7,347	4,979	10,190
Opium poppies	... {	acres ...	4	3	3	5	15	4
		lbs. of opium	60	...	...	80	171	80
Oranges	... {	heads ...	...	...	60,000	...	...	...
		acres ...	...	...	6	2	20	5
Osiers	... {	cases ...	...	...	...	30	6	...
		acres ...	5	...	...	...	31	4
Pease and beans	... {	tons ...	...	...	...	...	1	9
		acres ...	21,235	17,286	15,153	21,462	23,378	25,937
Prickly com-frey	... {	bushels ...	373,857	241,007	248,436	574,954	403,321	621,668
		acres ...	...	...	...	...	1	8
		tons ...	...	...	...	...	100	160

* Exclusive of those grown in gardens.

† Of this area 72 acres are reported to have failed.

‡ A large plantation of mulberry trees is reported to have been abandoned in 1876-7, the locality having been found to be unsuitable.

§ Reported to have failed.

MINOR CROPS,* 1877 TO 1882—continued.

Nature of Crop.		1876-7.	1877-8.	1878-9.	1879-80.	1880-1.	1881-2.
Pumpkins, melons, cu- cumbers, &c.	acres ...	22	46	205	99	64	81
	tons ...	144	159	1,190	484	416	842
Rape for seed	acres ...	10	...	2	41	14	...
	bushels ...	20	...	25	...	128	...
Raspberries ...	acres ...	10	17	45	94	132	155
	cwt. ...	51	224	476	1,299	1,591	3,067
Rhubarb ...	acres ...	...	3	3	...	18	1
	tons ...	...	10	10	...	81	1
Rye and bere...	acres ...	1,153	1,075	1,779	1,236	1,569	972
	bushels ...	15,277	9,852	20,816	18,407	13,978	12,653
Sheep's parsley	acres ...	2	...	3	...	...	...
	lbs. ...	1,500	...	1,000	...	...	...
Strawberries	acres ...	21	19	24	19	107	26
	cwt. ...	273	208	323	209	1,421	165
Sunflowers for seed ...	acres ...	...	...	...	2	7	6
	bushels ...	...	...	...	40	142	77
Teazles ...	acres ...	3	...	...	1	2	...
	number ...	19,000	...	...	8,000	27,000	...
Tobacco ...	acres ...	1,479	2,327	1,936	531	1,990	1,461
	cwt. ...	14,413	15,827	15,662	† 1,297	17,333	12,876
Tomatoes ...	acres ...	...	5	3	...	5	10
	cwt. ...	...	721	220	...	454	1,549
Turnips ...	acres ...	224	315	310	192	460	151
	tons ...	1,769	2,346	1,349	2,054	1,932	1,713
Vetches and tares for seed	acres ...	8	...	...	3	23	5
	bushels ...	47	...	...	62	201	71
Vines ‡ ...	acres ...	4,765	4,419	4,434	4,284	4,980	4,923
	wine, galls.	481,588	457,535	410,333	574,143	484,028	539,191
Wattle trees ...	brandy, ,,	3,725	840	1,561	3,284	3,038	1,453
	acres ...	...	13	...	...	30	...

1016. In 1881-2 the area under vines was less by 57 acres than in the previous year, also less than in the years 1870 to 1876, but greater than in any other years. The quantity of wine returned, however, was greater than that returned in 1880-1 by 55,163 gallons, but not so great as in 1879-80 by over 35,000 gallons. The season under review is only the second during the last six years that the number of gallons of wine produced exceeded 500,000, whereas in two previous seasons before the advent of the phylloxera it exceeded 700,000 gallons. It is right, however, to point out that this part of the statistics is not quite so reliable as the other portions, since, as grapes come to maturity later than the other crops of which returns are made, only the acreage under vines can be returned for the year to which the remainder of the statistics relate, and the grape crop is necessarily that of the previous season. This partial dealing with the returns of two years may sometimes cause confusion in the minds of the vine-growers, who may also not always remember the exact particulars of their previous year's crop.

* Exclusive of those grown in gardens.

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

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

Phylloxera
vastatrix.

1017. The vine disease caused by the insect called the phylloxera vastatrix made its appearance in Victoria about the year 1875. The outbreak occurred in the Geelong district, to which it has ever since been confined. In order, if possible, to prevent the spread of this disease, an Act* was passed providing for the appointment of inspectors of vineyards, with power to enter any lands whereon vines were grown for the purpose of ascertaining whether the vines were infected, in which case the fact was to be reported to the Chief Secretary, who might authorize steps to be taken to eradicate the disease, either by destroying the vines or otherwise, no compensation being granted to the proprietor for any loss he might sustain in consequence of such measures. As the phylloxera, however, still continued to spread, a select committee of the Legislative Assembly was appointed in November 1880 to enquire into the condition of the disease and the best means of eradicating or otherwise mitigating it. The committee reported that the infected district extended from Geelong in a north-westerly direction 10 miles, south 5 miles, west 5 miles, and was bounded on the east by the sea; that in 1877 only two vineyards were proved to be infected, but that at the time they visited the district not less than nineteen vineyards were found to be diseased; that the disease was surely and rapidly extending, and that, unless active and determined measures were taken, it would be likely to devastate all the vineyards in the colony, as had already been the case with a quarter of the vineyards of Europe and a nearly equal proportion in eastern and western America. They further stated that no means seemed to have been discovered up to the present time to suppress or destroy the phylloxera, and they considered that nothing short of uprooting the vines in the entire Geelong district, and turning over the soil on which they had grown to the depth of at least two feet, and leaving it exposed to atmospheric influences and fallow for not less than twelve months, would completely eradicate the disease; and even then it would not be safe to plant vines upon the land until after four years had expired. They therefore 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 the vines within that cordon should be inspected, and all reported as diseased, or situated within a three-mile radius of any reported as diseased, should be destroyed by the complete rooting up of such vines and burning the roots, the owners being awarded a moderate compensation, based, not upon the value of the vines, but of the grape crop which might have been expected during the next three years. Consequently upon this

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

report, another Act* was passed, repealing all former ones relating to vines or vineyards, and providing for the proclamation of infected localities as "vine disease districts," to which inspectors should be appointed, on the receipt of whose reports the Minister might order any diseased vines to be uprooted, as well as all other vines within a radius of three miles thereof, whether diseased or not, compensation being given to owners of diseased vines up to the value of one year's crop, and to owners of vines not diseased up to the value of three years' crops. Persons were, moreover, prohibited, under a penalty not exceeding One hundred pounds or imprisonment for any term not exceeding six months, from removing from a "vine disease district" any vine or part of a vine, or planting or transplanting it after it had been so removed. 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 Sydney in January 1881, when it was agreed by the colonies of New South Wales, South Australia, and Victoria to contribute jointly to the eradication of the vineyards in the Geelong district and the compensation of their owners.

1018. With a view of further preventing the spread of the disease, the "Phylloxera Vine Disease Act 1880" was amended towards the close of 1881, by the "Geelong District Vine Disease Act 1881," 45 Vict. No. 718 (24th December 1881), which gave power to the Minister to order the destruction of all vines growing within the boundaries of the Geelong Vine Disease District, as described in the *Government Gazette* of 12th January 1881. On this Statute coming into operation, immediate steps were taken to arrange as to the amounts to be paid as compensation; and, acting on the powers given, all vines found within the district have been destroyed, except those in the parishes of Birregurra and Warrion, which are situated at from 24 to 45 miles from where any diseased vines were growing, and are, consequently, not likely to be reached by the winged insect. The disease, so far as is known, has been confined to the Geelong district, and there is every reason to hope that the measures taken for its extermination will prove successful. Precautions have been taken to prevent vines being again planted in the district for the next four years.

Precautions
in 1881-2.

1019. 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:—

Gardens and
orchards.

* "The Phylloxera Vine Disease Act 1880," 44 Vict. No. 684 (28th December 1880).

LAND UNDER GARDENS AND ORCHARDS, 1881 AND 1882.

Year ended 31st March.				Gardens.	Orchards.	Total.
				acres.	acres.	acres.
1881	...	...	...	12,493	9,795	22,288
1882	...	...	...	11,363	9,267	20,630
Decrease				1,130	528	1,658

1020. Land in fallow is included in the area under tillage. The number of acres in this condition in 1882 was 144,326, or 49,814 less than in the previous year.

1021. The average duration of leases of farms from private persons was returned in 1881-2 as averaging from 3 to 6 years; the extreme figures being 1 and 14 years. The average rental of agricultural land per acre was stated to be from 6s. to 18s.; the extreme figures being 2s. 6d. and 80s. The average rental of pastoral land was said to be from 3s. to 7s.; the extreme figures being 1s. 6d. and 15s.

1022. 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 V., Interchange, of this work.* The following is an average deduced from the returns of all the districts during each of the last thirteen years. It will be noted that a considerable increase occurred in 1882 in prices of all the articles except barley, of which the price was lower than in any previous year:—

PRICES OF AGRICULTURAL PRODUCE, 1870 TO 1882.

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

1023. It will be observed that the price of wheat was highest in 1877; that of oats, barley, and potatoes in 1874, and that of hay in 1877; also

* See also table following paragraph 771 ante.

Land in fallow.

Leases and rental of farms.

Prices of agricultural produce.

Years of highest and lowest prices.

that the price of barley was lowest in 1882, that of wheat, in 1880, and that of oats, potatoes, and hay in 1881.

1024. The following statement of the average *Gazette* price of wheat per Imperial quarter* during the six years ended with 1880 has been taken from an official source,† and that of the average price in 1881 has been taken from the *London Statist*:—

Price of wheat in London.

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

Month.	1875.		1876.		1877.		1878.		1879.		1880.		1881.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
January ...	44	1	44	9	51	7	51	11	39	3	45	11	42	4
February ...	41	8	43	1	51	7	51	4	38	0	43	5	42	6
March ...	41	6	43	0	51	1	49	7	39	7	45	7	43	7
April ...	43	0	44	11	53	4	51	3	41	0	48	1	49	9
May ...	42	3	45	1	65	10	51	11	41	0	45	2	44	2
June ...	42	3	47	5	64	6	48	0	41	9	45	1	44	9
July ...	46	5	48	3	62	9	44	11	44	6	43	9	46	10
August ...	52	10	46	0	64	11	44	9	49	1	43	11	48	10
September ...	48	4	46	8	59	1	43	8	47	6	41	2	51	1
October ...	46	4	46	6	53	7	39	7	48	10	41	9	47	1
November ...	47	2	47	11	52	3	40	4	48	9	43	9	45	4
December ...	46	3	49	9	51	6	40	3	46	7	44	1	44	4
The Year...	45	2	46	2	56	9	46	5	43	11	44	4	45	11

1025. The value of agricultural produce in the year ended 31st March 1882 may be estimated at nearly 6 millions sterling. The following table shows the means whereby such an estimate is arrived at:—

Value of agricultural produce.

VALUE OF AGRICULTURAL PRODUCE, 1881-2.

Name of Crop.	Gross Produce and Price.			Estimated Value.		
			£ s. d.	£	s.	d.
Wheat ...	8,714,377 bushels	@	0 5 0	2,178,594	5	0
Oats ...	3,612,111 "	@	0 3 3	586,968	0	9
Barley ...	927,566 "	@	0 3 6	162,324	1	0
Other cereals ...	715,428 "	@	0 3 6	125,199	18	0
Potatoes ...	134,290 tons	@	3 10 0	470,015	0	0
Other root crops ...	29,629 "	@	5 0 0	148,145	0	0
Hay ...	238,793 "	@	3 16 0	907,413	8	0
Green forage ...	241,947 acres	@	3 0 0	725,841	0	0
Tobacco ...	12,876 cwt.	@	2 16 0	36,052	16	0
Grapes, not made into wine ...	14,806 "	@	1 0 0	14,806	0	0
Wine ...	539,191 gallons	@	0 4 0	107,838	4	0
Brandy ...	1,453 "	@	0 10 0	726	10	0
Other crops ...	3,470 acres	@	5 0 0	17,350	0	0
Garden and orchard produce	20,630 "	@	20 0 0	412,600	0	0
	Total ...			5,893,874	2	9

1026. The standard weight of crops in Victoria is reckoned to be 60 lbs. to the bushel for wheat, 56 lbs. for maize, 40 lbs. for oats, and 50 lbs.

Specific weight of crops.

* The imperial quarter is equal to 8 bushels.

† Giffen's Statistical Abstract for the United Kingdom, 1866 to 1880.

for barley. The actual weight, however, differs in different districts. Thus, wheat, during 1881, ranged from 58 lbs. to 65 lbs.; oats, from 39 lbs. to 45 lbs.; barley, from 49 lbs. to 55 lbs.; and maize, from 50 lbs. to 60 lbs. In 1881-2, taking the districts as a whole, the average weight per bushel of wheat was 62 lbs.; of oats, 41 lbs.; of barley, 51 lbs., and of maize, 55 lbs.

Rates of
agricul-
tural labor.

1027. A return of the average rates of labor on farms in 1880 and 1881 is given below. Rations are allowed in all cases in addition to the wages quoted :—

RATES OF AGRICULTURAL LABOR,* 1880 AND 1881.

Description of Labor.	1880.		1881.	
	s.	d.	s.	d.
Ploughmen, per week	19	7	19	7
Farm laborers, "	16	10	17	0
Married couples, "	25	8	24	10
Females, "	10	1	10	0
Mowers, "	28	0	30	5
" per acre	5	9	5	10
Reapers, per week	28	9	29	10
" per acre	11	5	10	8
Threshers, per bushel	0	6	0	6

Plant and
improve-
ments on
farms.

1028. The number and power of steam engines used on farms, and the value of farming plant and improvements, were returned as follow for the year under review :—

STEAM ENGINES, IMPLEMENTS, AND IMPROVEMENTS ON FARMS,
1881-2.

Steam engines, number	367
" horse-power	3,008
Value of farming implements and machines ...	£2,197,768
" improvements on farms ...	£14,167,644

Machine
labor.

1029. 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 labor in the last two years :—

MACHINE LABOR, 1880 AND 1881.

Average Rates Paid for—	1880.			1881.		
	£	s.	d.	£	s.	d.
Machine reaping, per acre	0	5	0	0	4	11
" mowing, "	0	4	11	0	4	6
" threshing, per 100 bushels... ..	1	1	3	1	2	5

Live stock.

1030. Information as to the numbers of live stock kept in the colony was obtained at the recent census. This is given in the following table, also the numbers derived from the returns of the census of 1871 :—

* See also table following paragraph 770 ante.

LIVE STOCK, 1871 AND 1881.

Year of Census.	Number of Owners of Live Stock.	Horses.	Cattle.			Sheep.	Pigs.	Goats.	Asses.	Mules.
			Milch Cows.	Other Cattle.	Total.					
1871 ..	78,231	209,025	212,193	564,534	776,727	10,477,976	180,109	122,164	56	164
1881 ..	94,677	275,516	329,198	957,069	1,286,267	10,360,285	241,936	68,426	135	78
Increase	16,446	66,491	117,005	392,535	509,540	..	61,827	..	79	..
Decrease	..	..	..	..	..	117,691	..	53,738	..	86

1031. It will be observed that, in the ten years which elapsed between the taking of the two censuses, the owners of live stock increased by upwards of 16,000; that a slight falling-off took place in the number of sheep, which, however, was very much more than made up by a large increase in the number of cattle; also that considerable increases took place in the numbers of horses and pigs. Increase or decrease in ten years.

1032. Speaking roughly, there were in Victoria when the census was taken, 3 horses, 15 head of cattle, 118 sheep, and 3 pigs, or, taking the different kinds together, 139 head of stock of these descriptions, large and small, to the square mile. Stock per square mile.

1033. The numbers of each description of stock returned at the census were in excess of the numbers estimated. A return of the numbers of horses, sheep, cattle, and pigs had each year been made by the collectors of agricultural statistics, but it was not possible for these officers to get information respecting the number of stock kept in towns or remote parts of the country away from agricultural settlement, or on small holdings, and therefore the figures they supplied were supplemented by estimates made partly by them and partly in the office of the Government Statist. It was, however, pointed out, on each occasion of the publication of the live stock returns, that too much reliance ought not to be placed upon them, and that the numbers could only be verified at a general census. The following table shows the supposed numbers on the 31st March 1880 and those actually returned at the census of 1881:— Stock estimated and enumerated.

LIVE STOCK ESTIMATED AND ENUMERATED.

Period.	Horses.	Cattle.			Sheep.	Pigs.
		Milch Cows.	Exclusive of Milch Cows.	Total.		
31st March 1880 (estimated)	216,710	278,360	850,998	1,129,358	8,651,775	144,733
2nd April 1881 (enumerated)	275,516	329,198	957,069	1,286,267	10,360,285	241,936
Result in excess of estimate	58,806	50,838	106,071	156,909	1,708,510	97,203

Correct estimate of stock difficult to make.

1034. There was an interval of twelve months between the date of the estimate and that of the enumeration, but this could not possibly account for the very large difference between the supposed and actual numbers. It seems doubtful whether in Victoria, where no assessment of stock exists, there are any means of obtaining, with an approach to accuracy, an account of the numbers of the live stock except at the time a census is taken.

Poultry.

1035. No attempt is made to obtain information respecting the numbers of poultry kept 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

Increase or decrease of poultry.

1036. It is seen that an increase of nearly 16,000 took place in the number of keepers of poultry, also a fair increase in all the different kinds of poultry except guinea fowls. Pheasants and ostriches, although not strictly speaking poultry, were returned in 1871, but no ostriches at the latter period; moreover, pheasants fell off in number from 199 in 1871 to 40 in 1881.

Live stock in British and Foreign countries.

1037. The following table contains a statement of the number of horses, cattle, sheep, and pigs in the United Kingdom and some of the principal Foreign countries. The information has been derived entirely from official documents:—

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

Country.	Year.	Number of—			
		Horses.	Cattle.	Sheep.	Pigs.
United Kingdom ...	1880	1,929,	9,871,	30,240,	2,863,
Austria and Hungary ...	1869	3,543,	12,628,	20,103,	6,995,
Belgium ...	1866	283,	1,242,	586,	632,
Denmark ...	1876	352,	1,348,	1,719,	504,
France ...	1877	2,826,	11,481,	23,375,	5,790,
Holland ...	1879	279,	1,462,	898,	337,
Italy ...	1876	657,	...	...	...
Norway ...	1875	152,	1,017,	1,686,	101,
Russia ...	1870	16,160,	22,770,	48,132,	9,800,
Sweden ...	1879	466,	2,237,	1,503,	416,
United States ...	1879	11,202,	33,258,	40,765,	34,034,

Value of pastoral produce.

1038. The following is an estimate of the gross value of pastoral produce raised on holdings of all descriptions in 1881-2:—

VALUE OF PASTORAL PRODUCE, 1881-2.

Nature of Produce.	Value.
Milk, butter, and cheese, from 329,198 milch cows kept, @ £8 10s. ...	£ 2,798,183
Estimated value of stock produced in 1881 :—	
Cattle, 329,198, viz., 219,465, @ £8, and 109,733 (calves) @ 30s.	1,920,320
Sheep, 2,590,070, @ 7s. 6d.	971,276
Pigs, 72,580, @ £2 10s.	181,450
Horses, 13,776, @ £8	110,208
Excess of exports over imports of wool, Customs value	2,562,769
Estimated value of wool used in the colony for manufacturing purposes, 1,866,828 lbs., @ 1s. 6d.	140,012
Total	8,684,218

NOTE.—The principle on which the numbers of “stock produced” have been estimated is somewhat different from that adopted in previous years. On the present occasion it has been assumed that the increase of cattle amounted to one to every milch cow, and that one-third of the calves born were slaughtered for veal, the remainder taking the place of the older cattle slaughtered. The increase of sheep has been reckoned at 25 per cent. on the total number of both sexes over six months old in the colony, that being the proportionate increase ascertained by Mr. A. J. Skene, Surveyor-General of Victoria, to have taken place during a series of years on nearly 3½ 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.

1039. In 1882, as compared with 1881, the flour mills returned were Flour mills. fewer by 6, the wheat operated upon was less by 300,000 bushels, the other grain operated upon by over 500,000 bushels, and the flour made by 4,000 tons. An increase of 29 took place in the number of hands employed, and an increase of nearly £4,000 in the estimated value of machinery, lands, and buildings :—

FLOUR MILLS, 1881 AND 1882.

Year ended 31st March.	Number of Mills.	Mills employing—		Amount of Horse-power of steam engines.	Number of Pairs of Stones.	Number of Hands employed.
		Steam-power.	Water-power.			
1881 ...	144	135	9	2,717	450	785
1882 ...	138	130	8	2,605	449	814
Increase	...	...	...	...	...	29
Decrease	6	5	1	112	1	...

Year ended 31st March.	Grain operated upon.		Flour made.	Approximate Total Value of—		
	Wheat.	Other.		Machinery and Plant.	Lands.*	Buildings.
	bushels.	bushels.		£	£	£
1881 ...	6,329,933	747,126	137,064	225,643	52,992	179,622
1882 ...	6,021,043	229,872	133,296	231,930	56,396	173,905
Increase	...	...	...	6,287	3,404	...
Decrease	308,890	517,254	3,768	...	...	5,717

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

1040. 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, 1880-1.

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

1041. Seven more breweries were returned in 1882 than in 1881, there being also an increase of 90 in the number of hands employed, and of £59,000 in the value of plant, lands, and buildings. There was also an increase in the quantity of sugar and malt used, but a falling-off in that of hops; also a slight falling-off in the number of gallons of beer brewed :—

BREWERIES, 1881 AND 1882.

Year ended 31st March.	Number of Breweries.	Breweries employing—			Amount of Horse-power of Steam Engines.	Number of Hands employed.	Materials used.		
		Steam- power.	Water- power.	Manual Labor only.			Sugar.	Malt.	Hops.
1881	81	55	1	25	492	851	lbs. 10,808,112	bushels. 496,168	lbs. 709,946
1882	88	53	2	33	476	941	11,330,928	511,340	685,390
Increase	7	...	1	8	...	90	522,816	15,172	...
Decrease	...	2	...	...	16	...	...	...	24,556

Year ended 31st March.	Beer made.	Approximate Total Value of—		
		Machinery and Plant.	Lands.*	Buildings.
1881	gallons. 12,314,224	£ 109,848	£ 65,425	£ 192,610
1882	12,250,807	129,073	74,405	223,240
Increase	...	19,225	8,980	30,630
Decrease	63,417	...	...	...

1042. The value of the sugar, malt, and hops used, and of the beer made, were returned for 1880-1, but not for the year under review. The following are the figures given :—

* The figures in this column apply to purchased lands only.

BREWERIES, 1880-1.

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

1043. The large amount of building carried on during the past year, especially in Melbourne and suburbs, and the great demand for bricks resulting therefrom, led, as may be supposed, to the opening of a number of new brickmaking works, and gave a considerable impulse to the operations of the old ones. The number of brickyards returned in 1882 was 33 in excess of that in 1881, whilst the number of bricks made exceeded that in 1881 by 41,000,000, or 76 per cent. The pottery made, as ascertained by the value, also largely increased. The following are the comparative figures of the two years :—

BRICKYARDS AND POTTERIES, 1881 AND 1882.

Year ended 31st 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.	Steam- power.	Horse- power.	Manual Labor.		
1881 ...	165	110	83	17	64	84	314	944
1882 ...	198	162	79	17	83	98	318	1,346
Increase	33	52	...	...	19	14	4	402
Decrease	...	...	4	...	...	...	...	...

Year ended 31st March.	Number of Bricks made.	Approximate Total Value of—				
		Bricks made.	Pottery made.	Machinery and Plant.	Lands.*	Buildings.
		£	£	£	£	£
1881 ...	53,565,715	103,234	34,600	62,628	51,654	53,122
1882 ...	94,398,225	185,000	62,689	63,662	59,786	51,731
Increase ...	40,832,510	81,776	28,089	1,034	8,132	1,391

1044. Nine new establishments for tanning and wool-washing were opened in 1881-2, and the returns show an increase in most of the items connected with that industry. The results obtained, however,

Brickyards
and
potteries.

Tanneries,
fellmon-
geries, &c.

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

were not so satisfactory as in the former year; the hides and skins tanned were 340,000 less, and although 189,257 more sheep skins were stripped, the quantity of wool they yielded was 1,400,000 lbs. less than in 1880-1. The following are the particulars of the two years:—

**TANNERIES, FELLMONGERIES, AND WOOL-WASHING ESTABLISHMENTS,
1881 AND 1882.**

Year ended 31st 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 Labor only.			
1881	151	49	1	1	29	71	531	2,139	3,152
1882	160	47	1	2	31	79	530	1,969	3,515
Increase	9	...	...	1	2	8	...	...	363
Decrease ... ..	...	2	...	...	...	...	1	170	...

Year ended 31st March.	Number of Hides and Skins Tanned.	Number of Skins Stripped of Wool.	Wool obtained from Skins.	Other Wool Washed.	Approximate Total Value of—		
					Machinery and Plant.	Lands.*	Buildings.
1881	2,066,061	2,404,407	lbs. 5,910,927	lbs. 6,413,098	£ 95,346	£ 49,256	£ 159,041
1882	1,725,718	2,593,664	4,237,870	8,618,119	111,740	56,664	149,083
Increase ... ..	...	189,257	...	2,205,021	16,394	7,408	...
Decrease	340,343	...	1,673,057	...	...	...	9,958

1045. An estimate of the value of the materials used and articles produced in tanneries, fellmongeries, and wool-washing establishments was obtained for 1880-1. The following are the figures:—

**TANNERIES, FELLMONGERIES, AND WOOL-WASHING ESTABLISHMENTS,
1880-1.**

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

1046. One woollen mill was closed in 1881-2. In that year, as compared with the former one, more wool was worked up and more woollen

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

Value of materials used and produced.

Woollen mills.

goods were manufactured, more female and less male labor was employed, and a considerable increase took place in the value of machinery used :—

WOOLLEN MILLS, 1881 AND 1882.

Year ended 31st March.	Total Number of Woollen Mills.	Horse- power of Steam Engines.	Quantity of Wool used.	Goods Manufactured : Quantity of—		
				Tweed, Cloth, Flannel, &c.	Blankets.	Shawls.
			lbs.	yards.	pairs.	number.
1881 ...	10	610	1,372,603	1,095,013	1,890	22
1882 ...	9	505	1,866,828	1,128,636	1,788	3
Increase ...	...	...	494,225	33,623	...	...
Decrease ...	1	105	...	...	102	19

Year ended 31st March.	Hands employed.		Approximate Total Value of—		
	Males.	Females.	Machinery and Plant.	Lands.	Buildings.
			£	£	£
1881 ...	483	293	140,663	13,592	61,685
1882 ...	442	326	158,563	12,532	63,631
Increase ...	...	33	17,900	...	1,946
Decrease ...	41	...	...	1,060	...

1047. The value of the raw material used in woollen mills and of the articles produced was returned for 1880-1, but not for the subsequent year, the difference in favor of the manufactured articles being £79,298. The following are the figures :—

WOOLLEN MILLS, 1880-1.

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

1048. The soap and candle works returned in 1882 were fewer by 4 than those in 1881, and a corresponding decrease took place in the steam-power and number of hands employed. The quantity of soap and candles manufactured, however, exceeded that in 1881, the former by 59,544 cwt., and the latter by 62,679 cwt., and a higher valuation by over £8,000 was placed upon the machinery, lands, and buildings :—

Value of
articles
used and
produced.

Soap and
candle
works.

SOAP AND CANDLE WORKS, 1881 AND 1882.

Year ended 31st 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 Labor only.					Machinery and Plant.	Lands.*	Buildings.
1881 ...	38	30	8	425	501	cwt. 68,131	cwt. 35,536	£ 95,158	£ 13,344	£ 43,816
1882 ...	34	23	11	332	471	127,675	98,215	109,312	11,865	39,553
Increase ...	...	...	3	...	...	59,544	62,679	14,154	...	...
Decrease ...	4	7	...	93	30	...	...	...	1,479	4,263

Value of
articles
used and
produced.

1049. 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:—

SOAP AND CANDLE WORKS, 1881.

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

Tobacco
manufac-
ories.

1050. The returns collected in 1882, as compared with those in 1881, show a falling-off of 2 in the number of tobacco manufactories, and of 106,950 lbs. in the quantity of tobacco manufactured. The hands employed, however, increased by 65, the cigars made by nearly 2,000,000, and the snuff made by nearly 5,000 lbs. Moreover, the value of plant, lands, and buildings increased by £15,000:—

TOBACCO MANUFACTORIES, 1881 AND 1882.

Year ended 31st March.	Number of Establishments.	Establishments employing—		Amount of Horse- power of Steam Engines.	Number of Hands employed.		Quantity of—		Number of Cigars Manu- factured.	Approximate Total Value of—		
		Steam- power.	Manual Labor.		Males.	Females.	Tobacco Manufactured.	Snuff Manufactured.		Machinery and Plant.	Lands.	Buildings.
1881 ..	16	6	10	50	571	179	lbs. 1,646,850	lbs. 5,400	4,213,000	£ 36,415	£ 23,300	£ 22,100
1882 ..	14	5	9	50	590	225	1,539,900	10,300	6,172,980	44,895	28,775	23,165
Increase ..	..	..	..	..	19	46	..	4,900	1,959,980	8,480	5,475	1,065
Decrease .	2	1	1	..	..	..	106,950	..	..	..	..	..

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

1051. According to the census returns, the value of the articles produced in tobacco manufactories in 1880-1 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, 1881.

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

1052. One more distillery was returned in 1882 than in 1881. The hands employed in distilleries increased by 25, and the value of machinery, lands, and buildings by nearly £14,000. No return was obtained of the quantity of spirits made in 1880-1, but a return of nearly a quarter of a million gallons was furnished for the subsequent year:—

DISTILLERIES, 1881 AND 1882.

Years ended 30th March.	Number of Distilleries.*	Amount of Horse-power of Steam Engines.	Number of Hands employed.	Spirits made.	Approximate Value of—		
					Machinery, Plant, &c.	Land.	Buildings and Improvements.
1881	6	98	45	gallons.	£	£	£
1882	7	115	70	226,457	18,000	12,400	16,500
Increase	1	17	25	...	25,500	12,900	22,200
					7,500	500	5,700

1053. The manufactories and works exclusive of those of which mention has already been made—viz., flour mills, breweries, distilleries, brickyards, tanneries, fellmongeries, wool-washing establishments, woollen mills, soap works, candle manufactories, and tobacco manufactories—were fewer by 17, and those dependent solely on manual labor were fewer by 87, than those returned in 1881; but large increases took place in most of the other items, the hands employed being more numerous by 4,678, and the value of machinery, plant, lands, and buildings being greater by nearly £450,000, than in that year. The returns are subjoined:—

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

MANUFACTORIES, WORKS, ETC., 1881 AND 1882.

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

Year ended 31st March.	Number of Manufactories, Works, &c.	Manufactories, &c., employing—					Amount of Horse-power employed.
		Steam.	Water.	Gas.	Horse- power.	Manual Labor only	
1881 ...	1,857	739	11	41	7	1,059	9,240
1882 ...	1,840	749	14	76	29	972	10,067
Increase ...	...	10	3	35	22	...	827
Decrease ...	17	...	...	...	...	87	...

Year ended 31st March.	Number of Hands employed.		Approximate Total Value of—		
	Males.	Females.	Machinery and Plant.	Lands.	Buildings.
1881 ...	25,255	6,082	£ 2,255,316	£ 1,249,983	£ 2,161,869
1882 ...	28,856	7,159	2,624,348	1,301,045	2,184,397
Increase ...	3,601	1,077	369,032	51,062	22,528

Manufactories of all descriptions.

1054. By summarizing the returns of manufactories and works of all descriptions, including not only such as are embraced in the foregoing table, but also those excluded therefrom—viz., flour mills, breweries, distilleries, brickyards, potteries, tanneries, fellmongeries, wool-washing establishments, woollen mills, soap works, candle manufactories, and tobacco manufactories—it is found that during 1881-2 the establishments increased by 20, the number of establishments using steam or gas by 58, the amount of horse-power by 556, the hands employed by over 5,000, and the value of machinery, lands, and buildings by nearly £600,000. The returns of the two years are contained in the following table:—

MANUFACTORIES, WORKS, ETC., 1881 AND 1882.

(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 31st March.	Total Number of Establish- ments.	Number of Establish- ments using Steam or Gas.	Horse-power of Engines.	Number of Hands employed.	Approximate Value of Lands,* Buildings, Machinery, and Plant.
1881 ...	2,468	1,088	14,477	38,133	£ 7,461,308
1882 ...	2,488	1,146	15,033	43,209	8,044,296
Increase ...	20	58	556	5,076	582,988

* 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 204 in 1880, and 207 in 1881.

1055. The manufacturing establishments of all kinds respecting which returns are obtained are named in the following table, and their numbers are given for 1880-1 and 1881-2. For the former, which was also 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 neighboring colonies, and that particulars of many establishments which in Victoria would not be considered worthy of notice find place in their returns:—

* The collectors of statistics, being furnished with instructions as to the nature of the establishments they are expected to visit, do not, as a rule, return those which do not fulfil the conditions described in this paragraph. Each year, however, some of the returns sent in by them are rejected by the Government Statist as not being of sufficient importance to warrant their being placed in the list. The following are those which have been excluded on this ground during the last five years:—

	1878.	1879.	1880.	1881.	1882.		1878.	1879.	1880.	1881.	1882.
Account-book manufactories	..	..	..	..	2	Patent medicine manufactories	..	..	..	..	..
Printing establishments	5	..	5	..	7	Asphalte works	..	..	..	1	..
Pianoforte manufactory	..	1	..	..	..	Boot manufactories	14	16	26	47	19
Picture-frame manufactories	1	1	..	..	1	Clothing factories	2	7	12	24	44
Turnery and carving works	..	4	3	2	..	Hat, cap—manufactories	6	6	4	2	9
Die sinkers and engravers	..	..	1	3	..	Umbrella manufactories	1	3	..	..	..
Philosophical instrument manufactories	..	..	..	2	..	Mat manufacturer	..	..	..	..	1
Spectacles manufactories	..	..	..	2	1	Cheese factories	..	2	1	4	7
Surgical instrument manufactories	..	..	..	2	..	Meat-curing establishments	..	1	..	4	2
Gunsmiths	..	..	1	4	..	Sausage-making establishments	..	..	..	..	12
Agricultural implement manufactories	1	..	5	1	5	Bread and biscuit manufactories	7	4	29	22	6
Blacksmiths' shops	..	..	..	..	11	Confectionery works	..	..	1	..	3
Cutlery works	..	1	1	2	2	Jam manufactory	..	..	..	..	1
Engine, machine—manufactories	1	5	1	..	..	Gingerbeer manufactories	1	2	2	..	..
Machine manufactories	..	..	..	..	2	Sauce manufactory	..	1	..	..	..
Machine-merchants' establishments	2	..	..	..	..	Vinegar works	..	1	..	..	..
Saddle, harness—manufactories	13	27	10	13	9	Coffee works	..	1	..	..	..
Whip manufactory	..	..	..	..	1	Candle manufactory	..	..	1	..	..
Coachbuilders and wheelwrights' establishments	1	19	16	30	16	Soap works	..	2	..	..	..
Boat builders	1	3	4	3	..	Tallow-rendering works	..	..	..	2	..
Joinery works	3	..	..	..	..	Basket-making works	5	3	2	1	5
Window-frame works	2	..	..	..	..	Blind (window) manufactory	..	1	..	..	..
Roof covering composition manufactory	..	..	..	..	1	Chaff-cutting works	..	4	3	1	15
Lime works	..	1	2	2	3	Hat-box manufactory	..	..	1	..	..
Carpenters, builders, &c.	..	..	..	10	6	Cooperage works	4	8	..	..	2
Bedding and upholstery manufactories	4	7	3	9	..	Sawmills and wood yards	..	..	1	9	4
Cabinet works	1	11	8	3	..	Tent manufactories	2	1	..	..	3
Iron safe manufactory	..	..	..	1	..	Marble works	..	1	1	1	..
Chemical works	..	..	..	..	1	Stone works	..	..	..	..	2
Dye works	..	2	1	2	..	Goldsmiths', jewellers', and watchmakers' estabmts.	..	13	7	7	3
Ink manufactories	..	..	..	..	2	Electro-plating works	2	..	..	..	..
Salt works	..	..	1	..	..	Brass works	..	..	..	2	..
						Iron and tin works	18	29	11	29	16
						Wire-working establishments	..	1	..	..	..
						Total	98	188	164	250	227

MANUFACTORIES, WORKS, ETC., 1881 AND 1882.

Description of Manufactory, Work, &c.	1880-1.			1881-2.		
	Number of Establishments.	Approximate Value of—		Number of Establishments.	Hands Employed.	Approximate Value of Machinery Plant, Lands, and Buildings.
		Materials used.	Articles produced.			
		£	£			£
BOOKS AND STATIONERY.						
Account-book manufactories, manufacturing stationers	7	62,386	100,057	6	614	89,702
Printing establishments	85	172,155	522,097	95	2,460	429,891
MUSICAL INSTRUMENTS.						
Organ-building establishments ...	2	3,500	8,050	2	25	3,400
Pianoforte manufactories ...	5	1,700	4,150	4	18	2,950
PRINTS, PICTURES, ETC.						
Picture-frame makers, carvers, and gilders	13	5,627	11,550	10	49	13,332
CARVING FIGURES, ETC.						
Indiarubber stamp manufactories ...	2	350	1,700	2	16	4,350
Modelling (architectural and figure), &c., works	11	3,584	8,900	6	33	6,035
Statuary works ... ..	...	...	...	1	...	...
Wood carving, turnery—works ...	10	4,965	10,800	11	95	18,576
DESIGNS, MEDALS, AND DIES.						
Diesinkers, engravers, medalists, trade-mark makers	6	3,350	9,200	7	93	21,300
PHILOSOPHICAL INSTRUMENTS, ETC.						
Electric-lighting apparatus manufactory	...	...	...	1	...	...
Philosophical instrument manufactories	1	...	...	3	10	4,940
Spectacles manufactories ... ..	...	...	...	2	8	2,320
SURGICAL INSTRUMENTS.						
Surgical instrument, truss—manufactories	6	2,400	5,600	4	24	6,310
ARMS, AMMUNITION, ETC.						
Blasting powder, dynamite, &c.—manufactories	3	9,964	16,737	3	60	29,842
Fuse manufactories	1	...	...	1	...	...
Shot manufactory ... ..	...	...	...	1	...	...
MACHINE TOOLS AND IMPLEMENTS.						
Agricultural implement manufactories	54	91,659	202,535	53	1,037	98,625
Bellows manufactories	1	...	...	1	...	...
Cutlery, tool—manufactories ...	3	800	2,400	5	25	6,500
Engine, machine—manufactories ...	74	115,069	282,025	66	2,485	398,048
Washing-machine manufactory ...	1	...	...	1	...	...
CARRIAGES AND HARNESS.						
Carriage lamp manufactories ...	3	900	2,950	2	18	2,450
Coach, waggon, &c.—manufactories	132	99,415	212,615	146	1,638	187,853
Perambulator manufactories ...	3	1,750	5,000	2	16	2,550
Saddle, harness—manufactories ...	47	35,792	81,130	38	437	54,696
Saddle-tree, &c., manufactories ...	4	2,400	6,860	3	50	3,052
Whip manufactories	3	940	2,950	3	21	2,160

MANUFACTORIES, WORKS, ETC.—continued.

Description of Manufactory, Works, &c.	1880-1.			1881-2.		
	Number of Establishments.	Approximate Value of—		Number of Establishments.	Hands Employed.	Approximate Value of Machinery, Plant, Lands, and Buildings.
		Materials used.	Articles produced.			
		£	£			£
SHIPS AND BOATS.						
Ship, boat—builders	10	3,570	14,614	13	103	14,182
Ships' wheels, blocks, &c.—manufactories	3	505	1,100	3	11	2,260
Floating-docks	1	...	...	1	...	...
Graving-docks	3	...	...	3	120	428,700
Patent slips	2	...	...	2	55	4,000
HOUSES, BUILDINGS, ETC.						
Lime works	21	6,560	17,216	22	205	8,717
Patent ceiling ventilator manufactory	2	250	1,600	2	13	3,460
Roof-covering composition manufactories	2	944	2,180	...	...	...
FURNITURE.						
Bedding and upholstery manufactories	11	9,000	18,980	16	177	30,895
Bedstead manufactory ... ..	...	...	...	1	...	...
Cabinet works, including billiard-table makers	63	131,000	258,188	59	1,214	165,579
Earth-closet manufactories	1	...	...	2	18	3,050
Iron safe manufactories	2	670	970	2	13	1,790
Looking-glass manufactories	2	400	1,300	4	29	9,150
CHEMICALS.						
Chemical works	6	25,160	43,600	8	127	55,875
Dye works	6	1,130	7,150	11	67	19,375
Essential oil manufactories	4	1,825	3,900	3	17	2,250
Ink, blacking, blue, washing-powder, &c.—manufactories	12	37,280	58,560	7	169	17,460
Paint, varnish—manufactory	1	...	...	2	14	10,550
Salt works	8	4,882	10,810	5	61	16,410
Tar-distilling, asphalte—works*	8	10,640	27,783	...	...	...
TEXTILE FABRICS.						
Woollen mills	10	89,412	168,710	9	768	234,726
DRESS.						
Boot manufactories	105	355,418	686,922	89	4,013	174,045
Clothing factories	63	370,181	761,401	70	5,391	256,653
Fur manufactories	3	4,300	6,900	4	27	3,557
Hat, cap—manufactories	22	34,753	66,264	23	444	52,330
Hosiery manufactory ... ..	...	...	...	1	...	...
Oilskin, waterproof-clothing—manufactories	5	900	5,700	5	64	3,940
Umbrella and parasol manufactories	9	13,180	24,825	9	158	13,473
Wig manufactory	1	...	...	1	...	...
FIBROUS MATERIALS.						
Rope, twine, mat, bag, sack—manufactories	18	66,975	102,280	15	493	75,263

* In returns for 1881-2 included with stonebreaking works post.

MANUFACTORIES, WORKS, ETC.—continued.

Description of Manufactory, Works, &c.	1880-1.			1881-2.		
	Number of Establishments.	Approximate Value of—		Number of Establishments.	Hands Employed.	Approximate Value of Machinery, Plant, Lands, and Buildings.
		Materials used.	Articles produced.			
		£	£			£
ANIMAL FOOD.						
Cheese factories	28	17,733	31,586	21	102	26,320
Meat-curing establishments ...	16	192,150	258,790	20	642	90,795
Milk condensing works ... ..	...	...	...	1	...	...
VEGETABLE FOOD.						
Arrowroot, maizena, oatmeal, starch —manufactories	5	5,620	8,000	3	29	8,280
Biscuit manufactories	13	106,110	181,840	9	437	36,035
Confectionery works	8	61,600	88,800	9	217	42,263
Flour mills	144	1,397,099	1,637,351	138	814	462,231
Jam manufactories	9	67,480	99,230	10	233	34,522
Macaroni works	2	125	230	2	4	530
DRINKS AND STIMULANTS.						
Aërated waters, gingerbeer, liqueur, &c.—works	114	91,849	196,810	115	711	135,621
Breweries	81	442,885	780,501	88	941	426,718
Coffee, chicory, cocoa, mustard, spice —works	12	235,355	322,786	11	214	123,025
Distilleries	6	26,368	44,500	7	70	60,600
Malthouses	14	67,635	98,000	19	117	58,253
Sauce, pickle—manufactories ...	11	8,450	18,340	10	66	17,005
Sugar, treacle—refineries	1	...	...	2	192	205,000
Tobacco, cigars, snuff—manufactories	16	126,450	199,320	14	815	96,835
Vinegar works	5	8,500	14,600	4	15	5,530
ANIMAL MATTERS.						
Boiling-down, tallow-rendering— establishments	15	28,303	77,000	22	113	20,055
Bone mills and bone manure manu- factories	15	50,225	70,845	17	106	27,677
Brush manufactories	8	15,700	27,800	9	194	13,110
Comb manufactory	1	...	...	1	...	...
Catgut manufactories	2	800	2,000	2	14	900
Curled hair manufactories	3	1,700	2,565	4	28	3,470
Flock manufactories	4	4,350	7,900	4	26	5,920
Glue, oil—manufactories	7	8,200	12,700	10	49	12,516
Morocco, fancy leather—manufactories	3	2,480	4,400	3	11	1,405
Portmanteau, trunk—manufactories	7	5,680	9,520	6	56	3,414
Soap, candle—works	38	288,340	450,924	34	471	160,730
Tanneries, fellmongeries, and wool- washing establishments	151	1,008,531	1,406,274	160	1,969	317,487
VEGETABLE MATTERS.						
Bark mills	8	17,000	25,650	8	56	5,235
Basket-making works	9	1,670	4,560	7	35	6,075
Blind (window) manufactories ...	12	5,500	11,750	9	95	9,380
Broom manufactory	2	6,200	13,000	2	45	2,875
Chaff-cutting, corn-crushing—works*	165	357,232	516,623	176	808	193,553

* 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 14,882 in 1881-2.

MANUFACTORIES, WORKS, ETC.—*continued.*

Description of Manufactory, Works, &c.	1880-1.			1881-2.		
	Number of Establishments.	Approximate Value of—		Number of Establishments.	Hands Employed.	Approximate Value of Machinery, Plant, Lands, and Buildings.
		Materials used.	Articles produced.			
		£	£			£
VEGETABLE MATTERS—<i>continued.</i>						
Cooperage works	24	17,829	35,243	28	207	23,523
Cork manufactories	2	2,100	3,100	3	13	4,480
Fancy-box, hat-box—manufactories	5	3,080	6,745	6	85	3,690
Paper manufactories	3	24,300	47,370	2	181	75,120
Paper-bag manufactories	4	30,320	47,700	3	155	24,350
Saw mills, moulding, joinery, &c.—works	174	552,463	973,127	172	3,272	320,726
Tent, tarpaulin—manufactories ...	12	28,860	47,250	12	87	16,700
COAL.						
Gasworks	19	97,392	226,116	12	622	1,079,598
Patent fuel factory	1	...	...	...	...	...
STONE, CLAY, EARTHENWARE, AND GLASS.						
Artificial stone manufactories ...	...	...	...	1	...	...
Brickyards and potteries	165	...	137,834	198	1,346	175,179
Filter manufactories	1	...	...	1	...	...
Glass manufactories, works	9	12,705	41,150	7	191	42,804
Marble and monumental works ...	31	30,709	62,964	3	331	34,940
Stone-breaking, tar-pavement—works*	1	...	...	11	167	15,935
Stone sawing, polishing—works ...	12	19,874	41,650	4	72	8,150
WATER.†						
Ice manufactories	2	2,000	7,000	3	54	30,700
GOLD, SILVER, AND PRECIOUS STONES.						
Electro-plating and gilding works ...	5	1,100	4,300	4	19	4,360
Goldsmiths and jewellers (manufacturing)	23	60,920	105,350	28	379	63,680
METALS OTHER THAN GOLD AND SILVER.						
Antimony-smelting works	3	27,000	41,000	2	38	6,300
Bell foundry	1	...	...	1	...	...
Copper-smelting works	1	...	...	1	...	...
Iron and tin works	61	143,000	247,299	56	841	126,182
Iron, brass, and copper foundries ...	73	214,326	441,894	54	2,159	291,407
Lead works	5	17,850	23,800	3	37	15,110
Pyrites works	1	...	...	1	...	...
Tin-smelting works	3	5,396	7,610	2	6	905
Type foundry	1	...	...	1	...	...
Wire-working establishments	10	3,650	9,800	8	57	13,350
Total where only one return was received for each of certain descriptions ‡	...	257,910	400,080	...	192	57,170
Total	2,468	7,997,745	13,370,836	2,488	43,209	8,044,296

* In 1880-1, tar-pavement works were not included, but were grouped under chemicals, *see* page 447 *ante*.

† Works for the storage and supply of water are not included in the manufacturing tables. A table of water-works follows paragraph 1058 *post*.

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

1056. The difference between the value of materials used and articles produced in 1880-1, as shown by the table, indicates an increase in the value of the former by the process of manufacture of over $5\frac{1}{2}$ millions sterling, or 67 per cent. The following are the exact figures:—

VALUE OF RAW AND MANUFACTURED MATERIALS, 1880-1.

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

1057. By comparing the particulars respecting these manufactories as returned in 1882 and in the first year of each of the two previous quinquennia, increases at each successive period will be found in all the columns, but more especially between the first and second periods. The number of establishments increased by 32 per cent. between 1872 and 1877, and by 8 per cent. between 1877 and 1882; the hands employed increased by 62 per cent. and 37 per cent. in those intervals respectively; and the value of machinery, plant, lands, and buildings increased by 61 per cent. in the first, and by 34 per cent. in the second, interval. The following is the comparison referred to:—

SUMMARY OF MANUFACTORIES, WORKS, ETC., 1872, 1877, AND 1882.

Year ended 31st March.	Total Number of Establish- ments.	Number of Establishments using Steam or Gas.	Horse-power of Engines.	Number of Hands employed.	Approximate Value of Lands, Buildings, Machinery, and Plant.
					£
1872 ...	1,740	701	9,442	19,468	3,731,461
1877 ...	2,302	918	12,771	31,478	6,025,745
1882 ...	2,488	1,146	15,033	43,209	8,044,296

1058. Extensive works for the storage and supply of water for domestic, mining, and irrigation purposes have been constructed by the Government in various parts of the colony. The most important of these is the Yan Yean reservoir, together with the subsidiary reservoirs at Morang and Preston, 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 19 miles from the city, and 595 feet above its level, which covers an area of 1,300 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 channel is now being made for the purpose of turning into the reservoir one or more streams, 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

Value of
materials
used and
produced.

Summary of
manufac-
tures at
three
periods.

Waterworks.

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 million gallons, and the cost over three and a half millions sterling :—

WATERWORKS IN VICTORIA.

Name of Town or District to be supplied.	Reservoir.		Actual or Estimated Cost.
	Where situated.	Storage Capacity.	
		gallons.	£
Melbourne and suburbs	Yan Yean ...	6,400,000,000	1,651,446
	Morang (pipe head) ...	2,800,000	
	Preston ...	15,000,000	
	Malmsbury ...	2,841,000,000	
	Expedition Pass ...	128,000,000	
	Old Post Office Hill ...	2,000,000	
	Barker's Creek, Harcourt	611,500,000	
Coliban Scheme, including Reservoirs at	Red Hill ...	1,250,000	917,174
	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 Gully ...	1,250,000	
	Big Hill, Pipe Head Reservoir	300,000	
	Sparrow Hawk, Pipe Head Reservoir	1,500,000	
Geelong and suburbs, including Reservoirs at	Stony Creek (Old) ...	166,000,000	327,178
	Stony Creek (New) ...	143,000,000	
	Lovely Banks ...	6,000,000	
	Anakie (pipe head) ...	900,000	
	Newtown ...	500,000	
Creswick ...	Bullarook ...	45,000,000	14,692
	Ashwell's Gully ...	8,500,000	232
Tarnagulla ...	Adekate Creek ...	18,000,000	100
	Tarnagulla ...	6,000,000	1,401
Inglewood (Old)	Inglewood ...	5,670,000	1,112
	Inglewood (New) ...	13,000,000	4,116
Maryborough ...	Maryborough ...	21,000,000	1,839
Maldon ...	Maldon ...	17,500,000	4,037
Beechworth ...	Lake Kerferd ...	110,000,000	41,125
Chiltern ...	Barrambogie Springs ...	3,084,319	6,282
	Railway Tank ...	6,000	345
Wangaratta ...	Tank at Railway Station	40,000	4,620
Rutherglen ...	Rutherglen ...	27,000,000	3,516
Ararat ...	Oliver's Gully ...	19,615,554	5,000
	Langi-Giran ...	15,200,000	40,152
	Opossum Gully ...	24,621,547	1,831
Beaufort ...	Beaufort ...	85,881,110	1,991
	Service Reservoir, Camp Hill	1,200,000	7,253

WATERWORKS IN VICTORIA—continued.

Name of Town or District to be supplied.	Reservoir.		Actual or Estimated Cost.
	Where situated.	Storage Capacity.	
		gallons.	£
Ballarat	Four and One Weir Basin in Bungaree	632,960,000	360,000
Clunes	Newlyn	265,000,000	81,753
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
	Grassy Flat (2)	26,769,369	
Kilmore	Kilmore	14,466,000	2,755
Myers Creek	Myers Creek	13,000,000	844
Echuca	Echuca (tank)	68,000	7,578
Dunolly Old Lead	Dunolly	17,200,000	1,912
Dunolly	Dunolly Township	7,500,000	3,000
St. Arnaud	St. Arnaud	17,000,000	10,342
Redbank	Redbank	27,100,000	2,785
Laplough	Laplough	9,261,946	1,232
Talbot	Amherst	13,813,284	11,193
	Evansford	182,978,781	15,000
Wedderburn	Wedderburn	3,100,000	1,013
Chewton	Commissioner's Gully	7,000,000	1,203
Daylesford	Wombat Creek	31,284,413	2,527
Moyston	Campbell's Reef	5,400,000	1,141
Orville	Opossum Gully	2,000,000	250
	Quartz Reefs	9,725,627	1,229
	Pleasant Creek	7,905,750	805
Stawell	Four Posts	3,100,000	802
	Fyan's Creek ... ..	...	} 115,434
	Service Reservoir	2,250,000	
Woodend	Newham ... ..	... *	5,023
Great Western	Great Western Dam	1,211,662	489
Elaine	Lal Lal	90,000,000	... †
Sebastopol	White Horse Ranges	4,830,904	2,862
	Linton	8,000,000	1,826
	Haddon	3,100,000	1,046
	Happy Valley... ..	2,350,995	579
	Piggoreet	600,000	79
Shire of Grenville	Kangaroo (Berringa)	1,000,000	171
	Cape Clear	400,000	61
	Staffordshire Reef	375,000	136
	Illabarook	3,069,000	282
	Rokewood Junction	480,000	168
	Lucky Womans	125,000	43
	Rokewood	5,000,000	385
Shire of Leigh	Break-of-Day... ..	4,500,000	424
	Teesdale	4,000,000	216
Shire of Tullaroop	Chinaman's Flat	2,500,000	2,199
Rushworth	Rushworth	7,000,000	1,600
	Total	12,934,682,382	3,687,059

* No reservoir (pipe-head tank).

† Cost cannot at present be given.

1059. If the value of the lands, buildings, plant, and machinery used in connection with manufactories be added to the actual or estimated cost of the waterworks, their sum will represent an amount equal to nearly eleven and three-quarter millions sterling. The following are the figures :—

Capital invested in manufactories and waterworks.

Value of lands, buildings, machinery, &c., used in connection with manufactories, 1881-2	...	...	...	£ 8,044,296
Actual or estimated cost of waterworks	...	...	...	3,687,059
Total				£11,731,355

1060. The stone quarries returned in 1882 were fewer by 8 than in 1881, and a falling-off of £1,700 took place in the value of plant, lands, and buildings. The value of the stone raised, however, increased by nearly £6,000, or about a tenth. The following are the figures for the two years :—

Stone quarries.

STONE QUARRIES, 1881 AND 1882.

Year ended 31st March.	Number of Quarries.	Cubic Yards of Stone raised.					Steam Engines in use.	
		Bluestone.	Slate.	Sandstone and Freestone.	Granite.	Other.	Number.	Horse-power.
1881	129	373,545	706	5,500	2,000	1,200	7	86
1882	121	361,380	1,500	5,708	3,211	370	4	69
Increase	...	...	794	208	1,211	...	...	...
Decrease	8	12,165	...	...	...	830	3	17

Year ended 31st March.	Number of Hands employed.	Approximate Total Value of—			
		Stone raised.	Machinery and Plant.	Lands.*	Buildings.
1881	564	£ 60,531	£ 21,198	£ 9,171	£ 2,766
1882	570	66,416	13,187	13,815	4,403
Increase	6	5,885	...	4,644	1,637
Decrease	...	...	8,011	...	...

* The figures in this column apply to purchased land only. Forty-one of the stone quarries were on Crown lands, and in these cases no valuation of the land has been given.

Gold raised,
1881.

1061. The quantity of gold raised in Victoria during any given year may be estimated in several ways; the following are the results for 1881 of four different methods of making the calculation :—

ESTIMATES OF GOLD YIELD, 1881.

		Estimated Quantity.
		oz.
1.	Exported gold entered as the produce of Victoria, added to Victorian gold received at Melbourne Mint, less 89,000 oz. issued therefrom in bars* (presumably Victorian gold for export)	839,526
2.	Excess of gross exports over gross imports of gold, added to gross quantity of gold received at Melbourne Mint, less the gold issued therefrom in bars, presumably for export*	800,328
3.	Gold raised, according to estimates made by the mining registrars throughout the country †	858,850
4.	Gold purchased, according to returns made by managers of banks and others	837,913

Gold raised,
1880 and
1881.

1062. There is no doubt that some gold is taken from the colony by private hand, and some is certainly used in the colony by manufacturing jewellers. The third is probably the only one of these estimates which would take such gold into account, and therefore it has been adopted on the present occasion. As may be supposed, it gives a somewhat higher result than that obtained by any of the other methods. This quantity, and its value, at £4 per oz., are compared in the following table with the quantity and assumed value of the gold estimated to have been raised in 1880 :—

QUANTITY AND VALUE OF GOLD RAISED IN 1880 AND 1881.

Year.	Gold raised in Victoria.	
	Estimated Quantity.	Value, at £4 per oz.
	oz.	£
1880	829,121	3,316,484
1881	858,850	3,435,400
Increase	29,729	118,916

* The whole quantity of gold issued from the Mint in bars was 106,999 oz. Of this there is reason to believe that 103,188 oz., of which 89,000 oz. was Victorian gold, was for export.

† Including 25,472 oz. known to have been sold in Melbourne by private holders.

1063. Until 1879 the quantity of gold raised from year to year had been steadily diminishing, but since then an improvement has taken place, the yield in both 1880 and 1881 having been above that in any other year since 1876. The excess of the yield in 1881 over that in 1880 was about 29,700 oz., valued at nearly £119,000. The following figures give an estimate of the quantity of gold raised in 1870 and each subsequent year :—

ESTIMATED QUANTITY OF GOLD RAISED, 1870 TO 1881.

	oz.		oz.
1870	1,222,798	1876	963,760
1871	1,355,477	1877	809,653
1872	1,282,521	1878	775,272
1873	1,241,205	1879	758,947
1874	1,155,972	1880	829,121
1875	1,095,787	1881	858,850

1064. Carrying on to the end of 1881 the calculations given in previous years, the following may be estimated as the total quantity and value of the gold raised in Victoria from the period of its first discovery in 1851. The figures give an average per annum during the whole period of about 1,629,212 oz., which is nearly twice the quantity raised in 1881 :—

ESTIMATED TOTAL QUANTITY AND VALUE OF GOLD RAISED IN VICTORIA, 1851 TO 1881.*

Gold raised in Victoria.	Estimated Quantity.	Value, at £4 per oz.
	oz.	£
Prior to 1881	49,646,717	198,586,868
During 1881	858,850	3,435,400
Total	50,505,567	202,022,268

1065. 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 1880 is estimated to have amounted to nearly 72 million oz., valued at 283 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 vicenniad. Western Australia is absent from the list, since little, if any, gold has yet been discovered there :—

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

PRODUCE OF GOLD IN AUSTRALASIAN COLONIES.*

Colony.	Gold produced.					
	Prior to 1880.		During 1880.		Total.	
	Estimated Quantity.	Value.	Estimated Quantity.	Value.	Estimated Quantity.	Value.
	oz.	£	oz.	£	oz.	£
Victoria ...	48,817,596	195,270,384	829,121	3,316,484	49,646,717	198,586,868
New South Wales	8,918,986	33,042,362	116,751	434,641	9,035,737	33,477,003
Queensland ...	3,182,919	11,752,246	203,469	734,253	3,386,388	12,486,499
South Australia	71,354	284,421	13,246	52,984	84,600	337,405
Total of Australia	60,990,855	240,349,413	1,162,587	4,538,362	62,153,442	244,887,775
Tasmania ...	130,740	509,849	50,999	201,655	181,739	711,504
New Zealand ...	9,243,582	36,139,914	305,248	1,227,252	9,548,830	37,367,166
Total of Australasia	70,365,177	276,999,176	1,518,834	5,967,269	71,884,011	282,966,445

Value of gold per miner.

1066. The value of gold raised in proportion to the number of miners at work † was higher in 1881 than in any year since 1875. During the 12 years ended with 1881 the average per miner was highest in 1875, when it exceeded that in 1881 by £8 12s. 6½d., and was lowest in 1879, when it was less than that in 1881 by £19 10s. 7¼d. The following figures, which have been taken from the reports of the Secretary for Mines, express this proportion for each of those years:—

VALUE OF GOLD PER MINER, ‡ 1870 TO 1881.

	£	s.	d.		£	s.	d.
1870 ...	81	0	6½	1876 ...	89	19	6¾
1871 ...	93	6	1½	1877 ...	82	6	1¾
1872 ...	93	17	1½	1878 ...	82	12	11½
1873 ...	93	16	2½	1879 ...	76	1	2¼
1874 ...	99	8	3	1880 ...	81	18	11¾
1875 ...	104	4	4	1881 ...	95	11	9½

Gold derived from alluvial and quartz workings.

1067. The mining surveyors and registrars estimate that in 1881 519,550 oz., or 62 per cent. of the gold raised, § was obtained from quartz reefs, and 313,828 oz., or 38 per cent., was obtained from alluvial

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

† For the number of gold miners at work at the end of each year, see paragraph 97 *ante*.

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

§ This estimate does not include the 25,472 oz. sold in Melbourne. See footnote (†) on page 454 *ante*.

deposits. These figures, as compared with those for the previous year, show an increase of 13,902 oz. in the yield of alluvial workings, but a decrease of 9,645 oz. in that of quartz reefs. With regard to the former, the Mining Department reports that the "increase is considered to be due to the opening up of new gold-producing areas, in which the rich deposits have been hitherto hidden beneath deep flows of volcanic rock. The discoveries in these tracts have been greatly facilitated by the operations of the diamond drills imported and worked by the Government. The rapid borings through dense basalt by these machines, and the information disclosed by the cores of rock obtained, have given a great impetus to alluvial mining, and have enabled mining companies to determine the downward courses of auriferous leads at distant points, and to sink shafts with precision, either upon or in close proximity thereto."*

1068. Up to the end of June 1881, £19,106 had been expended by the Government on the purchase and working of diamond drills, viz., £76 in 1877-8; £8,724 in 1878-9; £3,448 in 1879-80; and £6,858 in 1880-1. Diamond drills.

1069. Of the steam engines employed in connection with gold mining, about a fourth are used on alluvial and three-fourths on quartz workings. The following is the number of engines in use and their horse-power in each of the last eight years. It will be noticed that a slight falling-off took place from year to year until 1881, when there was a small increase:— Steam engines used in mining.

STEAM ENGINES USED IN GOLD MINING, 1874 TO 1881.

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

1070. The number of mining machines of all descriptions increased from 4,282 in 1880 to 4,415 in 1881; and the value of such machines, as estimated by the Department of Mines, increased from £1,831,658 in 1880 to £1,860,577 in 1881. Mining machinery

1071. The number of quartz reefs proved to be auriferous was returned by the mining surveyors and registrars as 3,630 in 1880, and 3,645 in 1881. 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.

* See Mineral Statistics of Victoria for the Year 1880, page 7.

Extent of
auriferous
ground.

1072. The approximate area of auriferous ground worked upon was stated to be 1,235 square miles in 1880, and 1,279 in 1881. The figures are derived from estimates, not from actual surveys, and they vary from year to year. As the shallow alluviums of the older gold-fields are abandoned by the miners, they are often occupied by agriculturists and gardeners, and ground which one year is included in the area embraced in gold-workings is properly excluded in another.

Average
yield of
quartz.

1073. 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 968,883 tons in 1880, and 1,041,212 tons in 1881. The average yield per ton of these crushings was 9 dwt. 15·06 gr. in the former, and 8 dwt. 18·2 gr. in the latter, year. From similar estimates, extending over a series of years, and embodying information respecting the crushing of more than 18,000,000 tons of quartz, an average is obtained of 10 dwt. 17·56 gr. of gold to the ton of quartz crushed.

Deep quartz
mining.

1074. At least 17 of the shafts sunk in Victoria in search of auriferous quartz have attained depths exceeding 1,000 feet. The deepest shaft in the colony is the Magdala at Stawell, which is 2,409 feet deep, and other shafts in the same locality are 1,940, 1,830, 1,680, 1,498, 1,387, and 1,220 feet from the surface; the deepest shaft at Sandhurst is 1,476 feet; the deepest at Ballarat is 1,114 feet; and the deepest at Maldon, 1,220 feet. At Clunes there is one shaft 1,193 and another 1,105 feet deep.

Yield from
deep mines.

1075. The yield of gold from 2,837 tons of quartz obtained at Stawell, at depths varying from 612 to 1,120 feet, averaged from 1 oz. 5 dwt. 9 gr. to 2 oz. 14 dwt. 14 gr. per ton; 24,657 tons at Sandhurst, at various depths between 500 and 1,320 feet, averaged from 9 dwt. to 10 oz. 9 dwt. 17 gr. per ton; 19,256 tons at Ballarat, at depths varying from 202 to 1,105 feet, gave a yield of from 5 dwt. 8 gr. to 11 dwt. 17 gr. per ton; and 32,868 tons at Maryborough, at depths varying from 270 to 738 feet, gave a yield of from 6 dwt. 6 gr. to 1 oz. 6 dwt. 9 gr. per ton.*

Gold-mining
leases.

1076. Since the first issue of gold-mining leases, the total number granted has been 12,343, giving the right to mine over an area amounting in the aggregate to 226,224 acres. Of these leases, 901, for 15,367 acres, were granted in 1881, and 1,816, for 30,965 acres, were in force at the end of that year.

* See Report of the Secretary for Mines on *Mineral Statistics*, 1881; Parliamentary Paper No. 29, Session 1882.

1077. The number of gold-mining companies registered in 1881 was 448, the nominal capital of which was £6,647,838, and the number of shares 9,290,895. These figures largely exceeded those for 1880, viz., by 344 in the number of companies registered, by over £944,000 in the nominal capital, and by over 3 million in the number of shares. In the five years prior to 1881 there were, altogether, 792 mining companies registered, with a nominal capital amounting in the aggregate to £7,592,378, and divided into 12,464,192 shares. Gold-mining companies.

1078. At the end of 1881 the following leases of Crown lands, conferring the privilege of working for minerals and metals other than gold, were in force. The leases were more numerous by 10, and the area comprised therein was larger by 3,208 acres, than in 1880 :— Leases for other minerals.

LEASES FOR MINERALS AND METALS OTHER THAN GOLD, 1881.

Metals and Minerals.	Leases in force at end of 1881.	
	Number.	Area.
		acres.
Antimony	19	341
Coal	8	4,939
Copper and the ores of copper	9	722
Gypsum	1	18
Lignite	1	475
Silver	1	15
Slate	2	219
Slate and flagging	2	28
Ironstone	1	320
Tin and the ores of tin	6	1,052
Lead	1	154
Red ochreous clay	1	2
Total	52	8,285

1079. 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 1881. Of these productions, the value in 1881 amounted to £31,842 :— Minerals other than gold raised.

VALUE OF METALS AND MINERALS OTHER THAN GOLD, 1851 TO 1881.

	£		£
Silver	48,868	Slates	940
Tin	355,038	Gypsum... ..	7
Copper	99,007	Magnesite	12
Antimony	164,616	Ores, mineral earthy clays, &c., unenumerated	4,802
Lead	4,892		
Iron	7,136	Diamonds	108
Coal	13,508	Sapphires, &c.	630
Lignite	2,772		
Kaolin	7,444	Total	763,125
Flagging	53,345		

Miners for
minerals
other than
gold.

1080. The following, according to the estimate of the same department, is the number of men engaged in mining for various kinds of minerals or metals other than gold* at the end of 1881 :—

MINERS FOR MINERALS OTHER THAN GOLD.

			Number of Miners.				Number of Miners.
Tin	...	...	60	Kaolin	...	...	2
Antimony	...	...	26	Lignite	...	...	6
Ironstone	...	...	80	Ochreous clay	...	...	3
Limestone	...	..	20				
Lead	...	...	10	Total	...	...	250
Coal	...	...	9				
Slate and flag	...	...	34				

Bonus for
iron raised.

1081. A bonus at the rate of £2 per ton, or £1,000 in all, which for two years had been offered by the Government for the first 500 tons of pig iron produced by the continuous operations of any mine in Victoria, was paid in 1881 to the Lal Lal Iron Company, which raised in that year 1,092 tons of iron from ore, yielding 560 tons of metal.

Value of
mining
lands.

1082. The value of lands held under the bye-laws of the various mining districts, and under lease from the Crown, is estimated by the Mining Department to have been £5,975,450 in 1880, and £7,080,780 in 1881.

Revenue
from gold-
fields.

1083. The revenue derived from the goldfields amounted to £16,895 in 1880, and £20,261 in 1881. The amount in the latter year was made up of the following items :—

REVENUE FROM GOLDFIELDS, 1881.

						£
Miners' rights	...	...	...	...	...	5,388
Business licenses	...	...	...	...	...	407
Rents for leases of auriferous mineral lands	...	...	...	...	...	13,788
Water-right and searching licenses	...	...	...	...	...	678
Total	...	...	...	...	...	20,261

State aid to
mining.

1084. A statement is subjoined of the amounts advanced from the revenue to assist in the development of the mining industry in the years named, also of the amount re-paid in 1880-1 :—

					£
Amount advanced, 1875-6	...	...	...	...	1,500
" " 1877-8	...	...	...	...	250
" " 1878-9	...	...	...	...	18,800
" " 1879-80	...	...	...	...	500
Total	...	...	...	...	21,050
Amount repaid, 1880-1	...	...	...	...	737
Balance outstanding	...	...	...	...	20,313

* For number of gold miners, see paragraph 97 ante.

1085. The weekly rates of wages paid for different descriptions of mining labor in the year 1881 are thus quoted by the Mining Department :—

RATES OF MINING LABOR, 1881.

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

1086. The estimated value of the produce raised from Victorian mines and quarries in 1881 was as follows :—

VALUE OF MINING PRODUCE, 1881.

	£
Gold ...	3,435,400
Other metals and minerals	31,842
Stone from quarries	66,416
Total	£3,533,658

1087. The estimated value of the agricultural, pastoral, and mining produce raised in Victoria during each of the last eight 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, fluctuates from year to year. In 1878 and 1879 these prices were below the average.* In most 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 1881.

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

* For prices of agricultural produce in different years, see table following paragraph 1022 ante.

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

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

1088. 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 £5,372,091.* If, on the assumption that the value of manufacturing produce would be about the same in the last as in the previous year, this amount be added to the figures in the lowest line of the last column in the above table, a gross total of the value of agricultural, pastoral, mining, and manufacturing produce will be obtained for the year 1881, amounting in the aggregate to £23,483,841.

Patents.

1089. The patents for inventions applied for in 1881 numbered 197, as against 176 in the previous year. Since 1854 the total number of patents applied for has been 3,159.

Copyrights.

1090. The Victorian Copyright Act (33 Vict. No. 350) came into force in December 1869. Since then the following copyrights have been registered:—

COPYRIGHTS, 1870 TO 1881.

Subject of Copyright.	Copyrights Registered.		
	Prior to 1881.	During 1881.	Total.
DESIGNS.			
Articles of manufacture, chiefly of—			
Metals	178	10	188
Wood, stone, cement, or plaster ...	43	1	44
Glass	7	...	7
Earthenware	2	1	3
Ivory, bone, papier-maché, &c. ...	23	2	25
Woven fabrics	10	...	10
Miscellaneous	13	2	15
LITERARY PRODUCTIONS.			
Literary works	809	158	967
Dramatic „	52	4	56
Musical „	73	3	76
WORKS OF ART.			
Paintings	4	...	4
Drawings	19	1	20
Engravings	634	72	706
Photographs	858	10	868
Sculpture	1	1	2
Total	2,726	265	2,991

* See paragraph 1056 ante.

1091. 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 connection with the good-will of a business. From the period of the commencement of the Act to the end of 1881, 463 trade-marks were submitted for registration, and 336 were registered. During the year 1881, the number submitted was 112, and the number registered 91.

Trade-marks.

PART IX.—RELIGIOUS, MORAL, AND INTELLECTUAL PROGRESS.

1092. It was provided by the Constitution Act that, for the advancement of the Christian religion in Victoria, the sum of £50,000 should be set apart each year from the general revenue to promote the erection of buildings for public worship and the maintenance of ministers of religion, which sum should be apportioned to each denomination according to the number of its members at the preceding census. This provision was, however, repealed by an Act (34 Vict. No. 391) reserved for the Royal Assent on the 15th July 1870 and assented to on the 6th January 1871, the repeal to take effect from and after the 31st December 1875. Therefore since that date no further State assistance to religion has been given.

Abolition of State aid to religion.

1093. Great difficulty exists in obtaining accurate statistics from several of the religious bodies. In the instances referred to the returns are not furnished until after repeated applications, and even then they are often forwarded in so manifestly incorrect a condition that it is necessary to send them back for correction, frequently more than once. One important denomination has not furnished any returns for four years, notwithstanding its ministers have been constantly urged to send them in. It is surprising that a matter which must be of interest to every member of these denominations should not receive more attention at the hands of their clergy or other recognized heads.

Difficulty in obtaining statistics of religious bodies.

1094. The following table contains a statement of the number of registered clergy and the approximate number of religious services performed in connection with each denomination during the last two years:—

Clergy and services.