

PART VII.—PRODUCTION.

691. The laws and regulations under which land 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 his Crown grant. The details of the land system in each colony will be found in Appendix A *post*. The information respecting Victoria, New South Wales, and Queensland, was prepared specially for this work by the heads of the Crown Lands Department in those colonies; whilst that relating to South Australia, Western Australia, Tasmania, and New Zealand, was compiled by the present writer from official documents forwarded to him for that purpose. In the case of the first three of the last-named colonies, the statements have been verified by referring to each colony the portion of the manuscript relating to it; but such reference was not considered necessary in the case of New Zealand, as the required information was found to be so clearly laid down in the papers received from that colony that no doubt could exist as to the accuracy with which its substance had been transferred from them to the statement.

Land systems in Australasian colonies.

692. The total extent of Crown land sold in Victoria up to the end of 1879 was 11,737,718 acres, and the extent granted without purchase was 4,610 acres. The whole area alienated in fee-simple was thus 11,742,328 acres.

Crown lands alienated to end of 1879.

693. The selected lands of which the purchase had not been completed up to the end of the year amounted to 9,905,902 acres. Of this extent it is estimated that 2,446,450 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 7,459,452 acres.

Crown lands selected.

694. According to the latest estimate, the total area of the colony is 56,446,720 acres; and if from this be deducted the sum of the lands granted, sold, and selected, amounting to 19,201,780 acres, it will follow that the residue, representing the Crown lands neither alienated nor in process of alienation, amounted at the end of 1879 to 37,244,940 acres.

Crown lands unalienated.

695. 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, lakes, or lagoons. Deducting

Public estate, 1879.

these lands from the extent unalienated and unselected, already stated to have been 37,244,940 acres, it will be found that the area open for selection is narrowed to 10,711,022 acres. This will be at once seen by the following table, which shows the position of the public estate at the end of 1879 :—

PUBLIC ESTATE OF VICTORIA ON 31ST DECEMBER 1879.

Condition of Land.	Number of Acres.
Land alienated in fee-simple	11,742,328
Land in process of alienation under deferred payments	7,459,452
Roads in connection with the above	1,089,734
Unsold land included in town reserves	301,000
Reserves in connection with pastoral occupation (about)	350,000
Auriferous land * (about)	1,008,240
Auriferous land selected	146,344
State forests not included in unavailable mountain ranges	243,000
Timber reserves	395,600
Mallee scrub, unavailable mountain ranges, lakes, lagoons, &c. (about)	23,000,000
Area available for selection, with right of purchase, at end of 1879	10,711,022
Total area of Victoria	56,446,720

Crown lands available for selection.

696. Omitting the 23,000,000 acres covered by mallee scrub, unavailable mountain ranges, lakes, lagoons, &c., the remainder of the colony, amounting to 33,446,720 acres, or about 59 per cent. of the total area, may be said to be suitable for occupation. Of this extent, at the end of 1879, 19,201,780 acres, or 57 per cent., were already alienated or in process of alienation ; 3,533,918 acres, or 11 per cent., were occupied by reserves ; and 10,711,022 acres, or 32 per cent., were available for selection.

Extent available for selection, 1878 and 1879.

697. The difference between the extent available for selection at the end of 1878 and at the end of 1879 was 711,863 acres. The extent so available was equal at the former period to 20 per cent., and at the latter period to 19 per cent. of the whole area of the colony.

Crown lands alienated, 1879.

698. The land alienated from the Crown in fee-simple during 1879 amounted to 283,694 acres. Of this extent, 283,191 acres were sold, and 503 acres were granted without purchase. A gradual falling off in the area alienated annually has taken place since 1872 ; and in 1879 the extent alienated was less than in any year since 1868.

Crown lands sold by auction.

699. Of the area sold, 56,430 acres, or about a fifth, was disposed of by auction. Nearly the whole of the remainder was in the first instance selected under the system of deferred payments. A smaller extent was sold by auction in 1879 than in any year since 1870 except 1873, 1874, and 1878.

* 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 so selected is shown in the next line.

700. The amount realized for Crown lands sold in 1879 was £384,432, or at the rate of £1 7s. 2d. per acre. Of this sum, only £236,957 was received during the year, the remainder having been paid in former years as rents and license fees. The proportion sold by auction realized £156,310, or an average of £2 15s. 4 $\frac{3}{4}$ d. per acre; and the proportion sold otherwise than at auction realized £228,122, or an average of £1 0s. 1 $\frac{1}{2}$ d. per acre.

Amount realized on Crown land sales, 1879.

701. From the period of the first settlement of the colony to the end of 1879 the amount realized by the sale of Crown lands was £19,136,572, or at the rate of £1 12s. 7 $\frac{1}{4}$ d. per acre.

Amount realized, 1836 to 1879.

702. The total area selected, with right of purchase, in 1879, amounted to 1,018,454 acres, or 371,501 acres less than in 1878. Of this extent, 1,006,024 acres were taken up under the residence clause of the Land Acts of 1869 and 1878, and 12,430 acres under the non-residence clause of the latter. The average area to each resident selector was 176 acres and to each non-resident selector 166 acres. The area selected was less than in any previous year since 1872.

Area selected 1879.

703. Of land which had been selected with right of purchase in former years, as many as 315,187 acres were abandoned or forfeited to the Crown for non-fulfilment of conditions during the year 1879.

Selected land forfeited, 1879.

704. The squatting runs in 1879 numbered 701, or 67 less than in 1878. The area of Crown lands embraced in runs amounted in 1879 to 17,183,843 acres, or 2,347,240 acres less than that estimated for 1878.

Squatting runs: number and area.

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

Decrease in number of squatting runs.

706. The average size of squatting runs was 25,431 acres in 1878, and 24,513 acres in 1879. This is exclusive of any purchased land attached thereto.

Squatting runs: average size.

707. The rent of runs is assessed in accordance with the quantity 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 1878 the amount of rent payable was £122,142, or 1.501d. (1 $\frac{1}{2}$ d.) per acre; and in 1879 the amount was £104,843, or 1.464d. (a fraction under 1 $\frac{1}{2}$ d.) per acre.*

Rent of runs.

* The sums actually received were £134,079 in 1878 and £107,732 in 1879, but arrears from previous years are included in both these amounts.

Land
revenue.

708. 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. There was a decrease under all these heads in 1879 as compared with 1878, the total decrease amounting to over £110,000, as will be seen by the following figures :—

LAND REVENUE, 1878 AND 1879.

Heads of Land Revenue.	Amounts Received.		Decrease.
	1878.	1879.	
	£	£	£
Alienation in fee-simple and progressive	790,442	715,257	75,185
Temporary occupation	167,144	139,204	27,940
Penalties, fees, and interest... ..	48,884	41,935	6,949
Total	1,006,470	896,396	110,074

Agricultural
statistics.

709. The agricultural statistics of Victoria are collected by the municipal bodies, who, 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 belief, and should they fail to do so they render themselves liable to a penalty not exceeding ten pounds. 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 ten pounds.

Agricultural
statistics,
1879-80.

710. The agricultural statistics* to which reference will now be made are those for the year ended 31st March 1880. Tables embodying the general results of these statistics were sent for publication in the *Government Gazette* on the 11th May last, and these, with additional tables, have since been printed and laid before Parliament, in Part VI. of the *Statistical Register of Victoria*.

Holdings
visited by
collectors.

711. The holdings returned are all blocks of alienated land above one acre in extent, which are occupied for agricultural or pastoral pur-

* 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.

poses. Each distinct occupation is considered to be a holding, without reference to its proprietorship, and each of several holdings in different localities owned by one person is necessarily reckoned as a distinct holding.

712. The extent of land in occupation of which a return is made is always less than the whole area alienated and selected. The collectors are not required to take account of holdings which do not exceed one acre, nor of gardens or grounds attached to residences which are kept merely for ornament and pleasure, nor of any lands which show no signs of occupation, or which are used for other purposes than agriculture or the keeping of stock. It is, moreover, possible that in a few instances the collectors may not be aware of the existence of, and consequently may not penetrate to, some isolated blocks of purchased land held in connection with squatting stations at a distance from agricultural districts. The agricultural statistics for the present year account for 86½ per cent. of the extent alienated and in process of alienation at the end of 1879.

713. A statement of the number of holdings, and of the extent of land occupied and cultivated, in the year under review and the previous one, will be found in the following table. All the items show increase:—

HOLDINGS AND LAND* OCCUPIED AND CULTIVATED, 1879 AND 1880.

Year ended 31st March.	Number of Holdings larger than 1 acre.	Acres Occupied.	Acres under Tillage.
1879	47,050	15,901,403	1,609,278
1880	48,969	16,620,900	1,688,275
Increase	1,919	719,497	78,997

714. During the decenniad ended with the year under review the holdings have increased by over three-fifths, whilst the land occupied has nearly doubled, and the land in cultivation has more than doubled. This will be seen by the following figures:—

INCREASE IN 1880 AS COMPARED WITH 1870.

	Numerical.	Per cent.
Holdings	18,755	62
Acres occupied	7,771,414	88
Acres cultivated	860,741	104

* The holdings and land referred to are exclusive of Crown lands held under squatting licenses. See also paragraphs 711 and 712 ante.

Area cultivated per head in Australasian colonies.

715. The following table shows the area per head cultivated in each Australasian colony during the six seasons ended with that of 1878-9, also the mean of those seasons, the colonies being placed in order according to the average extent of land per head that each cultivates. 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. It is satisfactory to find, however, that in all the colonies except Tasmania and Western Australia the figures for the last year named in the table are higher than those for any previous one :—

CULTIVATION PER HEAD IN AUSTRALASIAN COLONIES, 1874 TO 1879.*

Colony.	Acres under Tillage per Head of Population.						
	1873-4.	1874-5.	1875-6.	1876-7.	1877-8.	1878-9.	Mean.
1. South Australia ...	6·18	6·50	6·86	6·71	7·72	8·09	7·01
2. Tasmania ...	1·61	3·13	3·21	3·15	3·26	3·23	2·93
3. New Zealand † ...	1·27	1·61	1·62	1·97	2·30	2·62	1·89
4. Western Australia ...	2·01	1·73	1·78	1·68	1·82	1·81	1·80
5. Victoria ...	1·22	1·25	1·37	1·47	1·65	1·83	1·46
6. New South Wales ...	·82	·80	·74	·82	·83	·88	·81
7. Queensland ...	·43	·39	·43	·46	·52	·56	·46

Land under principal crops.

716. The principal crops grown in Victoria are wheat, oats, barley, potatoes, hay, and green forage. In 1879-80, as compared with 1878-9, an increased area was placed under each of these except green forage. The extent under each except oats and green forage was, moreover, greater in 1879-80 than in any previous year, and that under oats was exceeded only once, viz., in 1871-2. During the past four 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, 1879 AND 1880.

Year ended 31st March.	Wheat.	Oats.	Barley.	Potatoes.	Hay.	Green Forage.
	acres.	acres.	acres.	acres.	acres.	acres.
1879 ...	691,622	134,428	22,871	36,527	172,799	401,427
1880 ...	707,188	167,615	43,182	41,600	201,451	305,790
Increase ...	15,566	33,187	20,311	5,073	28,652	...
Decrease...	...	...	...	...	...	95,637

* For the population and number of acres under tillage in each Australasian colony during the seven years ended with 1879-80, see Summary of Australasian Statistics (third folding sheet) *ante*.

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

717. The gross yield of all the principal crops, except green forage, of which no return is made, was much heavier in the past than in any previous season. The following is a return of such produce in 1878-9 and 1879-80 :—

Produce of principal crops.

GROSS PRODUCE OF PRINCIPAL CROPS, 1879 AND 1880.

Year ended 31st March.	Wheat.	Oats.	Barley.	Potatoes.	Hay.
	bushels.	bushels.	bushels.	tons.	tons.
1879 ...	6,060,737	2,366,026	417,157	98,958	209,028
1880 ...	9,398,858	4,023,271	1,065,430	167,943	292,407
Increase ...	3,338,121	1,657,245	648,273	68,985	83,379

718. The following table shows for each of the last four years the produce of wheat in eleven counties, which, for the most part, lie between the 36th and 37th parallels of latitude, and the 142nd and 147th meridians, and which are above all others the wheat-producing counties of Victoria :—

Wheat-producing counties.

WHEAT RAISED IN ELEVEN COUNTIES, 1877 TO 1880.

Counties.	Number of Bushels Produced.			
	1876-7.	1877-8.	1878-9.	1879-80.
Bendigo ...	763,984	795,398	727,195	871,278
Bogong ...	264,571	333,414	136,574	305,951
Borong ...	336,156	720,007	1,291,947	1,509,759
Dalhousie ...	170,817	192,080	106,305	204,299
Delatite ...	252,946	278,947	115,639	265,478
Gladstone ...	342,485	472,224	578,157	700,925
Gunbower ...	169,105	250,298	218,348	321,230
Kara Kara ...	436,834	598,661	651,142	681,868
Moira ...	568,004	889,774	317,465	1,671,507
Rodney ...	697,027	1,016,849	451,435	1,088,854
Talbot ...	462,695	449,405	414,473	397,621
Total ...	4,464,624	5,997,057	5,008,680	8,018,770

719. In 1876-7 five-sixths, in 1877-8 six-sevenths, in 1878-9 five-sixths, and in 1879-80 six-sevenths of the wheat raised in Victoria was grown in the eleven counties named in the last table. It will be observed that in the past season the gross produce in every one of these counties, except Bogong, Delatite, and Talbot, was greater than in any of the three previous seasons. It is, moreover, satisfactory to notice the complete recovery of the wheat yield in the four counties—viz., Bogong, Delatite, Moira, and Rodney—which, in 1878-9, showed a very great falling-off in consequence of rust and drought. In the two latter the crop in 1879-80 was heavier than in any other year named in the table, whilst in the two former it was slightly exceeded in only

Yield of wheat in eleven counties.

one year, viz., 1877-8. In only three of the counties—viz., Borung, Gladstone, and Kara Kara—does the yield show an increase in each year as compared with the previous one. These counties are situated at the extreme west of the group.

Yield of
wheat in
each
county.

720. The average produce of wheat per acre in the various counties in the colony in 1879-80 is compared in the following table with that in each of the two previous years. The counties are arranged according to the average yield in the past season, and the eleven counties just referred to are marked with asterisks :—

AVERAGE PRODUCE OF WHEAT IN EACH COUNTY, 1878,
1879, AND 1880.

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

† In 1878-9 the crops were much affected by rust and drought.

721. It will be observed that almost every county shows a considerably higher average yield in 1880 than in the two previous years ; also that in only four counties in 1877-8, not even in one in 1878-9, but in as many as thirteen in 1879-80, did it exceed 20 bushels to the acre ; one county in the last-named year — viz., Tambo, situated in the eastern part of Gippsland—had as high an average as 30 bushels, but the extent of land under wheat there was small, being under 100 acres. In all the principal wheat-producing counties but one, viz., Dalhousie, the average produce per acre in 1879-80 was considerably below 20 bushels ; and in five of these counties the yield was below the average of the colony.

Average yields in 1879-80.

722. The average produce per acre of the other principal crops during 1879-80 is given in the following table. It will be noticed that the highest acreable yield of oats was in Grant, that of barley and hay in Villiers, and that of potatoes in Buln Buln ; also, that the lowest acreable yield of oats was in Dargo, that of hay in Gunbower, that of barley in Tatchera, and that of potatoes in Rodney :—

Yield of other principal crops in each county.

AVERAGE PRODUCE OF OATS, BARLEY, POTATOES, AND HAY IN EACH COUNTY, 1879-80.

Counties.	Average Produce to the Acre of—			
	Oats.	Barley.	Potatoes.	Hay.
	bushels.	bushels.	tons.	tons.
Anglesey	25·65	24·68	2·80	1·82
Benambra	25·90	25·80	4·06	1·50
Bendigo	17·43	17·95	1·43	1·06
Bogong	23·01	18·31	3·57	1·40
Borong	17·22	15·10	2·25	·91
Bourke	28·47	26·31	4·28	1·94
Buln Buln	19·61	21·97	5·06	2·07
Croajingolong	13·25	19·62	2·93	1·28
Dalhousie	30·11	32·35	3·22	1·92
Dargo	8·18	18·13	4·96	1·92
Delatite	25·20	21·46	2·71	1·53
Dundas	24·06	29·15	2·18	1·73
Evelyn	22·05	23·27	3·19	2·01
Follett	21·97	20·49	2·39	1·70
Gladstone	17·85	16·30	1·24	·79
Grant	31·93	34·90	4·66	1·70
Grenville	26·31	28·11	3·17	1·67
Gunbower	15·62	14·21	...	·66
Hampden	22·80	26·35	3·68	1·76
Heytesbury	23·10	36·20	3·04	2·13
Kara Kara	17·47	13·80	1·68	·78
Karkarooc ... ..	...	20·00	...	·73
Lowan	20·06	18·13	1·55	1·06
Moir	25·11	23·15	2·32	1·15
Mornington	20·53	15·85	4·31	1·73
Normanby	19·50	21·28	2·73	1·75

AVERAGE PRODUCE OF OATS, BARLEY, POTATOES, AND HAY IN EACH COUNTY, 1879-80—continued.

Counties.	Average Produce to the Acre of—			
	Oats.	Barley.	Potatoes.	Hay.
	bushels.	bushels.	tons.	tons.
Polwarth	22·03	23·28	3·55	2·15
Ripon	24·21	30·86	2·30	1·99
Rodney	22·78	20·96	1·17	·86
Talbot	29·43	27·80	3·02	1·50
Tambo	20·37	36·81	3·82	1·64
Tanjil	13·79	27·73	4·05	2·05
Tatchera	15·13	11·40	...	·84
Villiers	22·04	36·01	5·05	2·43
Weeah ... ..	...	...	...	1·00
Wonnangatta	23·40	14·27	3·90	1·71
Total	24·00	24·67	4·04	1·45

Yield of principal crops, 1870 to 1880.

723. The following table shows the acreable yield of the five principal crops during each of the last eleven years, also the average during the whole period. As compared with the low averages in the previous year, a marked improvement will be noticed in the yield of every crop in 1880. The average produce of barley and of potatoes was higher than in any of the other years named, and that of oats and hay than in any except 1870, but that of wheat was exceeded in 1870 and in the five years 1872 to 1876 :—

AVERAGE PRODUCE OF PRINCIPAL CROPS, 1870 TO 1880.

Year ended 31st March.	Average Produce per Acre of—				
	Wheat.	Oats.	Barley.	Potatoes.	Hay.
	bushels.	bushels.	bushels.	tons.	tons.
1870	19·75	25·98	24·55	3·09	1·60
1871	10·10	14·98	12·26	3·27	1·13
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	1·18
1879	8·76	17·60	18·24	2·71	1·21
1880	13·29	24·00	24·67	4·04	1·45
Average of eleven years	13·21	19·79	20·98	3·27	1·31

724. 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 six years ended with 1879. According to the mean of the sexenniad, the average produce of wheat, oats, and potatoes is highest in New Zealand, and that of hay in New South Wales. Victoria stands fourth in regard to the average per acre of each of the crops named:—

Average produce in Australasian colonies.

AVERAGE PRODUCE OF PRINCIPAL CROPS IN AUSTRALASIAN COLONIES, 1874 TO 1879.

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

WHEAT : BUSHELS PER ACRE.

Victoria ...	13·58	14·57	15·49	13·15	12·41	8·76	12·99
New South Wales...	13·43	12·87	14·66	16·43	13·84	14·74	14·33
Queensland ...	...	...	...	...	10·63	13·56	12·09
South Australia ...	7·87	11·75	11·95	5·40	7·76	7·15	8·64
Western Australia	13·44	12·00	11·00	12·00	11·00	9·97	11·57
Tasmania ...	16·17	18·51	16·38	19·30	18·12	16·10	17·43
New Zealand ...	25·61	28·15	31·54	28·63	26·03	22·94	27·15

OATS : BUSHELS PER ACRE.

Victoria ...	15·69	18·46	21·92	19·91	19·39	17·60	18·83
New South Wales...	18·71	16·31	18·72	21·16	19·31	20·24	19·07
Queensland ...	...	...	...	...	10·11	9·65	9·88
South Australia ...	10·61	14·61	16·69	10·65	11·96	12·01	12·75
Western Australia	19·22	16·00	15·00	15·00	14·00	18·02	16·21
Tasmania ...	20·98	26·82	25·40	24·21	22·32	24·82	24·09
New Zealand ...	29·81	35·22	39·34	31·24	31·68	30·11	32·90

POTATOES : TONS PER ACRE.

Victoria ...	2·86	3·53	3·37	3·31	3·11	2·71	3·15
New South Wales	2·98	2·83	2·98	3·03	2·52	3·20	2·92
Queensland ...	...	...	...	...	1·91	2·33	2·12
South Australia ...	3·41	3·72	4·52	2·84	2·51	2·67	3·28
Western Australia	2·67	3·00	3·00	3·00	2·00	2·49	2·69
Tasmania ...	3·16	3·75	3·54	3·43	3·25	3·37	3·41
New Zealand ...	4·46	5·24	4·89	5·36	5·38	4·98	5·05

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

**AVERAGE PRODUCE OF PRINCIPAL CROPS IN AUSTRALASIAN
COLONIES, 1874 TO 1879—continued.**

Colony.	Year ended 31st March.						Mean.
	1874.	1875.	1876.	1877.	1878.	1879.	
HAY : TONS PER ACRE.							
Victoria ...	1·27	1·32	1·33	1·22	1·17	1·21	1·25
New South Wales	1·54	1·37	1·15	1·43	1·22	1·66	1·39
Queensland ...	...	...	...	...	1·30	1·33	1·31
South Australia ...	1·02	1·26	1·21	1·95	1·13	·97	1·26
Western Australia	2·00	1·50	1·00	1·00	1·00	1·00	1·25
Tasmania ...	1·08	1·35	1·42	1·21	1·13	1·19	1·23
New Zealand ...	1·43	·84	1·46	1·31	1·30	1·22	1·26

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 seven years ended with 1879-80, see Summary of Australasian Statistics (third folding sheet) *ante*.

Land under
crop in
Britain and
Foreign
countries.

725. The next table shows the acreage under wheat, oats, barley, and potatoes in the United Kingdom, the Cape of Good Hope, and certain Foreign countries. 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.	Potatoes.
The United Kingdom ...	1878	3,382	4,124	2,723	1,365
Cape of Good Hope ...	1875	188	114	29	9
Austria ...	1876	2,420	4,413	2,753	2,410
Baden ...	1876	89	139	153	207
Belgium ...	1866	700	567	108	423
Denmark ...	1876	140	864	699	96
France ...	1876	16,977*	8,046	2,564	3,089
Holland ...	1876	212	286	117	327
Hungary ...	1875	5,654	2,429	2,242	944
Italy ...	1874	11,551	985	1,148	169
Norway ...	1870	12	220	122	77
Prussia ...	1876	4,196	6,714	3,357	...
Russia in Europe ...	1872	28,743	32,819	15,512	3,169
Saxony ...	1876	108	411	98	253
Sweden ...	1877	...	...	...	379
United States ...	1878	32,109	13,176	1,790	1,777
Württemberg ...	1876	47	331	244	189

Gross yield
of crops in
Foreign
countries.

726. The agricultural statistics collected by the Imperial Board of Trade do not give the amount of produce raised in the United Kingdom.

* Including spelt (*Triticum spelta*).

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.	Potatoes.
Cape of Good Hope ...	1875	1,688	918	448	371
Austria ...	1876	33,966	90,974	49,869	251,029
Baden* ...	1876	719	1,062	1,317	12,214
Belgium ...	1866	14,203	23,364	3,666	67,737
Denmark ...	1876	3,894	24,267	17,998	10,357
France ...	1876	271,330†	168,055	49,083	313,164
Holland ...	1876	5,256	12,407	4,692	52,327
Hungary ...	1875	47,392	21,516	20,913	39,707
Italy ...	1874	142,423	19,370	18,417	19,387
Norway ...	1875	254	8,846	4,324	18,825
Prussia ...	1876	86,640	224,245	89,698	...
Russia in Europe ...	1872	157,938	543,623	124,754	370,876
Saxony* ...	1876	1,320	4,958	1,114	22,266
Sweden ...	1877	2,301	37,153	10,115	39,364
United States* ...	1878	420,122	413,579	42,246	124,127
Württemberg ...	1876	836	9,300	5,673	22,419

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

Average yield of crops in Foreign countries.

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

Country.	Year.	Bushels* per Acre of—			
		Wheat.	Oats.	Barley.	Potatoes.
Cape of Good Hope ...	1875	9·0	8·1	15·4	41·2
Austria ...	1876	14·0	20·6	18·1	104·1
Belgium ...	1866	20·3	41·2	33·9	160·1
Denmark ...	1876	27·8	28·1	25·7	108·0
France ...	1876	16·0†	20·9	19·1	101·4
Holland ...	1876	24·8	43·4	40·1	160·0
Italy ...	1874	12·3	19·6	16·0	114·7
Norway ...	1875	21·2	40·2	35·4	244·1
Prussia ...	1876	20·7	33·4	26·7	...
Russia in Europe ...	1872	5·5	16·5	8·0	117·0
Sweden ...	1877	...	...	...	103·9
United States* ...	1878	13·1	31·4	23·6	69·9
Württemberg ...	1876	17·8	28·1	23·2	118·8

* Imperial bushels, except in the case of Baden, Saxony, and the United States, the produce of the two first of which is given in centners each equal to 110·232 lbs., and that of the last in Winchester bushels, each equal to $\frac{32}{33}$ nearly, or, more accurately, to $\cdot 969,447$ of an Imperial bushel. An Imperial bushel of potatoes weighs about 56 lbs.

† Including spelt (*Triticum spelta*).

Yield of wheat in Foreign countries and Australasia.

728. It will be observed that the acreable yield of wheat in the year named was nearly 28 bushels in Denmark and over 20 bushels in four other countries, but in only three European countries—Austria, 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, the average yield is below 15 bushels to the acre. In Victoria the yield is about the same as in the United States, and higher than in Italy, European Russia, or the Cape of Good Hope.

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

729. According to the figures, the average yield of oats in Victoria is higher than that in the Cape of Good Hope, or European Russia, and approximates to that in Italy, but is lower than that in any other of the countries named; the yield of barley is higher than that in the Cape of Good Hope, Austria, France, 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, or Norway.

Breadstuffs available for consumption.

730. Only in the last three years and three previous ones has the colony raised enough breadstuffs for the consumption of its own inhabitants. In each of these six years there was a surplus of Victorian grown wheat remaining for export, which amounted, in 1879, to nearly a million, and in 1878 to over a million, bushels. This will be seen by the following table, which shows for each of the years from 1840 to 1879 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 from the wheat, flour, bread, and biscuit used for food:—

BREADSTUFFS AVAILABLE FOR CONSUMPTION, 1840-1879.

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.‡	For Food.	
						Total.	Per Head.
		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

* See table following paragraph 724 ante.

† 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.

‡ Calculated 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.

BREADSTUFFS AVAILABLE FOR CONSUMPTION, 1840-1879—continued.

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.†	For Food.	
	bushels.	bushels.	bushels.	bushels.	Total.	Per Head.	
1846	34,807	234,334	43,928	278,662	31,604	247,058	7.10
1847	40,635	345,546	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	410,200	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	498,700	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	517,226	1,563,113	1,957,610	3,520,723	214,185	3,306,538	6.39
1860	539,337	2,296,157	1,565,423	3,861,580	322,503	3,539,077	6.56
1861	541,012	3,459,914	1,522,517	4,982,431	393,844	4,588,587	8.48
1862	548,450	3,607,727	183,106	3,790,833	324,018	3,466,815	6.32
1863	561,322	3,008,487	191,107	3,199,594	298,784	2,900,810	5.17
1864	589,160	1,338,762	1,868,990	3,207,752	250,080	2,957,672	5.02
1865	616,375	1,899,378	1,800,932	3,700,310	357,256	3,343,054	5.42
1866	634,077	3,514,227	1,754,699	5,268,926	417,176	4,851,750	7.65
1867	649,826	4,641,205	15,190	4,656,395	433,978	4,222,417	6.50
1868	671,222	3,411,663	162,038	3,573,701	519,608	3,054,093	4.55
1869	696,942	4,229,228	719,589	4,948,817	577,028	4,371,789	6.27
1870	709,839	5,697,056	- 95,654	5,601,402	568,334	5,033,068	7.09
1871	738,725	2,870,409	,179,583	4,049,992	669,218	3,380,774	4.58
1872	760,991	4,500,795	389,963	4,890,758	653,128	4,237,630	5.57
1873	780,362	5,391,104	-138,088	5,253,016	699,952	4,553,064	5.83
1874	798,688	4,752,289	-40,714	4,711,575	665,872	4,045,703	5.06
1875	815,034	4,850,165	200,369	5,050,534	642,802	4,407,732	5.41
1876	830,679	4,978,914	258,931	5,237,845	802,834	4,435,011	5.34
1877	849,870	5,279,730	-384,118	4,895,612	1,129,128	3,766,484	4.43
1878	869,040	7,018,257	-105,968	6,012,289	1,383,244	4,629,045	5.33
1879	888,500	6,060,737	-57,384	5,103,353	1,414,376	3,688,977	4.15

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

731. 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 slightly over 4½ bushels in 1868 and 1871, and between 4 and 4½ bushels in 1843, 1877, and 1879. The figures for 1879 show a smaller average than those for any previous year.

Consumption of breadstuffs per head.

* 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.

† Calculated 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.

Average consumption of breadstuffs.

732. The quantity of breadstuffs available for annual food-consumption per head has averaged 6 bushels over the whole period of forty years. It has averaged $5\frac{1}{2}$ bushels during the last ten years, and a fraction under 5 bushels during the last five years. 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.

Consumption of breadstuffs per head in United States.

733. 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 twelve years ended with 1878, from 4.08 Winchester bushels* in 1867 to 6.09 in 1878, the mean during the period being 5.19 Winchester bushels, or about 5.03 Imperial bushels. This result is, it will be observed, somewhat less than that shown by the Victorian returns during the last ten years. It should be pointed out, moreover, 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 would be even less than that shown by the figures.

Imports and exports of breadstuffs, 1837 to 1879.

734. The imports and exports of breadstuffs during the forty-three years, 1837 to 1879, 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 11 millions sterling paid by the colony for breadstuffs imported :—

IMPORTS AND EXPORTS OF BREADSTUFFS,† 1837 TO 1879.

Wheat, Flour, Bread, and Biscuit.	Quantity.	Value.
	bushels.	£
Imported, 1837 to 1879	32,102,686	13,723,012
Exported, " "	8,071,387	2,608,561
Imports in excess of exports ...	24,031,299	11,114,451

Net imports of agricultural products.

735. 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 five years ended with 1879. All the articles named are capable of being produced, and all, or nearly all, are to a certain extent now produced in the colony. It will be observed that wheat and oatmeal are absent from the list for the past three years, and jams and preserves for the last two years, the exports of those articles having exceeded the imports.

* The Winchester bushel is smaller than the Imperial bushel by one thirty-third ($\frac{1}{33}$) 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*.

In the last three years, moreover, a decided decrease is perceptible in the net imports of hops,* chicory, and tobacco:—

NET IMPORTS† OF CERTAIN ARTICLES OF AGRICULTURAL PRODUCE, 1875 TO 1879.

Articles.	Balance of Imports over Exports in—				
	1875.	1876.	1877.	1878.	1879.
	£	£	£	£	£
Wheat	65,913	87,247	...	...	...
Oats	170,957	112,430	95,071	80,140	92,176
Oatmeal	511	261	...	...	...
Barley	24,569	35,318	25,481	48,328	87,982
Pearl barley	4,623	2,825	1,368	1,584	2,907
Malt	93,009	68,401	76,867	37,162	54,716
Maize	114,609	117,951	123,357	164,578	154,717
Maizena	1,624	4,988	7,365	2,359	3,668
Beans, pease, and split pease ...	5,528	2,266	2,456	2,057	2,191
Fruit—green, bottled, dried, currants and raisins	104,916	116,202	153,414	88,171	107,319
Jams, jellies, and preserves ...	4,799	6,450	350	...	...
Nuts, almonds, walnuts ...	6,255	7,774	6,064	4,565	5,497
Hops	42,960	64,600	43,782	41,461	20,596
Chicory	2,413	1,798	3,300	1,906	257
Pickles	9,160	12,892	4,284	1,843	6,457
Tobacco, cigars, and snuff ...	36,485	78,192	148,688	45,372	24,921
Vegetables (preserved) ...	930	1,397	...	1,409	498
Canary seed	2,117	4,970	1,857	1,228	1,008
Grass and clover seed ...	17,786	10,985	19,618	12,616	13,704
Total	709,164	736,947	713,322	534,779	578,614

736. 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, and in 1879 by £9,479. Net imports of eggs.

737. Of every thousand acres cultivated during the past season, 419 acres were placed under wheat; 99 under oats; 26 under barley; 25 under potatoes; 119 under hay; 181 under green forage; and 131 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 seven years:— Proportion of land under each crop.

* See paragraph 63 ante.

† The total imports and total exports of these articles during 1879 will be found in the table of imports and exports following paragraph 459 ante, chiefly under Order 22.

PROPORTION OF LAND UNDER EACH CROP TO TOTAL UNDER
CULTIVATION, 1874 TO 1880.

Land under—	Proportion to Total Land under Tillage.						
	1873-4.	1874-5.	1875-6.	1876-7.	1877-8.	1878-9.	1879-80.
	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.
Wheat ...	36·27	32·90	28·52	32·61	39·74	42·98	41·89
Oats ...	11·50	11·36	11·01	9·36	7·41	8·35	9·93
Barley ...	2·63	2·92	2·80	2·03	1·35	1·42	2·56
Potatoes ...	3·97	3·48	3·27	3·29	2·61	2·27	2·46
Hay ...	11·99	11·76	13·78	11·97	12·46	10·74	11·93
Green forage	22·08	25·14	27·37	29·45	27·48	24·94	18·11
Other tillage	11·56	12·44	13·25	11·29	8·95	9·30	13·12
Total ...	100·00	100·00	100·00	100·00	100·00	100·00	100·00

Minor crops.

738. 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 the collectors are not called upon to visit. 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. The acreage under and produce of chicory, maize, mustard, pease and beans, and raspberries, and the produce of hops and onions, were much greater in the last than in any other year shown:—

MINOR CROPS,* 1875 TO 1880.

Nature of Crop.		1874-5.	1875-6.	1876-7.	1877-8.	1878-9.	1879-80.
Arrowroot ...	acres ...	...	...	...	...	4	3
	tons (root)	...	...	...	...	3	17
	cwt., manfd.	...	...	...	...	7	10
Beet, carrots, parsnips, and cabbage	acres ...	721	807	571	470	402	374
	tons ...	3,887	4,268	3,430	2,272	1,272	2,504
Broom millet...	acres ...	56	96	8	7	6	...
	fibre, cwt.	264	338	8	...	...	...
	seed, bush.	1,000	2,095	...	...	...	...
Buckwheat ...	acres ...	5	2	...	2	...	1
	bushels ...	20	40	...	11	...	12
Canary ...	acres ...	...	50	30	82	4	1
	bushels ...	...	300	183	825	150	2
Chicory ...	acres ...	109	174	225	256	155	392
	tons ...	531	652	980	1,333	653	1,764
„ for seed	acres ...	...	3	...	...	...	...
	lbs. ...	...	168	...	...	...	...

* Exclusive of those grown in gardens.

MINOR CROPS,* 1875 TO 1880—continued.

Nature of Crop.		1874-5.	1875-6.	1876-7.	1877-8.	1878-9.	1879-80.
Clover for seed	acres ...	...	45	...	...	...	...
	bushels ...	...	614	...	...	...	...
Cucumbers ...	acres ...	...	...	1	...	...	...
	tons ...	...	...	12	...	...	...
Flax ...	acres ...	7	17	3	33	4	5
	fibre, cwt.	48	93	2½	40	...	12
	linseed, bsh.	63	80	52	125	...	30
Garden seeds—							
Carrot ...	acres ...	1	...	...	...	...	...
	lbs. ...	560	...	...	...	...	...
Mixed ...	acres ...	...	...	50	16	...	112
Radish ...	acres ...	...	...	1	...	4	5
	lbs. ...	...	...	560	...	672	2,240
Grass seeds ...	acres ...	3,082	2,189	1,993†	1,846	2,824	2,237
	bushels ...	35,998	33,580	29,229	28,840	34,432	32,031
Green pease ...	acres ...	...	...	11	...	37	...
	tons ...	...	...	18	...	50	...
Hops ...	acres ...	126	145	225	274	203	267
	lbs. ...	99,624	113,344	129,136	218,848	130,816	284,480
Kohl-rabi ...	acres ...	...	1	...	...	...	...
	cwt. ...	...	300	...	...	...	...
Lucerne for seed ...	acres ...	...	6	...	...	3	7
	bushels ...	...	42	...	...	16	50
Maize ...	acres ...	1,523	2,346	1,609	1,215	1,939	2,447
	bushels ...	24,263	37,177	25,909	22,050	40,754	61,887
Mangel-wurzel ...	acres ...	1,281	1,223	1,285	1,320	888	1,027
	tons ...	17,899	16,795	15,386	15,465	8,275	14,897
Medicinal herbs ...	acres ...	...	...	1	...	...	...
	tons ...	...	...	5	...	...	...
Mulberry trees ...	acres ...	1	23	11†	21	18	4
	number ...	6,500	30,650	11,010	14,310	12,460	...
Mustard ...	acres ...	31	40	74	58	39	92
	cwt. ...	100	166	185	167	121	447
Olives ...	acres ...	...	10	10	10	20	10
Onions ...	acres ...	347	552	720	816	1,069	1,040
	tons ...	2,794	4,780	3,579	3,055	3,600	7,347
Opium poppies ...	acres ...	10	4	4	3	3	5
	lbs. of opium	168	100	60	...	...	80
Oranges ...	heads ...	...	...	...	...	60,000	...
	acres ...	...	...	...	...	6	2
Osiers ...	cases ...	...	...	...	...	...	30
Pease and beans ...	acres ...	4	3	5	...	...	...
	bushels ...	16,170	18,854	21,235	17,286	15,153	21,462
Pumpkins, melons, &c.	bushels ...	317,382	450,948	373,857	241,007	248,436	574,954
	acres ...	46	55	19	46	205	99
Rape for seed ...	tons ...	250	67	77	159	1,190	484
	acres ...	7	34	10	...	2	41
Raspberries ...	bushels ...	30	...	20	...	25	...
	acres ...	...	3	10	17	45	94
Rhubarb ...	cwt. ...	...	60	51	224	476	1,299
	acres ...	...	...	...	3	3	...
Rye and bere ...	tons ...	...	...	...	10	10	...
	acres ...	1,096	1,292	1,153	1,075	1,779	1,236
Sheep's parsley ...	bushels ...	15,620	19,356	15,277	9,852	20,816	18,407
	acres ...	...	...	2	...	3	...
	lbs. ...	...	...	1,500	...	1,000	...

* 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.

MINOR CROPS,* 1875 TO 1880—continued.

Nature of Crop.			1874-5.	1875-6.	1876-7.	1877-8.	1878-9.	1879-80.
Strawberries	acres	...	21	24	21	19	24	19
	cwt.	...	210	215	273	208	323	209
Sunflowers for seed	acres	...	...	...	...	...	...	2
	bushels	...	...	...	...	...	...	40
Teazles	acres	...	1	11	3	...	...	1
	number	...	121,000	1,079,000	19,000	...	...	8,000
Tobacco	acres	...	733	782	1,479	2,327	1,936	531
	cwt.	...	6,839	† 501	14,413	15,827	15,662	† 1,297
Tomatoes	acres	...	...	...	...	5	3	...
	cwt.	...	...	...	...	721	220	...
Turnips	acres	...	241	284	224	315	310	192
	tons	...	1,901	2,668	1,769	2,346	1,349	2,054
Vegetable marrows	acres	...	...	...	2	...	...	...
	tons	...	...	...	55	...	...	...
Vetches and tares for seed	acres	...	3	26	8	...	...	3
	bushels	...	28	492	47	...	...	62
Vines	acres	...	4,937	5,081	4,765	4,419	4,434	4,284
	wine, galls.	...	577,493	755,000	481,588	457,535	410,333	574,143
	brandy, „	...	148	256	3,725	840	1,561	3,284

Vines.

739. Although in 1879-80 the acreage under vines was less than in any of the other years mentioned, the wine produced was in excess of that in three of those years and was about equal to that in a fourth. 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.

Gardens and orchards.

740. The following table shows the land under gardens and orchards in 1879 and 1880. No return is made of the nature of the crops grown or the quantity of produce raised. There was an increase during the year in the area under gardens, but a decrease in that under orchards, resulting in a net decrease of 101 acres:—

LAND UNDER GARDENS AND ORCHARDS, 1879 AND 1880.

Year ended 31st March.				Gardens.	Orchards.	Total.
				acres.	acres.	acres.
1879	...	...	...	12,131	8,269	20,400
1880	...	...	...	12,842	7,457	20,299
	Increase	...	...	711	...	...
	Decrease	...	...	...	812	101

* Exclusive of those grown in gardens.

† The tobacco crop 1875-6 and 1879-80 failed in most of the districts.

741. Land in fallow is included in the area under tillage. The number of acres in this condition in 1880 was 165,154, or 67,485 more than in the previous year. Land in fallow.

742. The following table shows the number of holdings of various sizes, and the extent of occupied and cultivated land embraced therein, according to the returns of the present year. It must be borne in mind that all the land alienated from the Crown is not included, but only that embraced in holdings above a certain minimum size, and showing sufficient evidence of occupation for agricultural or pastoral purposes to cause it to come under the notice of the collectors of agricultural statistics* :— Classification of holdings as to size.

CLASSIFICATION OF HOLDINGS AS TO SIZE, 1879-80.

Size of Holdings.				Number of Holdings.	Extent of Sold or Selected Land in Occupation.†	Extent of Land under Tillage.
					acres.	acres.
1 acre to 4 acres	...	...	...	1,899	5,344	2,960
5 acres	14	"	...	3,617	31,806	13,466
15 "	29	"	...	3,847	79,321	22,628
30 "	49	"	...	3,205	122,658	31,783
50 "	99	"	...	5,895	422,070	86,601
100 "	199	"	...	8,803	1,250,318	219,560
200 "	320	"	...	14,415	4,113,255	633,153
321 "	400	"	...	1,543	557,244	89,288
401 "	500	"	...	1,319	595,242	94,105
501 "	600	"	...	845	466,818	67,223
601 "	700	"	...	1,095	705,304	102,467
701 "	800	"	...	356	267,925	31,395
801 "	900	"	...	280	238,951	28,521
901 "	1,000	"	...	335	319,894	38,324
1,001 "	1,500	"	...	586	730,158	66,555
1,501 "	2,000	"	...	255	438,524	30,991
2,001 "	3,000	"	...	194	475,588	25,949
3,001 "	4,000	"	...	87	307,911	15,840
4,001 "	5,000	"	...	67	302,692	9,013
5,001 "	7,500	"	...	69	421,789	12,534
7,501 "	10,000	"	...	58	507,371	6,628
10,001 "	15,000	"	...	71	868,553	10,231
15,001 "	20,000	"	...	44	773,190	11,877
20,001 "	30,000	"	...	55	1,365,221	19,638
30,001 "	40,000	"	...	19	689,519	12,186
40,001 "	and upwards	"	...	10	564,234	4,418
Crown Lands cultivated	...	...	...	...	...	941
Total				48,969	16,620,900	1,688,275

743. Under the present Land Act the maximum extent allowed to be selected by one individual is 320 acres. It appears, therefore, that the policy of the State of late years has been to discourage the enlargement of estates beyond this limit. It will be interesting to discover what Estates under and over 320 acres.

* See also paragraphs 711 and 712 ante.

† Embracing about 86½ per cent. of the total area sold or selected. See table following paragraph 695 ante.

proportion of the total number of holdings, the total quantity of occupied land, and the total quantity of cultivated land, is on blocks which do and do not exceed it. This may be done by analysing the above table, whereby it will be found that—

- (a.) Out of every 100 holders, 15, on the average, occupied lots exceeding, and 85 not exceeding, 320 acres in extent.
- (b.) Out of every 100 acres in occupation, 64, on the average, formed portion of lots exceeding, and 36 of lots not exceeding, 320 acres in extent.
- (c.) Out of every 100 acres cultivated, 40, on the average, were on lots exceeding, and 60 on lots not exceeding, 320 acres in extent.
- (d.) Whilst holders of upwards of 320 acres cultivated, on the average, only 6 per cent. of their holdings, holders of 320 acres and under cultivated, on the average, 17 per cent. of theirs.

Holdings of
from 100 to
320 acres.

744. It may further be ascertained from the same table that 47 per cent. of the holdings, 32 per cent. of the occupied land, and 51 per cent. of the cultivated land, are on lots from 100 to 320 acres ; also that, whilst holders of less than 100 acres cultivated, on the average, very nearly 25 per cent. of their holdings, holders of from 100 to 320 acres cultivated, on the average, only 15 per cent. of theirs. It has been already stated that holders of upwards of 320 acres cultivated no more, on the average, than 6 per cent. of their holdings.*

Average
size of
holdings.

745. The following is the average size of holdings in the year under review, and at the beginning of the two previous quinquennial periods. A steady increase will be observed :—

AVERAGE SIZE OF HOLDINGS.†

1869-70	...	...	...	...	293 acres
1874-5	...	...	...	...	319 „
1879-80	...	...	...	...	339 „

Area occu-
pied per
head of
population.

746. The average area in occupation to each person in the colony has been steadily increasing since the first period, as will be seen by the following figures :—

AVERAGE AREA IN OCCUPATION† TO EACH PERSON IN THE COLONY.

1869-70	...	...	...	...	12.4 acres
1874-5	...	...	...	...	15.1 „
1879-80	...	...	...	...	18.5 „

* The cultivation on holdings of this size is generally confined to laying the land down in permanent artificial grass.

† Including alienated land or land in process of alienation only.

747. The average extent of land cultivated by each holder was smaller at the middle, but much larger at the last, period than at either of the other periods, as the following figures show :—

Area cultivated to each holder.

AVERAGE AREA CULTIVATED BY EACH HOLDER.

1869-70	...	...	...	...	27.4 acres
1874-5	...	...	...	...	26.3 "
1879-80	...	...	...	...	34.5 "

748. The area in cultivation was a little over one acre per head of the population at the first period, but nearly two acres per head at the third period. The exact amounts were as follow :—

Area cultivated per head of population.

AVERAGE AREA CULTIVATED TO EACH PERSON IN THE COLONY.

1869-70	...	...	...	...	1.16 acres
1874-5	...	...	...	...	1.25 "
1879-80	...	...	...	...	1.87 "

749. It will be noticed that a much larger proportion of the occupied land was in cultivation at the last than at either of the other periods :—

Occupied land cultivated.

PROPORTION OF OCCUPIED* LAND CULTIVATED.

1869-70	...	...	...	9.35 per cent.
1874-5	...	...	...	8.25 "
1879-80	...	...	...	10.16 "

750. The average duration of leases of farms from private persons was returned by the collectors of statistics as averaging from 3 to 7 years; the extreme figures being 1 and 12 years. The average rental of agricultural land per acre was stated to be from 6s. 6d. to 14s.; the extreme figures being 3s. and 80s. The average rental of pastoral land was said to be from 2s. 6d. to 6s. 6d.; the extreme figures being 1s. 3d. and 10s. 6d.

Leases and rental of farms.

751. Each collector furnishes a statement of the price of the principal articles of agricultural produce in his district at the time he makes his rounds. The following is an average deduced from the returns of all the districts during each of the last eleven years :—

Prices of agricultural produce.

PRICES OF AGRICULTURAL PRODUCE,† 1870 TO 1880.

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. d.
1870	...	...	4 3	3 7	4 0	75 0	77 0
1871	...	...	5 4	3 9	4 11	70 0	76 0
1872	...	...	4 8	2 11½	3 6¼	65 6	64 0
1873	...	...	4 9	3 5	4 1	67 4	81 0
1874	...	...	5 9	5 6	5 3	118 3	88 0
1875	...	...	4 5	4 3	4 6	89 0	89 0
1876	...	...	4 7	3 3	3 10	87 0	82 0
1877	...	...	5 10	3 7	3 10	114 0	93 0
1878	...	...	5 1	4 6	4 4	115 0	86 9
1879	...	...	4 2	3 6	4 1	92 4	75 0
1880	...	...	4 0½	2 3½	4 8	69 11	63 0

* Including alienated land or land in process of alienation only.
 † See also table following paragraph 578 ante.

Years of
highest and
lowest
prices.

752. 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 that the price of barley and potatoes was lowest in 1874, but the price of every other item given was lowest in the year under review.

Price of
wheat in
London.

753. The following statement of the average price of wheat in London per Imperial quarter during each month of the ten years ended with 1879 has been taken from *Boothby's South Australian Directory* * :—

AVERAGE PRICE PER QUARTER OF WHEAT IN LONDON.

Month.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.
	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.
January ...	44	53	56	56	63	44	45	55	51	40
February ...	41	53	56	56	63	43	43	54	51	39
March ...	41	54	54	56	60	41	43	53	49	40
April ...	43	57	54	55	60	43	45	58	52	41
May ...	45	59	56	56	62	42	45	64	51	41
June ...	47	60	59	59	61	42	47	65	47	40
July ...	51	59	59	60	61	45	48	66	45	48
August ...	54	58	60	61	58	53	46	63	45	49
September ...	47	57	59	64	49	48	46	62	43	50
October ...	47	57	59	64	45	47	46	58	39	52
November ...	50	56	57	64	44	47	46	59	39	52
December ...	52	56	57	64	44	46	46	56	40	52
Means ...	46/10	56/7	57/2	59/7	55/10	45/7	45/6	59/5	46	45/4

Value of
agricultural
produce.

754. Subjoined is an estimate of the value of the crops raised during the year ended 31st March 1880. It will be seen the total amount was not far short of six millions sterling :—

VALUE OF AGRICULTURAL PRODUCE, 1879-80.

Name of Crop.	Gross Produce and Price.			Estimated Value.		
		£	s. d.	£	s. d.	
Wheat ...	9,398,858 bushels	@	0 4 0½	1,899,352	11 1	
Oats ...	4,023,271 "	@	0 2 3½	460,999	16 0	
Barley ...	1,065,430 "	@	0 4 8	248,600	6 8	
Other cereals ...	655,248 "	@	0 4 6	147,430	16 0	
Potatoes ...	167,943 tons	@	3 9 11	587,100	14 9	
Other root crops ...	26,802 "	@	5 0 0	134,010	0 0	
Hay ...	292,407 "	@	3 3 0	921,082	1 0	
Green forage ...	305,790 acres	@	3 0 0	917,370	0 0	
Tobacco ...	1,297 cwt.	@	2 16 0	3,631	12 0	
Grapes, not made into wine ...	16,270 "	@	1 0 0	16,270	0 0	
Wine ...	574,143 gallons	@	0 4 0	114,828	12 0	
Brandy ...	3,284 "	@	0 10 0	1,642	0 0	
Other crops ...	3,403 acres	@	5 0 0	17,015	0 0	
Garden and orchard produce	20,299 "	@	20 0 0	405,980	0 0	
	Total ...		...	5,875,313	9 6	

* *South Australian Directory* 1880, page 441, Williams, Adelaide.

755. 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. for barley. The actual weight, however, differs in different districts. Thus, wheat, during the past year, ranged from 58 lbs. to 67 lbs.; oats, from 35 lbs. to 45 lbs.; barley, from 41 lbs. to 56 lbs.; and maize, from 45 lbs. to 61 lbs. The average weight per bushel of these crops in all the districts during the past two years was as follows:—

SPECIFIC WEIGHT OF CROPS, 1879 AND 1880.

Average Weight per Bushel of—				1878-9.	1879-80.
				lbs.	lbs.
Wheat	...	...	...	60	62
Oats	...	...	...	40	41
Barley	...	...	...	50	51
Maize	...	...	...	56	55

756. An increase took place in the number of both males and females engaged on agricultural and pastoral holdings in 1879-80 as compared with the number returned in the previous year. The following, including the proprietor or manager, were the numbers employed during the past two years:—

HANDS EMPLOYED ON AGRICULTURAL AND PASTORAL HOLDINGS, 1879 AND 1880.

Year ended 31st March.				Males.	Females.	Total.
1879	...	...	...	71,954	31,566	103,520
1880	...	...	...	72,084	34,698	106,782
Increase ...				130	3,132	3,262

757. A return of the average rates of labor on farms in the last two years is given below. It will be observed that the rates generally were lower in 1879-80 than in the previous year. Rations are allowed in all cases in addition to the wages quoted:—

RATES OF AGRICULTURAL LABOR,* 1879 AND 1880.

Description of Labor.				1878-9.		1879-80.	
				s.	d.	s.	d.
Ploughmen,	per week	...	...	20	10	19	7
Farm laborers,	"	...	...	17	6	16	10
Married couples,	"	...	...	25	10	25	8
Females,	"	...	...	10	3	10	1
Mowers,	"	...	...	28	6	28	0
"	per acre	...	...	5	5	5	9
Reapers,	per week	...	...	29	4	28	9
"	per acre	...	...	10	4	11	5
Threshers,	per bushel	...	...	0	6	0	6

* See also table following paragraph 577 ante.

Rates of
pastoral
labor.

758. The average rates returned as paid for pastoral labor will be found in the next table. These are in addition to rations, which are in every case supplied. It will be observed that according to the figures there was a decrease in 1879-80 as compared with the previous year in the rates paid to stockmen, hutkeepers, station laborers, and sheepwashers, but an increase in those for other descriptions of labor:—

RATES OF PASTORAL LABOR,* 1879 AND 1880.

Description of Labor.	1878-9.			1879-80.		
	£	s.	d.	£	s.	d.
Stockmen, per annum	47	5	0	47	1	0
Boundary riders, „	40	9	0	41	3	0
Shepherds, „	34	1	0	34	18	0
Hutkeepers, „	28	3	0	26	0	0
Married couples, „	61	2	0	62	2	0
Females, „	27	16	0	29	3	0
Station laborers, per week	0	17	8	0	16	7
Sheepwashers, „	1	1	2	1	0	4
Shearers, per 100 sheep shorn	0	14	1	0	14	6

Live stock.

759. The numbers of live stock were returned as follow for the last two years. An increase will be observed in the number of horses, but a considerable falling-off in the numbers of cattle, sheep, and pigs. The live stock both on farms and stations is now returned by the collectors of agricultural statistics, who are instructed to supplement the information they obtain at the holdings they visit with estimates of the stock running on commons, of that kept by persons having allotments of less than an acre in extent, of that stalled and stabled in towns and villages, and of that belonging to road carters traversing their districts. For some of the larger towns the collectors have been unable to furnish estimates, and for these the census figures have been taken. Every endeavor is made to give as true a statement as possible of the numbers of all the stock in the colony; but it is necessary to point out that portion of the information is derived from estimates which can only be verified at a general census:—

LIVE STOCK, 1879 AND 1880.

Year ended 31st March.	Horses.	Cattle.			Sheep.	Pigs.
		Milch Cows.	Exclusive of Milch Cows.	Total.		
1879	210,105	290,407	894,436	1,184,843	9,379,276	177,373
1880	216,710	278,360	850,998	1,129,358	8,651,775	144,733
Increase	6,605	...	...	...	...	...
Decrease ... ..	...	12,047	43,438	55,485	727,501	32,640

* See also table following paragraph 577 ante.

760. The returns for 1879-80 show a larger number of horses than in any previous year; but the cattle were exceeded in two years, viz., 1878-9 and 1877-8. The largest number of sheep ever returned was in 1875-6; since then there has been a falling-off, and the number in the year under review was smaller than in any year since 1863-4. The number of pigs fluctuates considerably from year to year.*

Live stock in 1880 and previous years.

761. 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 British and Foreign countries.

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

Country.	Year.	Number of—			
		Horses.	Cattle.	Sheep.	Pigs.
United Kingdom ...	1878	2,328	5,738	28,406	2,483
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 ...	1876	2,852	11,351	23,902	5,801
Holland ...	1876	268	1,439	891	352
Italy ...	1874	658†	3,489	6,977	1,575
Norway ...	1875	152	1,017	1,687	101
Russia ...	1870	16,160	22,770	48,132	9,800
Sweden ...	1877	459	2,163	1,534	426
United States ...	1878	10,939	33,234	38,124	34,766

762. The live stock slaughtered in Victoria during 1879, and the purposes to which the carcasses were appropriated, were returned as follow by the local bodies. It is probable that the returns do not in every case include the animals slaughtered by private persons and on farms and stations, and, therefore, that more were really slaughtered than the figures show :—

Live stock slaughtered.

LIVE STOCK SLAUGHTERED, 1879.

Description of Live Stock.	Numbers Slaughtered for—			
	The Butcher and Private Use.	Preserving or Salting.	Boiling Down for Tallow.	Total Number Slaughtered.
Sheep and lambs ...	1,600,197	72,974	32,951	1,706,122
Cattle and calves ...	192,258	428	...	192,686
Pigs ...	50,338	23,147	...	73,485
Total ...	1,842,793	96,549	32,951	1,972,293

* Figures showing the numbers of live stock in each year from the first settlement of the colony will be found in the Statistical Summary of Victoria (first folding sheet) *ante*.

† In the year 1876.

763. The following are the numbers of stock returned as slaughtered in each year of the quinquennial period ended with 1879. A falling-off will be observed in the number of sheep slaughtered in the last two years :—

LIVE STOCK SLAUGHTERED, 1875 TO 1879.

Year.			Sheep and Lambs.	Cattle and Calves.	Pigs.	Total.
1875	...	...	1,862,596	149,190	61,516	2,073,302
1876	...	...	2,178,209	201,163	70,373	2,449,745
1877	...	...	2,179,736	158,455	66,389	2,404,580
1878	...	...	1,873,744	185,030	99,082	2,157,856
1879	...	...	1,706,122	192,686	73,485	1,972,293

Value of
pastoral
produce.

764. The following is an estimate of the gross value of pastoral produce raised on holdings of all descriptions in 1879-80 :—

GROSS VALUE OF PASTORAL PRODUCE, 1879-80.

Nature of Produce.	Value.
Milk, butter, and cheese, from average number of milch cows kept, viz., 278,360, @ £8 10s.	£ 2,366,060
Estimated value of stock produced in 1879 :—	
Cattle, 87,418, @ £8	699,344
Sheep, 395,680, @ 10s.	197,840
Pigs, 42,057, @ £2 10s.	105,142
Horses, 10,836, @ £8	86,688
Excess of exports over imports of wool, Customs value	2,775,061
Estimated value of wool used in the colony for manufacturing purposes, 1,944,406 lbs., @ 1s. 6d.	145,830
Total	6,375,965

NOTE.—The numbers of horses, cattle, sheep, and pigs produced in any year are obtained by adding to (or deducting from) the estimated numbers of live stock slaughtered the increase (or decrease) appearing in the returns of that year as compared with the previous one, and then deducting (or adding) the excess in the numbers imported over those exported (or *vice versa*). In 1879 the estimated numbers of stock slaughtered were 200,000 cattle, 1,800,000 sheep, 80,000 pigs; the decrease in the numbers of cattle was 55,485, sheep 727,501, and pigs 32,640 (*see* paragraph 759 *ante*); and the excess of imports over exports, according to the Customs returns, was—cattle 56,097, sheep 676,819, pigs 5,303. The produce of horse stock has been arbitrarily estimated at 5 per cent. upon the total number of horses in the colony. 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.

Machinery
and im-
provements
on farms
and sta-
tions.

765. The returns show a large increase in the year under review, as compared with the previous one, in the use of steam machinery on farms and stations; also an increase in the value of improvements made, and of machines and implements used. The improvements to which reference is made are buildings of all descriptions, fencing, dips, wells, dams, &c., but the cost of clearing or cropping land is not given. The following are the figures :—

STEAM ENGINES, AND VALUE OF IMPLEMENTS AND MACHINES AND OF IMPROVEMENTS, ON FARMS AND STATIONS, 1879 AND 1880.

Year ended 31st March.	Steam Engines.		Value of Implements and Machines.	Value of Improvements.
	Number.	Horse-power.		
1879	385	2,994	£ 2,025,916	£ 16,845,527
1880	467	3,537	2,067,695	17,448,358
Increase	82	543	41,779	602,831

766. 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, 1879 AND 1880.

Average Rates Paid for—	1878-9.	1879-80.
	£ s. d.	£ s. d.
Machine reaping, per acre	0 4 10	0 5 9
„ mowing, „	0 4 8	0 4 11
„ threshing, per 100 bushels... ..	1 4 4	1 1 3

767. The flour mills were fewer by 10 in 1879-80 than in the previous year. An increase took place in the number of hands employed, the quantity of grain operated upon and flour made, notwithstanding there was a falling-off in the amount of horse-power and number of stones used. The figures show an increase in the value of plant, but a decrease in that of lands and buildings :—

FLOUR MILLS, 1879 AND 1880.

Year ended 31st March.	Number of Mills.	Mills employing—		Amount of Horse-power.	Number of Pairs of Stones.	Number of Hands employed.
		Steam-power.	Water-power.			
1879	149	144	5	2,789	454	708
1880	139	134	5	2,571	439	770
Increase	...	...	...	...	...	62
Decrease	10	10	...	218	15	...

Year ended 31st March.	Bushels of Grain operated upon.		Tons of Flour made.	Approximate Total Value of—		
	Wheat.	Other.		Machinery and Plant.	Lands.*	Buildings.
1879	5,665,791	267,603	124,815	£ 207,630	£ 55,680	£ 176,760
1880	5,874,292	441,581	131,301	220,939	50,207	168,450
Increase	208,501	173,978	6,486	13,309	...	...
Decrease	...	...	...	...	5,473	8,310

* Three of the mills in 1879 and 1880 were upon Crown lands. In these cases no estimate of the value of the land is given.

Breweries.

768. A decrease of 13 took place in the number of breweries, also a falling-off in most of the items relating thereto. The quantity of beer made was less by over one and a half million gallons in the year under notice than in the previous one. The following are the results for the two years :—

BREWERIES, 1879 AND 1880.

Year ended 31st March.	Number of Breweries.	Materials used.			Number of Hands employed.
		Sugar.	Malt.	Hops.	
		lbs.	bushels.	lbs.	
1879	102	10,810,050	624,867	1,110,481	897
1880	89	10,979,472	546,251	862,038	885
Increase ... ..	...	169,422	...	...	...
Decrease	13	...	78,616	248,443	12

Year ended 31st March.	Gallons of Beer made.	Approximate Total Value of—		
		Machinery and Plant.	Lands.*	Buildings.
		£	£	£
1879	15,370,745	160,941	78,880	223,927
1880	13,769,990	160,215	80,230	223,930
Increase ... ..	...	...	1,350	3
Decrease	1,600,755	726	...	...

Gallons of
beer per
head.

769. The beer made in Victoria during 1878-9 amounted to nearly fifteen and a third million gallons, or an average of $17\frac{3}{5}$ gallons to each inhabitant. That made in 1879-80 amounted to over thirteen and three-quarter million gallons, or an average of $15\frac{1}{2}$ gallons to each inhabitant.

Brickyards
and
potteries.

770. A falling-off of 28 took place in the number of brickyards and potteries in 1879-80 as compared with 1878-9, of 115 in the hands employed, and $3\frac{3}{4}$ million in the number of bricks made; whilst on the other hand there was a slight increase in the power of the steam engines employed, also an increase in the value of pottery made, and in that of the machinery, plant, and buildings. The value of articles manufactured amounted to £136,979 in 1879-80, as against £140,543 in 1878-9. The following are the returns for the two years :—

BRICKYARDS AND POTTERIES, 1879 AND 1880.

Year ended 31st March.	Number of Brick- yards and Potteries.	Number of Machines in use.		Brickyards, &c., 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.		
1879	198	144	70	12	95	91	243	922
1880	170	123	83	14	76	80	265	807
Increase ... ..	...	...	13	2	...	...	22	...
Decrease	28	21	...	...	19	11	...	115

* Four of the breweries in 1879 and 1880 were upon Crown lands. In these cases no estimate of the value of the land is given.

BRICKYARDS AND POTTERIES, 1879 AND 1880—continued.

Year ended 31st March.	Number of Bricks made.	Approximate Total Value of—				
		Bricks made.	Pottery made.	Machinery and Plant.	Lands.*	Buildings.
1879	58,662,000	£ 115,133	£ 25,410	£ 59,486	£ 56,342	£ 47,575
1880	54,922,000	105,409	31,570	74,079	49,692	49,158
Increase ... ..	...	...	6,160	14,593	...	1,583
Decrease	3,740,000	9,724	...	...	6,650	...

771. Although a decrease of 7 took place between 1879 and 1880 in the number of tanneries and fellmongeries, &c., the amount of horse-power used and the hands employed slightly increased. The number of hides and skins operated on, however, fell off by over 600,000, and the value of the machinery, plant, lands, and buildings by £26,780. The quantity of wool washed in 1879–80 amounted to over 15 million lbs., and the value of articles produced to nearly £740,000. These two items were not returned for 1878–9. The results of the two years are thus summarized:—

Tanneries,
fellmon-
geries, &c.

TANNERIES, FELLMONGERIES, AND WOOL-WASHING ESTABLISHMENTS,
1879 AND 1880.

Year ended 31st March.	Number of Establish- ments.	Establishments employing—			Amount of Horse-power of Steam Engines.	Number of Hands employed.
		Steam- power.	Horse- power.	Manual Labor only.		
1879	129	45	27	57	430	1,683
1880	122	39	25	58	467	1,777
Increase ... ..	...	...	...	1	37	94
Decrease	7	6	2	...	...	...

Year ended 31st March.	Number of Pits.	Number of Hides and Skins operated on.	Approximate Total Value of—		
			Machinery and Plant.	Lands.†	Buildings.
1879	2,930	2,481,749	£ 84,520	£ 38,572	£ 149,340
1880	2,828	1,875,610	80,785	35,920	128,953
Decrease	102	606,139	3,735	2,652	20,387

* Thirty of the brickyards in 1879, and 29 in 1880, were upon Crown lands. In these cases no estimate of the value of the land is given.

† Eleven of the establishments in 1879, and 6 in 1880, were upon Crown lands. In these cases no estimate of the value of the land is given.

Woollen
mills.

772. One woollen mill more was returned in 1880 than in 1879, but a decrease appears in the power of steam engines and in the number of males employed; and although the quantity of wool used in 1879-80 was greater by over 200,000 lbs., the value of goods manufactured was less by over £15,000 than in the previous year. The value of lands, buildings, machinery, and plant, however, increased by £7,638. The following are the figures for the two years:—

WOOLLEN MILLS, 1879 AND 1880.

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.	Felt.	Blan- kets.	Shawls.
			lbs.	yards.	yards.	pairs.	number.
1879 ...	9	690	1,730,118	1,070,789	21,600	3,094	378
1880 ...	10	596	1,944,406	1,105,116	...	1,838	62
Increase ...	1	...	214,288	34,327	...	...	...
Decrease ...	...	94	...	...	...	1,256	316

Year ended 31st March.	Hands employed.		Approximate Total Value of—			
	Males.	Females.	Goods Manufactured	Machinery and Plant.	Lands.	Buildings:
			£	£	£	£
1879 ...	521	296	188,502	139,912	5,904	64,868
1880 ...	507	307	173,239	143,703	6,942	67,677
Increase ...	...	11	...	3,791	1,038	2,809
Decrease ...	14	...	15,263	...	...	...

Other manu-
factories,
works, &c.

773. The manufactories and works, exclusive of those of which mention has been already made—viz., flour mills, breweries, brickyards, potteries, tanneries, fellmongeries, wool-washing establishments, and woollen mills—decreased from 1,756 in 1879 to 1,709 in 1880; and although an increase of 52 occurred in the males employed, and of over £34,000 in the value of buildings, a decrease appears to have taken place in most of the other items. Most of the establishments are of an extensive character, and about 40 per cent. of them, both in 1879 and 1880, used steam-power. The following is a comparison of the results of the two years:—

* All these mills are worked by steam-power.

MANUFACTORIES, WORKS, ETC., 1879 AND 1880.

(Exclusive of Flour Mills, Breweries, Brickyards, Potteries, Tanneries, Fellmongeries, Wool-washing Establishments, and Woollen Mills.)

Year ended 31st March.	Number of Manufactories, Works, &c.	Manufactories, &c., employing—					Amount of Horse-power employed.
		Steam.	Water.	Gas.	Horse-power.	Manual Labor.	
1879 ...	1,756	698	5	24	31	998	8,912
1880 ...	1,709	680	6	29	14	980	8,778
Increase ...	...	...	.1	5	...	...	...
Decrease ...	47	18	...	...	17	18	134

Year ended 31st March.	Number of Hands employed.		Approximate Total Value of—		
	Males.	Females.	Machinery and Plant.	Lands.*	Buildings.
1879 ...	22,801	5,450	£ 2,249,843	£ 1,087,189	£ 1,911,267
1880 ...	22,853	5,341	2,156,759	1,068,634	1,945,472
Increase ...	52	...	...	...	34,205
Decrease ...	...	109	93,084	18,555	...

NOTE.—It was formerly customary, wrongly as I conceive, to include certain waterworks in the returns of manufactories. They are now excluded from all the manufactory tables. A general table of waterworks will be found following paragraph 777 post.

774. By summarizing the returns of manufactories and works of all descriptions, including not only such as are embraced in the foregoing table, but those excluded therefrom—viz., flour mills, breweries, potteries, tanneries, fellmongeries, &c., and woollen mills—it is found that the total number of establishments was less by 104 in 1880 than in the previous year, and that a decrease occurred in all the other items. The number of establishments using steam fell off by 31, and the amount of horse-power by 387, the hands employed by 31, and the capital invested in lands, buildings, machinery, and plant by £86,891. The following are the figures relating to the two years :—

Manufactories of all descriptions.

MANUFACTORIES, WORKS, ETC., 1879 AND 1880.

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

Year ended 31st March.	Total Number of Establishments.	Number of Establishments using Steam.	Horse-power of Engines.†	Number of Hands employed.	Approximate Value of Lands, Buildings, Machinery, and Plant.‡
1879 ...	2,343	908	13,064	33,278	£ 6,798,636
1880 ...	2,239	877	12,677	33,247	6,711,745
Decrease...	104	31	387	31	86,891

* One hundred and eighty-four of the manufactories in 1879, and 162 in 1880, were upon Crown lands. In these cases no estimate of the value of the land is given.

† It is possible that the numbers in this column may include the power of a few water and wind machines used in manufacturing, in addition to the power of steam engines.

‡ 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 232 in 1879, and 204 in 1880.

Names of
manufac-
tories.

775. The manufacturing establishments of all kinds respecting which returns are obtained are named in the following table, and their numbers are given for the year under review, and for the first year of each of the two previous quinquennials; also the number of hands employed, and the approximate value of plant, lands, and buildings, during the year under review. 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 four years:—

	1877.	1878.	1879.	1880.		1877.	1878.	1879.	1880.
Printing establishments ..	6	5	..	5	Boot manufactories ..	11	14	16	25
Pianoforte manufactory ..	..	..	1	..	Clothing factories ..	5	2	7	12
Wax model manufactory ..	1	..	..	..	Hat, cap—manufactories ..	12	6	6	4
Wax flower manufactory ..	1	..	..	..	Umbrella manufactories ..	..	1	3	..
Picture-frame manufactories..	2	1	1	..	Wig manufactories ..	..	3	..	..
Turnery and carving works ..	2	..	4	3	Rope works ..	..	1	..	..
Die sinker ..	..	..	..	1	Cheese factories ..	..	..	2	1
Philosophical instrument	1	..	..	..	Meat-curing establishment	..	..	1	..
manufactory	..	..	..	..	Biscuit manufactories ..	8	7	4	29
Medical galvanic apparatus	1	..	..	..	Confectionery works ..	1	..	..	1
manufactory	..	..	..	..	Gingerbeer manufactories	..	1	2	2
Surgical instrument manufac-	1	..	..	..	Sauce manufactory ..	..	..	1	..
tory	..	..	..	..	Vinegar works ..	..	..	1	..
Gunsmith ..	..	..	..	1	Coffee works ..	..	1	..	..
Agricultural implement manu-	4	1	..	5	Fancy leather manufactory	..	1	..	..
factories	..	..	..	..	Glue manufactory ..	1	..	..	..
Bellows manufactory, ..	1	..	..	..	Candle manufactory ..	..	..	..	1
Cutlery works ..	1	..	1	1	Soap works ..	..	..	2	..
Engine, machine—manufac-	1	1	5	1	Tallow-rendering works	..	1	..	..
tories	..	..	..	..	Wool-washing establishment..	1	..	..	..
Machine—merchants' estab-	..	2	..	..	Basket-making works ..	1	5	3	2
lishments	..	..	..	..	Blind (window) manufactory..	1	..	1	..
Saddle, harness—manufactories	20	13	27	10	Chaff-cutting works ..	..	..	4	3
Coachbuilders and wheel-	13	1	19	16	Hat-box manufactory ..	..	..	..	1
wrights' establishments	..	..	..	..	Cooperage works ..	7	4	8	..
Boat builders ..	..	1	3	4	Sawmills ..	..	..	..	1
Joinery works ..	6	3	..	..	Tent manufactories ..	2	2	1	..
Window-frame works ..	1	2	..	..	Marble works ..	..	..	1	1
Lime works ..	..	..	1	2	Goldsmiths', jewellers', and	8	..	13	7
Bedding and upholstery manu-	4	4	7	3	watchmakers' establishments	..	..	..	..
factories	..	..	..	..	Electro-plating works ..	..	2	..	..
Cabinet works ..	4	1	11	8	Brass works ..	1	..	..	..
Dye works ..	..	..	2	1	Iron and tin works ..	4	18	29	11
Salt works ..	..	..	..	1	Wire-working establishments	2	..	1	..
Electric bell manufactory ..	1	..	..	..		
Life-preserving apparatus	1	..	..	..	Total ..	144	98	188	164
manufactory	..	..	..	..	
Patent medicine manufactory	1	..	..	..		

MANUFACTORIES, WORKS, ETC., 1870, 1875, AND 1880.

Description of Manufactory, Work, &c.	Number of Establishments.			1879-80.	
	1869-70.	1874-5.	1879-80.	Number of Hands Employed.	Approximate Value of Lands, Buildings, Machinery, and Plant.
BOOKS AND STATIONERY.					
Account-book manufactories, manufacturing stationers	10	16	7	558	£ 72,640
Printing establishments	20	30	56	1,969	319,260
MUSICAL INSTRUMENTS.					
Organ-building establishments	2	1	1	...	...
Pianoforte manufactories	7	9	6	28	6,225
PRINTS, PICTURES, ETC.					
Picture-frame makers, carvers, and gilders ...	...	...	12	67	24,350
CARVING, FIGURES, ETC.					
Indiarubber stamp manufactories ... ..	...	...	2	6	3,100
Modelling (architectural and figure), &c.—works	...	...	4	11	6,300
Turnery works ... ..	...	...	13	44	10,282
Wooden pipe manufactory	1	1	...	...	...
DESIGNS, MEDALS, AND DIES.					
Diesinkers, engravers, medalists, trade-mark makers	...	...	3	8	3,550
PHILOSOPHICAL INSTRUMENTS, ETC.					
Philosophical instrument manufactories ...	...	1	3	9	2,180
SURGICAL INSTRUMENTS.					
Surgical instrument, truss—manufactories ...	...	...	5	19	6,720
ARMS, AMMUNITION, ETC.					
Blasting powder, dynamite, &c.—manufactories	...	5	3	39	7,750
Fuse manufactory	1	1	1	...	...
Gunmakers ... ..	...	...	4	19	7,800
MACHINES, TOOLS, AND IMPLEMENTS.					
Agricultural implement manufactories ...	29	44	47	887	99,885
Bellows manufactory ... ..	...	1	...	...	...
Cutlery, machine-tool—manufactories ...	1	4	6	16	4,010
Engine, machine—manufactories	27	46	56	1,742	374,177
CARRIAGES AND HARNESS.					
Carriage lamp manufactory ... ..	...	...	1	...	...
Coach, waggon, &c.—manufactories*	2	96	127	1,283	163,797
Saddle, harness—manufactories ... ..	...	16	48	327	59,283
Saddle-tree, &c., manufactories ... ..	...	4	1	...	...
Whip manufactories	2	4	2	13	400

* Including all extensive manufactories for 1875 and 1880, whether employing steam or not. For 1870 those only which used steam were returned.

MANUFACTORIES, WORKS, ETC.—continued.

Description of Manufactory, Work, &c.	Number of Establishments.			1879-80.	
	1869-70.	1874-5.	1879-80.	Number of Hands Employed.	Approximate Value of Lands, Buildings, Machinery, and Plant.
SHIPS AND BOATS.					
Ship, boat—builders	14	13	11	69	9,520
Ships' wheels, blocks, &c.—manufactories ...	...	...	3	6	2,970
Floating-docks	} 7	} 1 2 5	} 4 1	131	431,000
Graving-docks					
Patent slips					
HOUSES, BUILDINGS, ETC.					
Lime works	31	27	22	111	11,195
Cement works ... ..	...	2	...	...	...
Patent ceiling ventilator manufactory ...	...	...	1	...	...
Roof-covering composition manufactory ...	...	...	1	...	...
FURNITURE.					
Bedding and upholstery manufactories ...	6	5	16	141	24,385
Cabinet works, including billiard-table makers	3	5	35*	725	109,237
Earth-closet manufactories	3	3	...	...	...
Iron safe manufactories	3	1	2	10	1,850
Looking-glass manufactories	2	4	...	...	...
CHEMICALS.					
Chemical works	3	8	9	100	37,985
Dye works	11	16	8	53	18,730
Essential oil manufactories	2	4	2	24	1,300
Ink, blacking, blue, washing-powder, &c.—manufactories	...	7	9	141	18,115
Match (vesta) manufactory ... ..	...	1	...	...	...
Paint, varnish—manufactory	1	1	...	...	...
Salt works	3	5	5	61	5,300
Tar-distilling, asphalte—works	1	1	5	124	7,665
TEXTILE FABRICS.					
Woollen mills	2	6	10	814	218,322
DRESS.					
Boot manufactories	16	42	92	3,212	147,591
Clothing factories	37	43	76	3,848	168,068
Fur manufactories ... ..	...	2	3	10	1,625
Hat, cap—manufactories	8	14	25	360	47,170
Oilskin, waterproof-clothing—manufactories	...	4	4	36	2,850
Umbrella and parasol manufactories ...	...	...	7	32	7,715
Wig manufactories ... ..	...	...	3	14	11,970
FIBROUS MATERIALS.					
Bag and sack manufactory	1	...	...	...	...
Jute factory ... ..	...	1	1	...	...
Oilcloth—manufactory ... ..	...	1	...	...	...
Rope, twine—works	9	15	14	432	68,128

* Including all extensive manufactories, whether employing steam or not. For 1870 and 1875 those only which used steam were returned.

MANUFACTORIES, WORKS, ETC.—continued.

Description of Manufactory, Work, &c.	Number of Establishments.			1879-80.	
	1869-70.	1874-5.	1879-80.	Number of Hands Employed.	Approximate Value of Lands, Buildings, Machinery, and Plant.
					£
ANIMAL FOOD.					
Cheese factories ... ..	...	7	24	84	22,427
Meat-curing establishments	11	21	13	334	50,285
VEGETABLE FOOD.					
Biscuit manufactories	7	8	16	464	58,180
Confectionery works	4	6	8	110	13,535
Flour mills	149	161	139	770	439,596
Jam manufactories	4	8	6	69	6,174
Macaroni works ... ..	...	1	3	8	652
Maizena, oatmeal, starch—manufactories	2	3	1	...	...
Rice mills	3	1	...	...	...
DRINKS AND STIMULANTS.					
Aërated waters, gingerbeer, liqueur, &c.—works	108	123	100	549	113,445
Breweries	119	107	89	885	464,375
Coffee, chocolate, spice—works	8	10	10	161	82,950
Chicory mill ... ..	...	1	1	...	...
Distilleries	6	4	6	46	35,400
Malthouses	16	18	11	69	34,250
Sauce, pickle—manufactories ... ..	...	3	5	34	4,460
Sugar refineries	1	2	1	...	...
Tobacco, cigars, snuff—manufactories	9	12	15	777	78,665
Vinegar works ... ..	...	3	4	18	10,815
ANIMAL MATTERS.					
Boiling-down establishments	27	25	15	86	12,560
Bone mills and bone manure manufactories	16	14	11	75	20,459
Brush manufactories	2	6	9	188	15,525
Catgut manufactories ... ..	...	2	...	...	...
Curled hair manufactories ... ..	...	3	1	...	...
Flock manufactories	1	2	3	18	11,250
Glue, oil—manufactories	4	9	7	36	10,606
Morocco, fancy leather—manufactories ... ..	...	1	2	12	1,500
Portmanteau, trunk—manufactories ... ..	...	...	7	35	6,770
Soap, candle, tallow—works	31	43	34	467	140,188
Tanneries, fellmongeries, and wool-washing establishments	91	134	122	1,777	245,658
VEGETABLE MATTERS.					
Bark mills ... ..	...	...	8	50	11,625
Basket-making works ... ..	...	5	10	40	6,953
Blind (window) manufactories ... ..	...	6	9	72	6,165
Broom manufactory	1	1	...	...	...
Chaff-cutting, corn-crushing—works*	129	185	160	646	145,326

* 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 and stations, which numbered 14,149 in 1879-80.

MANUFACTORIES, WORKS, ETC.—*continued.*

Description of Manufactory, Work, &c.	Number of Establishments.			1879-80.	
	1869-70.	1874-5.	1879-80.	Number of Hands Employed.	Approximate Value of Lands, Buildings, Machinery, and Plant.
VEGETABLE MATTERS—<i>continued.</i>					
Cooperage works ...	2	14	21	122	15,678
Cork manufactories ...	...	...	2	9	2,100
Fancy-box manufactories ...	1	4	2	25	2,335
Last manufactories ...	...	1	...	...	...
Moulding, framing, turning, and saw mills ...	126	172	129	2,209	268,922
Packing-case manufactories ...	2	...	...	...	...
Paper manufactories ...	1	1	2	177	60,106
Paper-bag manufactories ...	...	5	6	142	20,250
Tent, tarpaulin—manufactories ...	...	...	10	61	13,627
COAL.					
Gasworks ...	11	14	19	427	747,952
STONE, CLAY, EARTHENWARE, AND GLASS.					
Brickyards and potteries ...	293	296	170	807	172,929
Filter manufactories ...	...	...	1	...	...
Glass manufactories, works ...	2	3	5	176	18,446
Glass works ...	2	2	6	51	6,380
Marble and monumental works ...	...	17	24	206	28,425
Stone-breaking works ...	} 2	{ 3	1	...	...
Stone sawing, polishing—works ...			6	5	97	13,970
WATER.*					
Ice manufactory ...	1	1	1	...	...
GOLD, SILVER, AND PRECIOUS STONES.					
Electro-plating and gilding works ...	...	2	10	60	15,900
Goldsmiths, jewellers, and watchmakers (manufacturing) ...	...	9	29	356	69,560
Lapidaries ...	...	...	3	7	1,625
METALS OTHER THAN GOLD AND SILVER.					
Antimony-smelting works ...	1	4	1	...	...
Bell foundry ...	...	1	1	...	...
Iron and tin works ...	10	24	81	1,052	174,165
Iron, brass, and copper foundries ...	57	65	70	1,395	224,827
Lead works ...	2	2	1	...	...
Tin-smelting works ...	1	2	1	...	...
Type foundries ...	1	...	...	...	...
Wire-working establishments ...	...	3	11	63	19,334
Total where only one return was received for each of certain descriptions†	...	...	...	426	261,020
Total ...	1,529	2,104	2,239	33,247	6,711,745

* Works for the storage and supply of water are not included in the manufacturing tables. A table of waterworks follows paragraph 777 *post.*

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

776. Summarized particulars respecting these manufactories are given for the same three periods in the following table. Increased numbers at each successive period will be observed in all the columns, but more especially between the first and second periods, the augmentation shown being no doubt almost entirely due to the starting of fresh works and the extension of old ones. The number of manufactories increased by 38 per cent. between the first and second periods, and by 6 per cent. between the second and third periods; the hands employed increased by 49 per cent. and 19 per cent. respectively; and the value of lands, buildings, machinery, and plant increased respectively by 45 per cent. and 26 per cent. :—

Summary of
manufac-
tories.

SUMMARY OF MANUFACTORIES, WORKS,* ETC., 1870, 1875,
AND 1880.

Year ended 31st March.	Total Number of Establishments.	Number of Establishments using Steam.	Horse-power of Engines.†	Number of Hands employed.	Approximate Value of Lands, Buildings, Machinery, and Plant.
					£
1870	1,529	624	9,088	18,720	3,664,033
1875	2,104	843	11,668	27,959	5,313,010
1880	2,239	877	12,677	33,247	6,711,745

777. 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 and suburbs are provided with an abundant 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, and covers an area of 1,300 acres, or rather more than two square miles. The following table contains a list of these works, also a statement of the estimated capacity of each work, and its actual or estimated cost. Some of these works have been completed, and others are in course of construction. It will be observed that the storage capacity of these works is over twelve thousand seven hundred million gallons, and their cost over three and a half millions sterling :—

Waterworks.

* Including flour mills, breweries, brickyards, potteries, tanneries, fellmongeries, wool-washing establishments, and woollen mills, as well as other manufactories, works, &c.

† It is possible that the numbers in this column may include the power of a few water and wind machines used in manufacturing, in addition to the power of the steam engines.

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	1,564,423	
	Morang (pipe head) ...	2,800,000		
	Preston ...	15,000,000		
Coliban Scheme, includ- ing Reservoirs at	Malmsbury ...	2,841,000,000	881,500	
	Expedition Pass ...	128,000,000		
	Old Post Office Hill ...	2,000,000		
	Barker's Creek, Harcourt	611,500,000		
	Red Hill ...	1,250,000		
	Spring Gully ...	149,000,000		
	Crusoe Gully ...	320,000,000		
	Big Hill ...	68,000,000		
	Taradale (tank) ...	65,000		
	Crocodile Gully ...	5,407,462		
Geelong and suburbs, including Reservoirs at	Spring Gully ...	7,000,000	323,700	
	Stony Creek (Old) ...	166,000,000		
	Stony Creek (New) ...	143,000,000		
	Lovely Banks ...	6,000,000		
	Anakie (pipe head) ...	900,000		
Creswick ...	Newtown ...	500,000	14,273	
	Bullarook ...	45,000,000		
Tarnagulla ...	Ashwell's Gully ...	8,500,000	232	
Inglewood	Tarnagulla ...	5,000,000	1,174	
	(Old) ...	Inglewood ...	5,670,000	1,112
(New)	(New) ...	Inglewood ...	13,000,000	4,116
	Maryborough ...	Maryborough ...	8,100,000	1,515
Maldon ...	Maldon ...	17,500,000	3,877	
Beechworth ...	Lake Kerferd ...	110,000,000	40,120	
Chiltern ...	Barrambogie Springs ...	3,084,319	5,597	
	Railway Tank ...	6,000	345	
Wangaratta ...	Tank at Railway Station	40,000	4,592	
Rutherglen ...	Rutherglen ...	27,000,000	3,500	
Ararat ...	Oliver's Gully ...	19,615,554	5,000	
	Langi-Giran ...	15,200,000	40,000	
	Opossum Gully ...	24,621,547	1,831	
Beaufort ...	Beaufort ...	85,881,110	1,991	
	Service Reservoir, Camp Hill	1,200,000	7,253	
Ballarat ...	Four and One Weir Basin in Bungaree	632,960,000	360,000	
Clunes ...	Newlyn ...	265,000,000	81,582	
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	7,314	
Dunolly ...	Dunolly ...	17,200,000	1,912	
St. Arnaud ...	St. Arnaud ...	40,600,000	10,153	
Redbank ...	Redbank ...	27,100,000	2,785	
Lamplough ...	Lamplough ...	9,261,946	1,232	

WATERWORKS IN VICTORIA—continued.

Name of Town or District to be supplied.	Reservoir.		Actual or Estimated Cost.
	Where situated.	Storage Capacity.	
		gallons.	£
Talbot ...	Amherst ...	13,813,284	11,193
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	1,054
Orville ...	'Possum Gully ...	2,000,000	110
Stawell ...	Quartz Reefs ...	9,725,627	1,080
	Pleasant Creek ...	7,905,750	775
	Four Posts ...	3,100,000	802
	Fyan's Creek ...	...	} 115,000
	Service Reservoir ...	2,250,000	
Woodend ...	Newham ...	... *	5,019
Great Western ...	Great Western Dam ...	1,211,662	408
Elaine ...	Lal Lal ...	90,000,000	... †
Sebastopol ...	White Horse Ranges ...	4,830,904	2,862
Shire of Grenville	Linton ...	8,000,000	2,203
	Haddon ...	3,100,000	1,040
	Happy Valley ...	2,350,995	600
	Piggoreet ...	600,000	127
	Kangaroo (Berringa) ...	1,000,000	296
	Cape Clear ...	400,000	100
Shire of Leigh ...	Rokewood ...	5,000,000	385
	Break-of-Day ...	4,500,000	424
	Teesdale ...	4,000,000	216
Shire of Tullaroop ...	Chinaman's Flat ...	2,500,000	1,550
Rushworth ...	Rushworth ...	7,000,000	1,215
Total ...		12,728,804,601	3,537,160

778. 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 over ten and a 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, 1880	£
Actual or estimated cost of waterworks	£
	6,713,743
	3,537,160
	£10,250,903

779. Although the number of stone quarries at work in 1880 was less by 29 than that in 1879, the quantity and value of stone raised was greater. A slight increase also took place in the number of hands employed, and an increase of about £6,000 in the value of lands, buildings, and plant. The following are the figures :—

Stone quarries.

* No reservoir (pipe-head tank).

† Cost cannot at present be given.

STONE QUARRIES, 1879 AND 1880.

Year ended 31st March.	Number of Quarries.	Cubic Yards of Stone raised.					Steam Engines in use.	
		Bluestone.	Slate and Flagging.	Sandstone.	Granite.	Other.	Number.	Horse-power.
1879	132	217,998	1,358	8,775	1,630	1,000	7	62
1880	103	245,844	1,135	14,100	602	1,600	7	90
Increase	...	27,846	...	5,325	...	600	...	28
Decrease	29	...	223	...	1,028	...	...	...

Year ended 31st March.	Number of Hands employed.	Approximate Total Value of—			
		Stone raised.	Machinery and Plant.	Lands.*	Buildings.
1879	480	£ 46,988	£ 11,369	£ 8,490	£ 1,649
1880	502	57,252	18,338	6,975	2,242
Increase	22	10,264	6,969	...	593
Decrease	...	...	...	1,515	...

Gold raised, 1879.

780. The quantity of gold raised in Victoria during any given year may be estimated in several ways; the following are the results for 1879 of four different methods of making the calculation :—

ESTIMATES OF GOLD YIELD, 1879.

	Estimated Quantity.		
	oz.	dwt.	gr.
1. Exported gold entered as the produce of Victoria, added to Victorian gold received at Melbourne Mint	707,260	0	0
2. Gross exports of gold, less gross imports, added to gross quantity of gold received at Melbourne Mint	716,535	15	0
3. Gold raised, according to estimates made by the mining registrars throughout the country	758,947	5	21
4. Gold purchased, according to returns made by managers of banks and others	736,253	7	11

Gold raised, 1878 and 1879.

781. The estimate in the third line is that which is adopted on the present occasion. It will be observed that 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 1878 :—

* Forty-two of the stone quarries in 1879, and 33 in 1880, were upon Crown lands. In these cases no estimate of the value of the land has been given.

QUANTITY AND VALUE OF GOLD RAISED IN 1878 AND 1879.

Year.	Gold raised in Victoria.	
	Estimated Quantity.	Estimated Value, at £4 per oz.
1878	oz. 775,272	£ 3,101,088
1879	758,947	3,035,788
Decrease ...	16,325	65,300

782. The following figures give an estimate of the quantity of gold raised in 1870 and each subsequent year. It will be seen that since 1871 the yield of gold has been steadily decreasing :—

Gold raised, 1870 to 1879.

ESTIMATED QUANTITY OF GOLD RAISED, 1870 TO 1879.

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

783. Carrying on to the end of 1879 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. These figures give an average per annum during the whole period of about 1,683,000 oz., which is much more than twice the quantity raised in 1879 :—

Gold raised, 1851 to 1879.

ESTIMATED TOTAL QUANTITY AND VALUE OF GOLD RAISED IN VICTORIA, 1851 TO 1879.*

Gold raised in Victoria.	Estimated Quantity.	Estimated Value, at £4 per oz.
	oz.	£
Prior to 1879	48,058,649	192,234,596
During 1879	758,947	3,035,788
Total	48,817,596	195,270,384

784. The quantity of gold raised in all the Australasian colonies since deposits of that metal were first discovered in 1851 is estimated to have amounted to nearly 69 million ounces, valued at 271 million pounds sterling. The following table, which has been compiled in the office of the Government Statist, Melbourne, and is now given for the first time, contains particulars for each colony to the end of 1878, and of that raised during 1878. Western Australia is absent from the list, since little, if any, gold has yet been discovered there :—

Gold raised in Australasian colonies.

* 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 1878.		During 1878.		Total.	
	Estimated quantity.	Value.	Estimated quantity.	Value.	Estimated quantity.	Value.
	ozs.	£	ozs.	£	ozs.	£
Victoria ...	47,283,377	189,133,508	775,272	3,101,088	48,058,649	192,234,596
New South Wales	8,693,368	32,193,191	117,978	423,184	8,811,346	32,616,375
Queensland ...	2,617,500	9,675,419	283,592	1,052,490	2,901,092	10,727,909
South Australia	46,356	184,767	10,747	42,650	57,103	227,417
Total of Australia	58,640,601	231,186,885	1,187,589	4,619,412	59,828,190	235,806,297
Tasmania ...	45,751	180,600	25,249	100,000	71,000	280,600
New Zealand ...	8,648,996	33,765,194	310,486	1,240,079	8,959,482	35,005,273
Total of Australasia	67,335,348	265,132,679	1,523,324	5,959,491	68,858,672	271,092,170

Value of gold per miner.

785. The estimated value of gold raised in proportion to the number of miners at work† was much less in 1879 than in any of the previous nine years. During this period the highest average was in 1875, when the average in 1879 was exceeded by more than a fourth. The following figures, which have been taken from the reports of the Secretary for Mines, express this proportion for each of the last ten years:—

VALUE OF GOLD PER MINER,‡ 1870 TO 1879.

	£	s.	d.		£	s.	d.
1870 ...	81	0	6·46	1875 ...	104	4	4·02
1871 ...	93	6	0·62	1876 ...	89	19	6·84
1872 ...	93	17	1·47	1877 ...	82	6	1·69
1873 ...	93	16	2·62	1878 ...	82	12	11·38
1874 ...	99	8	3·07	1879 ...	76	1	2·32

Gold derived from alluvial and quartz workings.

786. The mining surveyors and registrars estimate that in 1879 433,925 oz., or 61 per cent. of the gold exported and minted, was obtained from quartz reefs, and 273,260 oz., or 39 per cent., was obtained from alluvial deposits. In the previous year the same officers estimated that 65 per cent. of the gold was raised from quartz, and 35 per cent. from alluvial mines. These figures are, however, stated to be but rough approximations.

* 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 1867 added to a rough estimate of the gold raised prior to 1867, of which exact information is not available.

† For the number of gold miners at work at the end of each year, see paragraph 67 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.

787. 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 seven years. It will be noticed that a slight falling-off has taken place from year to year:—

Steam engines used in mining.

STEAM ENGINES USED IN GOLD MINING, 1873 TO 1879.

	Number.	Horse-power.		Number.	Horse-power.
1873	... 1,151	... 25,100	1877	... 1,067	... 23,416
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			

788. The number of mining machines of all descriptions fell from 4,428 in 1878 to 4,379 in 1879 ; and the value of such machines, as estimated by the Department of Mines, decreased from £1,903,494 in 1878 to £1,899,788 in 1879.

Mining machinery.

789. The number of quartz reefs proved to be auriferous was returned by the mining surveyors and registrars as 3,402 in 1878 and 3,582 in 1879. 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.

790. The area of auriferous ground worked upon was stated to be approximately 1,290 square miles in 1878 and 1,234 in 1879. 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.

Extent of auriferous ground.

791. 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 874,717 tons in 1878 and 849,324 tons in 1879. The average yield per ton of these crushings was 9 dwt. 12·99 gr. in the former, and 8 dwt. 18·77 gr. in the latter year. From similar estimates, extending over a series of years, and embodying information respecting the crushing of more than 16,000,000 tons of quartz, an average is obtained of 10 dwt. 22·21 gr. of gold to the ton of quartz crushed.

Average yield of quartz.

792. At least 17 of the shafts sunk in Victoria in search of auriferous quartz have attained depths exceeding 1,000 feet, and one at Stawell

Deep quartz mining.

has attained a depth of over 2,000 feet from the surface. Two shafts at Stawell are 2,273 feet and 1,940 feet deep respectively, and 6 more in the same district exceeded 1,000 feet; the deepest shaft at Sandhurst appears to be 1,476 feet; and the deepest at Ballarat 1,114 feet. The yield of gold from 5,250 tons of quartz obtained at Stawell at depths varying from 850 to 1,200 feet averaged from 1 oz. 2 dwt. 12 gr. to 6 oz. 17 dwt. 10 gr. per ton.*

Gold-mining
leases.

793. Since the first issue of gold-mining leases, the total number granted has been 10,962, giving the right to mine over an area amounting in the aggregate to 199,729 acres. Of these leases, 314, for 5,827 acres, were granted in 1879, and 1,226, for 18,316 acres, were in force at the end of that year.

Gold-mining
companies.

794. The number of gold-mining companies registered in 1879 was 167, the number of shares was 2,277,276, and the nominal capital £1,286,674. In the previous quinquenniad 485 mining companies were registered, with 6,783,980 shares, and a nominal capital amounting in the aggregate to £5,635,866.

Leases for
other
minerals.

795. At the end of 1879 the following leases of Crown lands, conferring the privilege of working for minerals and metals other than gold, were in force. The leases were fewer by 28, and the area comprised therein was less by 1,257 acres than in 1878.

LEASES FOR MINERALS AND METALS OTHER THAN GOLD, 1879.

Metals and Minerals.	Leases in force at end of 1879.	
	Number.	Area.
Antimony	21	356
Argentiferous galena	1	154
Coal	9	4,301
Copper and the ores of copper	15	1,050
Gypsum	1	18
Lignite	1	476
Silver	1	15
Slate	2	68
Slate and flagging	1	14
Ironstone	1	320
Tin and the ores of tin	3	1,013
Total	56	7,785

Minerals
other than
gold raised.

796. 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 1879. Of these productions, the value in 1879 amounted to £43,487, of which £28,324 was that of copper raised :—

* See "Mineral Statistics of Victoria for the Year 1879;" Parliamentary Paper No. 10, Session 1880.

VALUE OF METALS AND MINERALS OTHER THAN GOLD, 1851 TO 1879.

£			£		
Silver ...	...	37,817	Slates ...	...	940
Tin ...	...	345,541	Gypsum...	...	7
Copper ...	...	72,964	Magnesite ...	...	12
Antimony ...	...	156,390	Ores, mineral earthy clays, &c., unenumerated	...	4,802
Lead ...	...	4,892	Diamonds ...	...	108
Iron ...	...	3,666	Sapphires, &c. ...	...	630
Coal ...	...	13,505			
Lignite ...	...	2,705			
Kaolin ...	...	7,444			
Flagging ...	...	48,921			
			Total ...	£700,344	

797. The following, according to the estimate of the same department, is the number of men engaged in mining for minerals or metals other than gold* at the end of 1879 :—

Mineral or Metal Mined for.	Number of Miners.	Mineral or Metal Mined for.	Number of Miners.
Tin ...	4	Slate and flag ...	26
Copper ...	87	Kaolin ...	5
Antimony ...	4	Lignite ...	8
Ironstone ...	30		
Limestone ...	8	Total ...	190
Coal ...	18		

798. The weekly rates of wages paid for different descriptions of mining labor in the year 1879 are thus quoted by the Mining Department :—

RATES OF MINING LABOR, 1879.

	Per Week, without Rations.		Per Week, without Rations.
General manager ...	£2 10s. to £12	Carpenter ...	£2 to £4
Legal manager ...	10s. to £5	Foreman of shift ...	£2 to £3 10s.
Mining manager ...	£2 5s. to £8	Miner ...	£1 10s. to £2 10s.
Engineer ...	£2 5s. to £4	Surface man (laborer)	£1 to £2 10s.
Engine-driver ...	£2 to £4	Boy ...	10s. to £1 16s.
Pitman ...	£2 to £4	Chinese ...	10s. to £2
Blacksmith ..	£2 to £4		

799. The estimated value of the produce raised from Victorian mines and quarries in 1879 was as follows :—

VALUE OF MINING PRODUCE, 1879.

£		
Value of gold raised ...	...	3,035,788
„ other metals and minerals ...	...	43,487
„ stone raised from quarries ...	...	57,252
Total ...	...	£3,136,527

800. The estimated value of the agricultural, pastoral, and mining produce raised in Victoria during each of the last six 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,

* For number of gold miners, see paragraph 66 ante.

fluctuates from year to year. In 1878 and 1879 these prices were below the average.* In 1879, for the first time, the value of the pastoral produce was less than that of the other two industries combined:—

**VALUE OF AGRICULTURAL, PASTORAL, AND MINING PRODUCE,
1874 TO 1879.**

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

Patents.

801. The patents for inventions applied for in 1879 numbered 158, as against 147 in the previous year. Since 1854 the total number of patents applied for has been 2,786.

Copyrights.

802. 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 1879.

Subject of Copyright.	Copyrights Registered.		
	Prior to 1879.	During 1879.	Total.
DESIGNS.			
Articles of manufacture, chiefly of—			
Metals	127	28	155
Wood, stone, cement, or plaster ...	35	1	36
Glass	4	...	4
Earthenware	2	...	2
Ivory, bone, papier-maché, &c. ...	12	3	15
Woven fabrics	10	...	10
Miscellaneous	12	1	13
LITERARY PRODUCTIONS.			
Literary works	681	64	745
Dramatic „	39	6	45
Musical „	64	3	67
WORKS OF ART.			
Paintings	3	...	3
Drawings	11	2	13
Engravings	590	6	596
Photographs	759	44	803
Total	2,349	158	2,507

* For prices of agricultural produce in different years, see table following paragraph 751 ante.

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