

shall furnish returns annually to the Government Statist, and once in every five years shall cause its assets and liabilities to be valued to the satisfaction of the same officer. The following is an abstract of the particulars furnished for the last five years :—

FRIENDLY SOCIETIES, 1876 TO 1880.

| | 1876. | 1877. | 1878. | 1879. | 1880. |
|--|-------------|-------------|-------------|-------------|----------|
| Number of societies | 34 .. | 33 .. | 34 .. | 34 .. | 32 |
| Number of branches | 761 .. | 703 .. | 759 .. | 766 .. | 748 |
| Average number of members | 45,957 .. | 43,330 .. | 45,692 .. | 45,933 .. | 46,074 |
| Number of members sick | 8,385 .. | 7,370 .. | 8,207 .. | 8,519 .. | 8,310 |
| Weeks for which aliment was allowed | 52,817 .. | 48,206 .. | 55,289 .. | 58,974 .. | 58,443 |
| Number of deaths of members | 452 .. | 442 .. | 467 .. | 452 .. | 425 |
| Number of deaths of registered wives | 239 .. | 194 .. | 291 .. | 240 .. | 218 |
| Total income | £163,593 .. | £152,508 .. | £163,192 .. | 170,835 .. | £171,987 |
| Total expenditure | £140,689 .. | £132,793 .. | £140,917 .. | 146,221 .. | £144,506 |
| Amount to credit of benefit funds* | £340,139 .. | £342,320 .. | £372,598 .. | £392,343 .. | £417,375 |
| Amount to credit of incidental funds | £11,145 .. | £12,468 .. | £16,310 .. | £20,489 .. | £22,353 |
| Amount invested* | £309,938 .. | £317,953 .. | £340,707 .. | £376,282 .. | £384,744 |

891. In proportion to the number of members of Friendly Societies the average amount of sickness has a tendency to increase from year to year. The days per member for which aliment was allowed numbered 6·9 in 1876, 6·7 in 1877, 7·3 in 1878, 7·7 in 1879, and 7·6 in 1880. The death rate shows more fluctuation than the sick rate, as deaths per 1,000 members numbered 9·84 in 1876, 10·20 in 1877, 10·22, in 1878, 9·84 in 1879, and 9·23 in 1880.

Sickness and death rates.

PART IX.—PRODUCTION.

892. 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. A complete account of the land system of each colony was published in the *Victorian Year-Book*, 1879–80, ‡ and the principal features of that portion of each system which relates to the manner in which Crown lands are acquired by selection are given under nine heads in the following table :—

Land systems in Australasian colonies.

* Exclusive of widows' and orphans' funds, which are possessed by only two of the societies.

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

‡ Appendix A of that work, page 394 *et seq.*

CONDITIONS OF LAND SELECTION IN AUSTRALASIAN COLONIES.

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

893. The total extent of Crown land sold in Victoria up to the end of 1880 was 12,147,456 acres, and the extent granted without purchase was 5,070 acres. The whole area alienated in fee-simple was thus 12,152,526 acres.

894. The selected lands of which the purchase had not been completed up to the end of the year amounted to 10,421,958 acres. Of this extent it is estimated that 2,753,614 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 7,668,344 acres.

895. According to the latest computation, the total area of the colony is 56,245,760 acres§§; and if from this be deducted the sum of the lands granted, sold, and selected, amounting to 19,820,871 acres, it will follow that the residue, representing the Crown lands neither alienated nor in process of alienation, amounted at the end of 1880 to 36,424,889 acres.

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

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

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

§ Not including interest, for which 33½ per cent. is added in Tasmania for the terms of fourteen years, and 5 per cent. per annum in New South Wales.

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

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

†† Personally, or by substitute.

‡‡ Or until the purchase-money is paid.

§§ This is less by 200,960 acres than the area given last year. See paragraph 77 ante.

Crown lands alienated to end of 1880.

Crown lands selected.

Crown lands unalienated.

896. 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 these lands from the extent unalienated and unselected, already stated to have been 36,424,889 acres, it will be found that the area open for selection is narrowed to 9,611,932 acres. This will be at once seen by the following table, which shows the position of the public estate at the end of 1880 :—

PUBLIC ESTATE OF VICTORIA ON 31ST DECEMBER 1880.

| Condition of Land. | Number of Acres. |
|--|------------------|
| Land alienated in fee-simple | 12,152,527 |
| Land in process of alienation under deferred payments | 7,668,344 |
| Roads in connection with the above | 1,128,729 |
| Unsold land included in cities, towns, &c. | 302,000 |
| Reserves in connection with pastoral occupation (about)... .. | 350,000 |
| Auriferous land * (about) | 991,978 |
| State forests not included in unavailable mountain ranges | 823,750 |
| Timber reserves | 216,500 |
| Mallee scrub, unavailable mountain ranges, lakes, lagoons, &c. (about) | 23,000,000† |
| Area available for selection at end of 1880 | 9,611,932 |
| Total area of Victoria | 56,245,760 |

897. Omitting the 23,000,000 acres covered by mallee scrub, unavailable mountain ranges, lakes, lagoons, &c., the remainder of the colony, amounting to 33,245,760 acres, or about 59 per cent. of the total area, may be said to be at present suitable for occupation. Of this extent, at the end of 1880, 19,820,871 acres, or 60 per cent., were already alienated or in process of alienation; 3,812,957 acres, or 11 per cent., were occupied by reserves; and 9,611,932 acres, or 29 per cent., were available for selection.

Crown lands available for selection.

898. The maximum area which the law allows one person to select is 320 acres.‡ It will be at once seen that, supposing every selector should take up his full amount, there would be room for 30,000 selectors in the portion of the colony still remaining available for selection. Should the maximum be increased to 640 acres, there would of course be space for only half that number of selectors, or 15,000.

Number of selectors there is space for.

899. The difference between the extent available for selection at the end of 1879 and at the end of 1880 was 898,130 acres. The extent so

Extent available for selection, 1879 and 1880.

* This land may be selected for residence or cultivation under section 49 of the Land Act 1869, in lots not exceeding 20 acres. The total extent already selected under this section is included in the first two items, and amounts to 162,606 acres.

† Mallee scrub, lakes, &c., 11,000,000; mountain forests, 12,000,000.

‡ See table following paragraph 892 ante.

available was equal at the former period to 18·7 per cent., and at the latter period to 17·1 per cent. of the whole area of the colony, according to the amended estimate.*

Crown lands
alienated,
1880.

900. The land alienated from the Crown in fee-simple during 1880 amounted to 410,198 acres. Of this extent, 409,738 acres were sold, and 460 acres were granted without purchase. A gradual falling-off in the area alienated annually had taken place between 1872 and 1879, but the extent alienated in 1880 was greater than in the last three years of the period named.

Crown lands
sold by
auction.

901. Of the area sold, 27,273 acres, or about a fifteenth, was disposed of by auction. Nearly the whole of the remainder was in the first instance selected under the system of deferred payments. The extent sold by auction in 1880 was much less than in any of the previous ten years except 1873.

Amount
realized on
Crown land
sales, 1880.

902. The amount realized for Crown lands sold in 1880 was £471,824, or at the rate of £1 3s. 0d. per acre. Of this sum, only £172,517 was received during the year, the remainder having been paid in former years as rents and license fees. The proportion sold by auction realized £81,715, or an average of £2 19s. 11d. per acre; and the proportion sold otherwise than at auction realized £390,109, or an average of £1 0s. 4 $\frac{3}{4}$ d. per acre.

Amount
realized,
1836 to
1880.

903. From the period of the first settlement of the colony to the end of 1880 the amount realized by the sale of Crown lands was £19,608,396, or at the rate of £1 12s. 3 $\frac{1}{2}$ d. per acre.

Area se-
lected, 1880.

904. The total area selected, with right of purchase, in 1880, amounted to 736,210 acres, or 282,244 acres less than in 1879. Of this extent, 725,001 acres were taken up under the residence clauses of the Land Acts of 1869 and 1878, and 11,209 acres under the non-residence clause of the latter. The average area to each resident selector was 180 acres and to each non-resident selector 167 acres. The area selected was less than in any previous year since 1871. The above figures do not include residence selection on goldfields, of which 16,262 acres were taken up during the year.†

Selected
land for-
feited, 1880.

905. Of land which had been selected with right of purchase in former years, as many as 260,016 acres were abandoned or forfeited to the Crown for non-fulfilment of conditions during the year 1880.

Squatting
runs: num-
ber and
area.

906. The squatting runs in 1880 numbered 612, or 89 less than in 1879. The area of Crown lands embraced in runs amounted in 1880 to 14,337,041 acres, or 2,846,802 acres less than that in 1879.

Decrease in
number
of squatting
runs.

907. 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

* See paragraph 895 *ante*.

† See footnote (*) to table following paragraph 896 *ante*.

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.

908. The average size of squatting runs was 24,513 acres in 1879, and 23,427 acres in 1880. This is exclusive of any purchased land attached thereto. Squatting runs: average size.

909. The rent of runs is assessed in accordance with the number of stock the land is estimated to be able to depasture, viz., 5s. yearly for each head of cattle or horses, or 1s. yearly for each sheep. In 1879 the amount of rent payable was £104,843, or 1.464d. (a fraction under 1½d.) per acre; and in 1880 the amount was £86,727, or 1.452d. per acre.* Rent of runs.

910. 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 1880 as compared with 1879, the total decrease amounting to £83,000, as will be seen by the following figures:— Land revenue.

LAND REVENUE, 1879 AND 1880.

| Heads of Land Revenue. | Amounts Received. | | Decrease. |
|--|-------------------|---------|-----------|
| | 1879. | 1880. | |
| | £ | £ | £ |
| Alienation in fee-simple and progressive | 715,257 | 666,103 | 49,154 |
| Temporary occupation | 139,204 | 109,367 | 29,837 |
| Penalties, fees, and interest... .. | 41,935 | 37,925 | 4,010 |
| Total | 896,396 | 813,395 | 83,001 |

911. The agricultural statistics† for the year ended 31st March 1881 were collected by the census sub-enumerators, instead of, as in other years, by the local bodies. Tables embodying the general results of these statistics were sent for publication in the *Government Gazette* on the 9th June last, and these, with additional tables, form portion of the *Statistical Register of Victoria*. Agricultural statistics, 1880-81.

* The sums actually received were £107,732 in 1879 and £88,065 in 1880, but arrears from previous years are included in both these amounts.

† 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.

Holdings
visited by
collectors.

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

Land in
occupation.

913. The extent of land in occupation of which a return is made is less than the whole area alienated and selected. The sub-enumerators were not required to take account of holdings of one acre or under in extent, nor of gardens or grounds attached to residences kept merely for ornament and pleasure, nor of any lands which showed no signs of occupation, or were 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 92 per cent. of the extent alienated and in process of alienation at the end of 1880.

Land occu-
pied and
cultivated.

914. 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, 1880
AND 1881.

| Year ended 31st March. | Number of Holdings larger than 1 acre. | Acres Occupied. | Acres under Tillage. |
|------------------------|---|--------------------|-------------------------|
| 1880 | 48,969 | 16,620,900 | 1,688,275 |
| 1881 | 49,637 | 18,141,124 | 1,997,943 |
| Increase | 668 | 1,520,224 | 309,668 |

Increase in
occupied
land, &c., in
ten years.

915. During the decenniad ended with the year under review the holdings have increased by more than one-half, the land occupied has nearly doubled, and the land in cultivation has considerably more than doubled. This will be seen by the following figures:—

INCREASE, 1881, COMPARED WITH 1871.

| — | Numerical. | Per cent. |
|-------------------------|------------|-----------|
| Holdings | 17,795 | 56 |
| Acres occupied | 8,610,486 | 94 |
| Acres cultivated | 1,088,928 | 120 |

* The holdings and land referred to are exclusive of Crown lands held under squatting licenses. See also paragraphs 912 and 913 *ante*.

916. The following table shows the area per head cultivated in each Australasian colony during the seven seasons ended with that of 1879-80, 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 that in all the colonies except Queensland the figures for the last year named in the table are as high as, if not higher than, those for any previous one :—

Area cultivated per head in Australasian colonies.

CULTIVATION PER HEAD IN AUSTRALASIAN COLONIES, 1874 TO 1880.*

| Colony. | Acres under Tillage per Head of Population. | | | | | | | Mean. |
|------------------------|---|---------|---------|---------|---------|---------|----------|-------|
| | 1873-4. | 1874-5. | 1875-6. | 1876-7. | 1877-8. | 1878-9. | 1879-80. | |
| 1. South Australia ... | 6·18 | 6·50 | 6·86 | 6·71 | 7·72 | 8·09 | 8·75 | 7·26 |
| 2. Tasmania ... | 1·61 | 3·13 | 3·21 | 3·15 | 3·26 | 3·23 | 3·26 | 2·98 |
| 3. New Zealand† ... | 1·27 | 1·61 | 1·62 | 1·97 | 2·30 | 2·62 | 2·67 | 2·00 |
| 4. Western Australia | 2·01 | 1·73 | 1·78 | 1·68 | 1·82 | 1·81 | 2·28 | 1·87 |
| 5. Victoria ... | 1·25 | 1·29 | 1·42 | 1·54 | 1·74 | 1·95 | 2·01 | 1·60 |
| 6. New South Wales | ·82 | ·80 | ·74 | ·82 | ·83 | ·88 | ·90 | ·83 |
| 7. Queensland ... | ·43 | ·39 | ·43 | ·46 | ·52 | ·56 | ·49 | ·47 |

917. The principal crops grown in Victoria are wheat, oats, barley, potatoes, hay, and green forage. In 1880-81, as compared with 1879-80, an increased area was placed under each of these except oats and green forage. The extent under each except these two was, moreover, greater in 1880-81 than in any previous year, but that under oats was exceeded in seven years, and that under green forage in five years. During the past five 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.

LAND UNDER PRINCIPAL CROPS, 1880 AND 1881.

| Year ended 31st March. | Wheat. | Oats. | Barley. | Potatoes. | Hay. | Green Forage. |
|------------------------|---------|---------|---------|-----------|---------|---------------|
| | acres. | acres. | acres. | acres. | acres. | acres. |
| 1880 ... | 707,188 | 167,615 | 43,182 | 41,600 | 201,451 | 305,790 |
| 1881 ... | 977,285 | 134,089 | 68,630 | 45,951 | 249,656 | 264,611 |
| Increase ... | 270,097 | ... | 25,448 | 4,351 | 48,205 | ... |
| Decrease... | ... | 33,526 | ... | ... | ... | 41,179 |

* For the population and number of acres under tillage in each Australasian colony during the eight years ended with 1880, 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.

918. The gross yield of wheat, barley, and hay was heavier in the past than in any previous season; but that of potatoes was exceeded on three, and that of oats on twelve, occasions. No return is made of the quantity of green forage produced, but the following is a statement of the gross yield of the other principal crops in 1879-80 and 1880-81:—

GROSS PRODUCE OF PRINCIPAL CROPS, 1880 AND 1881.

| Year ended 31st March. | Wheat. | Oats. | Barley. | Potatoes. | Hay. |
|---------------------------|-----------|-----------|-----------|-----------|---------|
| | bushels. | bushels. | bushels. | tons. | tons. |
| 1880 ... | 9,398,858 | 4,023,271 | 1,065,430 | 167,943 | 292,407 |
| 1881 ... | 9,727,369 | 2,362,425 | 1,068,830 | 129,262 | 300,581 |
| Increase ... | 328,511 | ... | 3,400 | ... | 8,174 |
| Decrease... | ... | 1,660,846 | ... | 38,681 | ... |

919. The following table shows for each of the last five 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 RAISED IN ELEVEN COUNTIES, 1877 TO 1881.

| Counties. | Number of Bushels Produced. | | | | |
|---------------|-----------------------------|-----------|-----------|-----------|-----------|
| | 1876-7. | 1877-8. | 1878-9. | 1879-80. | 1880-81. |
| Bendigo ... | 763,984 | 795,398 | 727,195 | 871,278 | 1,007,979 |
| Bogong ... | 264,571 | 333,414 | 136,574 | 305,951 | 268,210 |
| Borong ... | 336,156 | 720,007 | 1,291,947 | 1,509,759 | 1,542,000 |
| Dalhousie ... | 170,817 | 192,080 | 106,305 | 204,299 | 134,554 |
| Delatite ... | 252,946 | 278,947 | 115,639 | 265,478 | 176,934 |
| Gladstone ... | 342,485 | 472,224 | 578,157 | 700,925 | 723,419 |
| Gunbower ... | 169,105 | 250,298 | 218,348 | 321,230 | 697,569 |
| Kara Kara ... | 436,834 | 598,661 | 651,142 | 681,868 | 950,096 |
| Moira ... | 568,004 | 889,774 | 317,465 | 1,671,507 | 1,655,322 |
| Rodney ... | 697,027 | 1,016,849 | 451,435 | 1,088,854 | 1,068,673 |
| Talbot ... | 462,695 | 449,405 | 414,473 | 397,621 | 302,987 |
| Total ... | 4,464,624 | 5,997,057 | 5,008,680 | 8,018,770 | 8,527,743 |

920. In 1876-7 five-sixths, in 1877-8 six-sevenths, in 1878-9 five-sixths, in 1879-80 six-sevenths, and in 1880-81 eight-ninths 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 Bendigo, Borung, Gladstone, Gunbower, and Kara Kara, which lie to the northward or westward of the others, was greater than in any of the four previous seasons, but in the six remaining counties, which lie to the southward or eastward of these, the total yield was

not so great as in other years. In Moira and Rodney it was only exceeded in the previous season, and then but slightly; in Bogong it was exceeded in two, and in Dalhousie and Delatite in three, seasons; whilst in Talbot it was exceeded in all the other seasons to which the table relates.

921. The average produce of wheat per acre in the various counties in the colony in 1880-81 is compared in the following table with that in each of the four 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:—

Yield of wheat in each county.

AVERAGE PRODUCE OF WHEAT IN EACH COUNTY, 1877 TO 1881.

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

* In 1878-9 the crops were much affected by rust and drought, and in 1880-81 by the latter.

Average
yields of
wheat,
1880-81.

922. Owing to the drought which prevailed during the past season over all parts of the colony the acreable yield of wheat in every one of the counties, except Gunbower, was lower than in the previous season. In some counties the average was only half, in others a third or a fourth, and in one instance no more than an eighth of what it was then. The counties being placed in order, it is at once seen that the highest yield was only a little over 13 bushels to the acre, and that as much as 13 bushels was only reached in one county; whereas in the previous year no less than thirteen counties had over 20, and one county had over 30 bushels to the acre. The principal wheat-producing counties (marked with asterisks in the table) in the column for the year under review occupy a higher position on the list than usual. It has often been pointed out that in these counties, where so large an area is placed under wheat and so much is raised, the yield of that crop per acre is generally lower than in most other counties; but this was not so much the case in the past season as it generally has been in previous ones.

Yield of
other prin-
cipal crops
in each
county.

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

AVERAGE PRODUCE OF OATS, BARLEY, POTATOES, AND HAY IN EACH COUNTY, 1879-80 AND 1880-81.

| Counties. | Average Produce to the Acre of— | | | | | | | |
|----------------|---------------------------------|----------|-----------------------|----------|----------------------|----------|-----------------|----------|
| | Oats. (bushels.) | | Barley. (bushels.) | | Potatoes. (tons.) | | Hay. (tons.) | |
| | 1879-80. | 1880-81. | 1879-80. | 1880-81. | 1879-80. | 1880-81. | 1879-80. | 1880-81. |
| Anglesey ... | 25·65 | 14·56 | 24·68 | 15·28 | 2·80 | 1·84 | 1·82 | 1·20 |
| Benambra ... | 25·90 | 17·65 | 25·80 | 17·65 | 4·06 | 3·13 | 1·50 | 1·07 |
| Bendigo ... | 17·43 | 16·54 | 17·95 | 12·85 | 1·43 | 1·91 | 1·06 | ·98 |
| Bogong ... | 23·01 | 16·17 | 18·31 | 13·73 | 3·57 | 2·28 | 1·40 | 1·02 |
| Borong ... | 17·22 | 12·56 | 15·10 | 9·46 | 2·25 | 1·30 | ·91 | ·71 |
| Bourke ... | 28·47 | 21·08 | 26·31 | 21·80 | 4·28 | 2·74 | 1·94 | 1·77 |
| Buln Buln ... | 19·61 | 16·51 | 21·97 | 15·70 | 5·06 | 3·61 | 2·07 | 1·71 |
| Croajingolong | 13·25 | 24·05 | 19·62 | 13·44 | 2·93 | 4·18 | 1·28 | 1·11 |
| Dalhousie ... | 30·11 | 17·45 | 32·35 | 13·35 | 3·22 | 1·64 | 1·92 | 1·18 |
| Dargo ... | 8·18 | 17·72 | 18·13 | 16·98 | 4·96 | 4·17 | 1·92 | 1·89 |
| Delatite ... | 25·20 | 13·25 | 21·46 | 11·25 | 2·71 | 2·01 | 1·53 | 1·01 |
| Dundas ... | 24·06 | 15·85 | 29·15 | 16·33 | 2·18 | 1·77 | 1·73 | 1·49 |
| Evelyn ... | 22·05 | 17·30 | 23·27 | 15·90 | 3·19 | 2·49 | 2·01 | 1·43 |
| Follett ... | 21·97 | 14·16 | 20·49 | 11·38 | 2·39 | 1·61 | 1·70 | 1·22 |
| Gladstone ... | 17·85 | 15·17 | 16·30 | 12·56 | 1·24 | ·85 | ·79 | ·91 |
| Grant ... | 31·93 | 20·59 | 34·90 | 21·88 | 4·66 | 2·83 | 1·70 | 1·64 |
| Grenville ... | 26·31 | 15·18 | 28·11 | 14·72 | 3·17 | 2·17 | 1·67 | 1·28 |
| Gunbower ... | 15·62 | 16·82 | 14·21 | 12·21 | ... | ·75 | ·66 | ·96 |
| Hampden ... | 22·80 | 18·85 | 26·35 | 15·30 | 3·68 | 3·12 | 1·76 | 1·49 |
| Heytesbury ... | 23·10 | 19·22 | 36·20 | 20·39 | 3·04 | 2·57 | 2·13 | 1·54 |
| Kara Kara ... | 17·47 | 14·93 | 13·80 | 9·62 | 1·68 | 1·12 | ·78 | ·86 |
| Karkaroc ... | ... | ... | 20·00 | ... | ... | ... | ·73 | ·50 |

AVERAGE PRODUCE OF OATS, BARLEY, POTATOES, AND HAY IN EACH COUNTY, 1880-81—*continued.*

| Counties. | Average Produce to the Acre of— | | | | | | | |
|----------------|---------------------------------|----------|-----------------------|----------|----------------------|----------|-----------------|----------|
| | Oats. (bushels.) | | Barley. (bushels.) | | Potatoes. (tons.) | | Hay. (tons.) | |
| | 1879-80. | 1880-81. | 1879-80. | 1880-81. | 1879-80. | 1880-81. | 1879-80. | 1880-81. |
| Lowan ... | 20·06 | 12·08 | 18·13 | 13·20 | 1·55 | 1·32 | 1·06 | ·93 |
| Moira ... | 25·11 | 18·97 | 23·15 | 15·30 | 2·32 | 1·07 | 1·15 | 1·04 |
| Mornington ... | 20·53 | 15·77 | 15·85 | 11·76 | 4·31 | 3·17 | 1·73 | 1·23 |
| Normanby ... | 19·50 | 14·68 | 21·28 | 15·40 | 2·73 | 2·12 | 1·75 | 1·23 |
| Polwarth ... | 22·03 | 14·72 | 23·28 | 9·07 | 3·55 | 3·34 | 2·15 | 1·43 |
| Ripon ... | 24·21 | 19·00 | 30·86 | 16·76 | 2·30 | 1·97 | 1·99 | 1·50 |
| Rodney ... | 22·78 | 18·18 | 20·96 | 14·82 | 1·17 | 1·15 | ·86 | ·99 |
| Talbot ... | 29·43 | 19·95 | 27·80 | 18·45 | 3·02 | 2·03 | 1·50 | 1·33 |
| Tambo .. | 20·37 | 16·88 | 36·81 | 15·76 | 3·82 | 3·65 | 1·64 | 1·80 |
| Tanjil ... | 13·79 | 16·21 | 27·73 | 15·48 | 4·05 | 3·47 | 2·05 | 1·51 |
| Tatchera ... | 15·13 | 8·44 | 11·40 | 8·69 | ... | ·25 | ·84 | ·47 |
| Villiers ... | 22·04 | 20·68 | 36·01 | 29·99 | 5·05 | 3·90 | 2·43 | 1·80 |
| Weeah ... | ... | ... | ... | ... | ... | ... | 1·00 | ·40 |
| Wonnangatta | 23·40 | 10·20 | 14·27 | 8·00 | 3·90 | 2·79 | 1·71 | 1·12 |
| Total ... | 24·00 | 17·62 | 24·67 | 15·57 | 4·04 | 2·81 | 1·45 | 1·20 |

924. It will be noticed that in 1880-81 the highest acreable yield of oats was in Croajingolong (where, however, only a small quantity was grown), and the next in Bourke, Villiers, and Grant; that the average yield of barley was highest in Villiers; that potatoes yielded the largest crop per acre in Croajingolong and Dargo, in which counties it was more than 4 tons, and that 3 tons per acre was exceeded in Benambra, Buln Buln, Hampden, Mornington, Polwarth, Tambo, Tanjil, and Villiers; that the highest yields of hay were in Bourke, Dargo, Tambo, and Villiers, but in no county did this crop average as much as 2 tons to the acre.

Yield of oats, barley, potatoes, and hay, 1880-81.

925. Comparing the averages in 1880-81 with those of the previous season, a falling-off in the yield per acre of barley is observed in every one of the counties; in that of oats, in all the counties except Croajingolong, Dargo, Gunbower, and Tanjil; in that of potatoes, in all the counties except Bendigo, Croajingolong, and Gunbower, in the latter of which a small quantity was grown in the past but none in the previous season; and in that of hay, in all the counties except Gunbower, Kara Kara and Rodney.

Yield of principal crops in two past seasons.

926. In the past season, as compared with the ten previous ones, the acreable yield of wheat, oats, and potatoes was lower than in any other except that of 1878-9; that of hay was lower than in any except those of 1877-8 and 1870-71; and that of barley was lower than in any

Yield of principal crops, 1871 to 1881.

except 1870-71. This will be seen by the following table, which shows the acreable yield of those five crops during each of the last eleven years, also the average during the whole period :—

AVERAGE PRODUCE OF PRINCIPAL CROPS, 1871 TO 1881.

| Year ended 31st March. | Average Produce per Acre of— | | | | |
|-------------------------|------------------------------|----------|----------|-----------|-------|
| | Wheat. | Oats. | Barley. | Potatoes. | Hay. |
| | bushels. | bushels. | bushels. | tons. | tons. |
| 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 |
| 1881 | 9·95 | 17·62 | 15·57 | 2·81 | 1·20 |
| Mean of eleven years... | 12·84 | 18·90 | 19·60 | 3·24 | 1·28 |

Average
produce in
Austral-
asian
colonies.

927. 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 seven years ended with 1880. According to the mean of the septenniad, the average produce of wheat, oats, and potatoes is highest in New Zealand, and that of hay in Queensland. Victoria stands third in regard to the average per acre of oats, but fourth in regard to each of the other crops named :—

AVERAGE PRODUCE OF PRINCIPAL CROPS IN AUSTRALASIAN COLONIES, 1874 TO 1880.

| Colony. | Year ended 31st March. | | | | | | | Mean. |
|----------------------------------|------------------------|-------|-------|-------|-------|-------|-------|-------|
| | 1874. | 1875. | 1876. | 1877. | 1878. | 1879. | 1880. | |
| WHEAT : BUSHELS PER ACRE. | | | | | | | | |
| Victoria | 13·58 | 14·57 | 15·49 | 13·15 | 12·41 | 8·76 | 13·29 | 13·03 |
| New South Wales | 13·43 | 12·87 | 14·66 | 16·43 | 13·84 | 14·74 | 15·48 | 14·49 |
| Queensland... .. | ... | ... | ... | ... | 10·63 | 13·56 | 8·11 | 10·76 |
| South Australia | 7·87 | 11·75 | 11·95 | 5·40 | 7·76 | 7·15 | 9·78 | 8·80 |
| Western Australia | 13·44 | 12·00 | 11·00 | 12·00 | 11·00 | 9·97 | 14·94 | 12·05 |
| Tasmania | 16·17 | 18·51 | 16·38 | 19·30 | 18·12 | 16·10 | 23·22 | 18·25 |
| New Zealand | 25·61 | 28·15 | 31·54 | 28·63 | 26·03 | 22·94 | 28·16 | 27·29 |

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

AVERAGE PRODUCE OF PRINCIPAL CROPS IN AUSTRALASIAN COLONIES, 1874 TO 1880—continued.

| Colony. | Year ended 31st March. | | | | | | | Mean. | |
|---------------------------------|------------------------|-------|-------|-------|-------|-------|-------|-------|--|
| | 1874. | 1875. | 1876. | 1877. | 1878. | 1879. | 1880. | | |
| OATS : BUSHELS PER ACRE. | | | | | | | | | |
| Victoria ... | 15·69 | 18·46 | 21·92 | 19·91 | 19·39 | 17·60 | 24·00 | 19·57 | |
| New South Wales ... | 18·71 | 16·31 | 18·72 | 21·16 | 19·31 | 20·24 | 21·64 | 19·44 | |
| Queensland... | ... | ... | ... | ... | 10·11 | 9·65 | 24·74 | 14·83 | |
| South Australia ... | 10·61 | 14·61 | 16·69 | 10·65 | 11·96 | 12·01 | 15·02 | 13·07 | |
| Western Australia ... | 19·22 | 16·00 | 15·00 | 15·00 | 14·00 | 18·02 | 19·00 | 16·60 | |
| Tasmania ... | 20·98 | 26·82 | 25·40 | 24·21 | 22·32 | 24·82 | 28·61 | 24·73 | |
| New Zealand ... | 29·81 | 35·22 | 39·34 | 31·24 | 31·68 | 30·11 | 36·53 | 33·42 | |

| POTATOES : TONS PER ACRE. | | | | | | | | | |
|----------------------------------|------|------|------|------|------|------|------|------|--|
| Victoria ... | 2·86 | 3·53 | 3·37 | 3·31 | 3·11 | 2·71 | 4·04 | 3·27 | |
| New South Wales ... | 2·98 | 2·83 | 2·98 | 3·03 | 2·52 | 3·20 | 3·23 | 2·96 | |
| Queensland... | ... | ... | ... | ... | 1·91 | 2·33 | 3·03 | 2·42 | |
| South Australia ... | 3·41 | 3·72 | 4·52 | 2·84 | 2·51 | 2·67 | 3·80 | 3·35 | |
| Western Australia ... | 2·67 | 3·00 | 3·00 | 3·00 | 2·00 | 2·49 | 3·50 | 2·80 | |
| Tasmania ... | 3·16 | 3·75 | 3·54 | 3·43 | 3·25 | 3·37 | 3·18 | 3·38 | |
| New Zealand ... | 4·46 | 5·24 | 4·89 | 5·36 | 5·38 | 4·98 | 5·62 | 5·13 | |

| HAY : TONS PER ACRE. | | | | | | | | | |
|-----------------------------|------|------|------|------|------|------|------|------|--|
| Victoria ... | 1·27 | 1·32 | 1·33 | 1·22 | 1·17 | 1·21 | 1·45 | 1·28 | |
| New South Wales ... | 1·54 | 1·37 | 1·15 | 1·43 | 1·22 | 1·66 | 1·45 | 1·40 | |
| Queensland... | ... | ... | ... | ... | 1·30 | 1·33 | 1·96 | 1·53 | |
| South Australia ... | 1·02 | 1·26 | 1·21 | 1·95 | 1·13 | ·97 | 1·12 | 1·23 | |
| Western Australia ... | 2·00 | 1·50 | 1·00 | 1·00 | 1·00 | 1·00 | 1·25 | 1·25 | |
| Tasmania ... | 1·08 | 1·35 | 1·42 | 1·21 | 1·13 | 1·19 | 1·52 | 1·27 | |
| New Zealand ... | 1·43 | ·84 | 1·46 | 1·31 | 1·30 | 1·22 | 1·51 | 1·29 | |

NOTE.—All the calculations in this table were made in the office of the Government Statist, Melbourne. For the land under and total produce of each crop in the respective colonies during the eight years ended with 1880-81, see Summary of Australasian Statistics (third folding sheet) ante.

928. It will be observed that in 1880 the average produce of oats in all the colonies was above the mean of the seven years named ; that of wheat was above the same mean in all the colonies except Queensland ; that of potatoes was above it in all the colonies except Tasmania ; whilst that of hay was above the seven years mean in all the colonies except Western Australia and South Australia. In the former of these it was exactly equal to, and in the latter it was below, the mean of the period.

929. 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 crop in British and foreign countries.

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

| Country. | Year. | Number of Acres under— | | | | |
|------------------------|-------|------------------------|---------|---------|---------|-----------|
| | | Wheat. | Oats. | Barley. | Rye. | Potatoes. |
| The United Kingdom ... | 1880 | 3,066, | 4,192, | 2,695, | 48, | 1,381, |
| Cape of Good Hope ... | 1875 | 188, | 114, | 29, | ... | 9, |
| Austria ... | 1878 | 2,499, | 4,422, | 2,612, | 4,774, | 2,403, |
| Baden ... | 1876 | 89, | 139, | 153, | ... | 207, |
| Belgium ... | 1866 | 700, | 567, | 108, | 714, | 423, |
| Denmark ... | 1876 | 140, | 864, | 699, | 575, | 96, |
| France ... | 1877 | 17,162,* | 8,131, | 2,839, | 4,591, | 3,071, |
| Holland ... | 1878 | 232, | 274, | 113, | 503, | 344, |
| Hungary ... | 1877 | 6,047, | 2,699, | 2,315, | ... | 1,054, |
| Italy ... | 1874 | 11,551, | 985, | 1,148, | ... | 169, |
| Norway ... | 1875 | 11, | 224, | 138, | 37, | 86, |
| Prussia ... | 1876 | 4,196, | 6,714, | 3,357, | ... | ... |
| Russia in Europe ... | 1872 | 28,743, | 32,819, | 15,512, | 66,399, | 3,169, |
| Saxony ... | 1876 | 108, | 411, | 98, | ... | 253, |
| Sweden ... | 1878 | ... | ... | ... | ... | 377, |
| United States... .. | 1879 | 32,546, | 12,683, | 1,680, | 1,625, | 1,837, |
| Württemberg ... | 1876 | 47, | 331, | 244, | ... | 189, |

Gross yield of crops in foreign countries.

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

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

| Country. | Year. | Number of Bushels† raised of— | | | | |
|-----------------------|-------|-------------------------------|----------|----------|----------|-----------|
| | | Wheat. | Oats. | Barley. | Rye. | Potatoes. |
| Cape of Good Hope ... | 1875 | 1,688, | 918, | 448, | ... | 371, |
| Austria ... | 1878 | 44,401, | 95,068, | 46,987, | 81,884, | 252,603, |
| Baden ... | 1876 | 1,321, | 2,927, | 2,904, | ... | 24,042, |
| Belgium ... | 1866 | 14,203, | 23,364, | 3,666, | 17,562, | 67,737, |
| Denmark ... | 1876 | 3,894, | 24,267, | 17,998, | 13,791, | 10,357, |
| France ... | 1877 | 277,212,* | 180,771, | 48,699, | 72,212, | 327,734, |
| Holland ... | 1878 | 5,479, | 11,133, | 3,946, | 9,647, | 43,055, |
| Hungary ... | 1877 | 69,618, | 38,606, | 33,117, | ... | 43,123, |
| Italy ... | 1874 | 142,423, | 19,370, | 18,417, | ... | 19,387, |
| Norway ... | 1875 | 276, | 8,896, | 4,285, | 1,016, | 19,591, |
| Prussia ... | 1876 | 86,640, | 224,245, | 89,698, | ... | ... |
| Russia in Europe ... | 1872 | 157,938, | 543,623, | 124,754, | 546,832, | 370,876, |
| Saxony ... | 1876 | 2,425, | 13,663, | 2,456, | ... | 43,829, |
| Sweden ... | 1878 | 3,206, | 47,934, | 14,566, | 18,058, | 48,559, |
| United States ... | 1879 | 435,044, | 353,124, | 38,958, | 22,944, | 175,819, |
| Württemberg ... | 1876 | 836, | 9,300, | 5,673, | ... | 22,419, |

* Including spelt (*Triticum spelta*).

† The produce was originally given in Imperial bushels except in the case of Baden, Saxony, and the United States. In the first two of these it was quoted in centners, and in the last in Winchester bushels. These have been converted into Imperial bushels upon the assumption that a centner is equivalent to 110.232 lbs., and a Winchester bushel to .969,447 of an Imperial bushel. For the standard weight of cereals per Imperial bushel see paragraph 963 post. An Imperial bushel of potatoes weighs about 56 lbs.

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

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

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

Average yield of wheat in United Kingdom.

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

Wheat yield in United Kingdom and colonies compared.

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

Average 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. | Rye. | Potatoes. |
| Cape of Good Hope | 1875 | 9·0 | 8·1 | 15·4 | ... | 41·2 |
| Austria | 1878 | 17·8 | 21·5 | 18·0 | 17·1 | 105·2 |
| Baden | 1876 | 14·8 | 21·0 | 19·0 | ... | 116·1 |
| Belgium | 1866 | 20·3 | 41·2 | 33·9 | 24·6 | 160·1 |
| Denmark | 1876 | 27·8 | 28·1 | 25·7 | 24·0 | 108·0 |
| France | 1877 | 16·2† | 22·2 | 17·2 | 15·7 | 106·7 |
| Holland | 1878 | 23·6 | 40·6 | 34·9 | 19·2 | 125·2 |
| Italy | 1874 | 12·3 | 19·6 | 16·0 | ... | 114·7 |
| Norway | 1875 | 25·1 | 39·7 | 31·0 | 27·5 | 227·8 |
| Prussia | 1876 | 20·7 | 33·4 | 26·7 | ... | ... |
| Russia in Europe | 1872 | 5·5 | 16·5 | 8·0 | 8·2 | 117·0 |
| Saxony | 1876 | 22·5 | 33·2 | 25·0 | ... | 173·2 |
| Sweden | 1878 | ... | ... | ... | ... | 128·8 |
| United States | 1879 | 13·4 | 27·8 | 23·2 | 14·1 | 95·7 |
| Württemberg | 1876 | 17·8 | 28·1 | 23·2 | ... | 118·8 |

* See footnote (†) to table following paragraph 930 ante.

† Including spelt (*Triticum spelta*).

Yield of wheat in foreign countries and Australasia.

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

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

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

Government Experimental Farm.

936. For the purpose of carrying out experiments connected with agriculture, with a view to ascertain the suitability of the Victorian climate and soil for various kinds of useful products, and to obtain data respecting the rotation of crops, as well as for the instruction of students in agriculture, a block of 4,806 acres (subsequently increased by 40 acres) was reserved in 1874 at Cashel, in the north-eastern district of Victoria, on which to found a Government Experimental Farm; but it was not until April 1877 that the fencing-in of the land was commenced, and the first tender for grubbing, burning-off, and ploughing was accepted in May 1878. It is, however, from November 1878 that the existence of the farm really dates, when a manager was appointed, stock were placed on the land, and in the following April the first crop of wheat was sown on about 40 acres (exclusive of experimental plots and portions placed under green stuff), which was harvested in due course in the December and January following—producing an average of 40 bushels per acre. By April 1881, 430 acres had been grubbed and cleared, of which 250 acres were under the plough, and about 30 acres planted with vines, olives, oranges, citrons, limes, figs, and other fruit trees; whilst the experimental grounds comprised an area of 20 acres—divided into plots of one-tenth of an acre each—on which a series of experiments has been commenced in rotation cropping, various systems of manuring, &c. The buildings were commenced in April 1879, and completed in August 1880. The first sale of wool was effected in December 1879, and students were admitted in July 1880. The number

* See table following paragraph 927 ante.

of stock on the 30th June 1880 was 1,583, consisting of 20 horses, 313 cattle, 1,247 sheep, and 3 pigs; but the land is capable of carrying twice that number. The land on which the farm stands is valued at £11,405. The total expenditure up to the 30th June 1880 amounted to £14,270, of which £6,907 was expended during 1879-80; and the receipts amounted to £298, of which £68 was realized from stock, £200 from farm produce, and £30 from students' fees. It is, however, anticipated that in 1879-80 there will be a cash surplus of £1,250, representing a return of about 9 per cent. on the capital invested; and it is stated that, if the farm were fully stocked and the accommodation for students increased—only 15 students can be taken at present—the farm could be made to pay 15 per cent. The following is a statement of the various items of expenditure prior to and during 1879-80:—

EXPENDITURE ON THE CASHEL EXPERIMENTAL FARM TO THE 30TH JUNE 1880.

| Heads of Expenditure. | Prior to 1879-80. | During 1879-80. | Total. | Heads of Expenditure. | Prior to 1879-80. | During 1879-80. | Total. |
|-----------------------|-------------------|-----------------|--------|-----------------------------|-------------------|-----------------|--------|
| | £ | £ | £ | | £ | £ | £ |
| Fencing ... | 3,128 | 353 | 3,481 | Grubbing and clearing ... | 220 | 1,273 | 1,493 |
| Wages ... | 900 | 667 | 1,567 | Buildings and furniture ... | ... | 2,589 | 2,589 |
| Salaries ... | 200 | 300 | 500 | Purchase of land ... | ... | 70 | 70 |
| Incidentals ... | 198 | 579 | 777 | Travelling ... | 58 | 35 | 93 |
| Dams ... | 91 | 192 | 283 | | | | |
| Stock ... | 2,270 | 362 | 2,632 | Total ... | 7,362 | 6,908 | 14,270 |
| Impléments ... | 297 | 488 | 785 | | | | |

937. The difficulty of continuing the Experimental Farm as a Government institution, as was very generally foretold, has been proved by experience. The management was influenced by every change of Government, and the vote for maintenance and improvement was always rendered liable to be curtailed when, in the interest of the institution, it should have been largely augmented. The management got into difficulties for want of sufficient funds to properly carry on the farm, and it was represented to Government that it would be preferable to abolish the institution rather than to attempt to continue it in the unsatisfactory condition into which it had fallen through no fault of those who directed its affairs. An offer was shortly afterwards made to the Minister of Agriculture by a private gentleman, who undertook to relieve the Government of the responsibility of the farm and to maintain it at his own expense. This offer has been accepted by the Cabinet, and a Bill is now before Parliament to give effect to the proposal. The Bill provides for the leasing of the farm for a period of years and the establishment thereon of a college of agriculture.

Proposal to lease Experimental Farm.

Breadstuffs
available
for con-
sumption.

938. Only in the last four years and three previous ones has the colony raised enough breadstuffs for the consumption of its own inhabitants. In each of these seven years there was a surplus of Victorian-grown wheat remaining for export, which amounted, in 1880, to over three and a half millions, and in each of the two previous years to about a million, bushels. This will be seen by the following table, which shows for each of the years from 1840 to 1880 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, 1840-1880.

| 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. | bushels. | | |
| 1840 | 8,056 | 12,600 | 57,771 | 70,371 | 3,880 | 66,491 | 8·25 |
| 1841 | 15,353 | 50,420 | 116,350 | 166,770 | 3,404 | 163,366 | 10·64 |
| 1842 | 22,107 | 47,840 | 119,004 | 166,844 | 4,864 | 161,980 | 7·33 |
| 1843 | 23,951 | 55,360 | 58,616 | 113,976 | 9,348 | 104,628 | 4·37 |
| 1844 | 25,418 | 104,040 | 98,581 | 202,621 | 13,839 | 188,782 | 7·43 |
| 1845 | 29,007 | 138,436 | 74,699 | 213,135 | 22,933 | 190,202 | 6·56 |
| 1846 | 34,807 | 234,734 | 43,928 | 278,662 | 31,604 | 247,058 | 7·10 |
| 1847 | 40,635 | 345,946 | 36,871 | 382,817 | 35,359 | 347,458 | 8·55 |
| 1848 | 47,163 | 349,730 | 64,726 | 414,456 | 38,775 | 375,681 | 7·97 |
| 1849 | 58,805 | 410,220 | 76,092 | 486,312 | 48,494 | 437,818 | 7·45 |
| 1850 | 71,191 | 525,190 | 55,564 | 580,754 | 57,020 | 523,734 | 7·36 |
| 1851 | 86,825 | 556,167 | 216,811 | 772,978 | 59,247 | 713,731 | 8·22 |
| 1852 | 132,905 | 733,321 | 1,208,006 | 1,941,327 | 33,646 | 1,907,681 | 14·35 |
| 1853 | 195,378 | 498,704 | 1,499,994 | 1,998,698 | 15,107 | 1,983,591 | 10·15 |
| 1854 | 267,371 | 154,202 | 1,385,465 | 1,539,667 | 25,654 | 1,514,013 | 5·66 |
| 1855 | 338,315 | 250,091 | 1,985,496 | 2,235,587 | 85,372 | 2,150,215 | 6·36 |
| 1856 | 380,942 | 1,148,011 | 2,236,406 | 3,384,417 | 160,310 | 3,224,107 | 8·46 |
| 1857 | 430,347 | 1,858,756 | 1,958,905 | 3,817,661 | 174,460 | 3,643,201 | 8·47 |
| 1858 | 483,827 | 1,808,439 | 1,504,760 | 3,313,199 | 156,468 | 3,156,731 | 6·52 |
| 1859 | 517,390 | 1,563,113 | 1,957,610 | 3,520,723 | 214,185 | 3,306,538 | 6·39 |
| 1860 | 534,055 | 2,296,157 | 1,565,423 | 3,861,580 | 322,503 | 3,539,077 | 6·62 |
| 1861 | 539,824 | 3,459,914 | 1,522,517 | 4,982,431 | 393,844 | 4,588,587 | 8·50 |
| 1862 | 548,080 | 3,607,727 | 183,106 | 3,790,833 | 324,018 | 3,466,815 | 6·33 |
| 1863 | 562,960 | 3,008,487 | 191,107 | 3,199,594 | 298,784 | 2,900,810 | 5·15 |
| 1864 | 586,450 | 1,338,762 | 1,868,990 | 3,207,752 | 250,080 | 2,957,672 | 5·04 |
| 1865 | 611,218 | 1,899,378 | 1,800,932 | 3,700,310 | 357,256 | 3,343,054 | 5·47 |
| 1866 | 629,038 | 3,514,227 | 1,754,699 | 5,268,926 | 417,176 | 4,851,750 | 7·71 |
| 1867 | 644,276 | 4,641,205 | 15,190 | 4,656,395 | 433,978 | 4,222,417 | 6·55 |
| 1868 | 663,092 | 3,411,663 | 162,038 | 3,573,701 | 519,608 | 3,054,093 | 4·61 |

* 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, 1840-1880—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. | |
| 1869 | 687,202 | 4,229,228 | 719,589 | 4,948,817 | 577,028 | 4,371,789 | 6.36 |
| 1870 | 713,195 | 5,697,056 | -95,654 | 5,601,402 | 568,334 | 5,033,068 | 7.06 |
| 1871 | 737,005 | 2,870,409 | 1,179,583 | 4,049,992 | 669,218 | 3,380,774 | 4.59 |
| 1872 | 753,198 | 4,500,795 | 389,963 | 4,890,758 | 653,128 | 4,237,630 | 5.63 |
| 1873 | 765,511 | 5,391,104 | -138,088 | 5,253,016 | 699,952 | 4,553,064 | 5.95 |
| 1874 | 777,656 | 4,752,289 | -40,714 | 4,711,575 | 665,872 | 4,045,703 | 5.20 |
| 1875 | 787,337 | 4,850,165 | 200,369 | 5,050,534 | 642,802 | 4,407,732 | 5.60 |
| 1876 | 796,558 | 4,978,914 | 258,931 | 5,237,845 | 802,834 | 4,435,011 | 5.57 |
| 1877 | 808,605 | 5,279,730 | -384,118 | 4,895,612 | 1,129,128 | 3,766,484 | 4.66 |
| 1878 | 821,466 | 7,018,257 | -1,005,968 | 6,012,289 | 1,383,244 | 4,629,045 | 5.64 |
| 1879 | 834,030 | 6,060,737 | -957,384 | 5,103,353 | 1,414,376 | 3,688,977 | 4.42 |
| 1880 | 850,343 | 9,398,858 | -3,578,733 | 5,820,125 | 1,954,570 | 3,865,555 | 4.55 |

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

939. The estimated average quantity of breadstuffs available for food to each individual of the population is shown in the last column of the table. This will be found to vary in different years, ranging from over 14 bushels in 1852, and between 10 and 11 bushels in 1841 and 1853, to between 4 and 5 bushels in 1843, 1868, 1871, 1879, and 1880. Except those for 1879 and 1843, the figures for 1880 show a smaller average than those for any previous year.

Consumption of breadstuffs per head.

940. The quantity of breadstuffs available for annual food-consumption per head has averaged 6 bushels over the whole period of forty-one years, but during the last five years it has averaged a fraction under 5 bushels. In the present state of our population, it may be fair to assume that an allowance of 5 bushels per head, irrespective of the quantity required for seed, is amply sufficient to supply the wants of any given year.

Average consumption of breadstuffs.

941. In the United Kingdom, animal food, in consequence of its high price, is used much more sparingly than it is in this country, especially by the working classes, and therefore, as a natural consequence, the consumption of breadstuffs in proportion to the numbers of the population is somewhat higher than it is here. The following table shows the estimated mean population of the United Kingdom during each of the fourteen harvest years (or periods extending from the 1st September

Breadstuffs available for consumption in United Kingdom.

* 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.

to the 31st August) ended with 1879-80; also the total number of bushels and number of bushels per head of grown and imported wheat available for consumption, after deducting seed, in each of the same years:—

BREADSTUFFS AVAILABLE FOR CONSUMPTION IN THE UNITED KINGDOM, 1867 TO 1880.

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

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

943. 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. 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 is even less than that shown by the figures. This small consumption of wheat may perhaps be accounted for by the fact that an American population uses large quantities of maize, buckwheat, and probably other grains, and therefore their consumption of wheat would naturally be less than that of an Australian

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

† Estimated.

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

Average consumption of wheat in United Kingdom.

Consumption of breadstuffs per head in United States.

population, by whom wheat is the only cereal which, to any large extent, is used for food.

944. The imports and exports of breadstuffs during the forty-four years, 1837 to 1880, 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 10¼ millions sterling paid by the colony for breadstuffs imported :—

IMPORTS AND EXPORTS OF BREADSTUFFS,* 1837 TO 1880.

| Wheat, Flour, Bread, and Biscuit. | | Quantity. | Value. |
|-----------------------------------|--------|------------|------------|
| | | bushels. | £ |
| Imported, 1837 to 1880 | | 32,258,031 | 13,756,073 |
| Exported, „ „ | | 11,805,465 | 3,495,541 |
| Imports in excess of exports ... | | 20,452,566 | 10,260,532 |

Imports and exports of breadstuffs, 1837 to 1880.

945. The following are the values of the net imports—i.e., the values of imports after the values of the exports have been deducted—of certain articles of farm and garden produce during each of the six years ended with 1880. 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 four years, jams and preserves for the last three years, and beans and pease, chicory and tobacco for the last year ; the exports of those articles having exceeded the imports. In 1880, moreover, a decided decrease is perceptible in the net imports of most of the articles named :—

Net imports of agricultural products.

NET IMPORTS † OF CERTAIN ARTICLES OF AGRICULTURAL PRODUCE, 1875 TO 1880.

| Articles. | Balance of Imports over Exports in— | | | | | |
|---|-------------------------------------|---------|---------|---------|---------|---------|
| | 1875. | 1876. | 1877. | 1878. | 1879. | 1880. |
| | £ | £ | £ | £ | £ | £ |
| Wheat | 65,913 | 87,247 | ... | ... | ... | ... |
| Oats | 170,957 | 112,430 | 95,071 | 80,140 | 92,176 | 12,938 |
| Oatmeal | 511 | 261 | ... | ... | ... | ... |
| Barley | 24,569 | 35,318 | 25,481 | 48,328 | 87,982 | 21,000 |
| Pearl barley | 4,623 | 2,825 | 1,368 | 1,584 | 2,907 | 248 |
| Malt | 93,009 | 68,401 | 76,867 | 37,162 | 54,716 | 18,661 |
| Maize | 114,609 | 117,951 | 123,357 | 164,578 | 154,717 | 105,849 |
| Maizena | 1,624 | 4,988 | 7,365 | 2,359 | 3,668 | 4,171 |
| 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 | 111,603 |

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

† The total imports and total exports of these articles during 1880 will be found in the table of imports and exports following paragraph 164 ante, chiefly under Order 22.

**NET IMPORTS* OF CERTAIN ARTICLES OF AGRICULTURAL
PRODUCE, 1875 TO 1880—continued.**

| Articles. | Balance of Imports over Exports in— | | | | | |
|------------------------------|-------------------------------------|----------------|----------------|----------------|----------------|----------------|
| | 1875. | 1876. | 1877. | 1878. | 1879. | 1880. |
| | £ | £ | £ | £ | £ | £ |
| Jams, jellies, and preserves | 4,799 | 6,450 | 350 | ... | ... | ... |
| Nuts, almonds, walnuts | 6,255 | 7,774 | 6,064 | 4,565 | 5,497 | 3,208 |
| Hops | 42,960 | 64,600 | 43,782 | 41,461 | 20,596 | 24,637 |
| Chicory | 2,413 | 1,798 | 3,300 | 1,906 | 257 | ... |
| Pickles | 9,160 | 12,892 | 4,284 | 1,843 | 6,457 | 295 |
| Tobacco, cigars, and snuff | 36,485 | 78,192 | 148,688 | 45,372 | 24,921 | ... |
| Vegetables (preserved) | 930 | 1,397 | ... | 1,409 | 498 | 717 |
| Canary seed | 2,117 | 4,970 | 1,857 | 1,228 | 1,008 | 1,260 |
| Grass and clover seed | 17,786 | 10,985 | 19,618 | 12,616 | 13,704 | 5,226 |
| Total ... | 709,164 | 736,947 | 713,322 | 534,779 | 578,614 | 309,813 |

Net imports
of eggs.

946. In addition to the articles named in the above table, eggs, of which it might reasonably be supposed that Victoria would produce sufficient for her own consumption, were imported in 1875 to the value of £12,471, but none were exported. The value of the imports of eggs in 1876 exceeded that of the exports by £16,093, in 1877 by £13,550, in 1878 by £11,597, in 1879 by £9,479, and in 1880 by £6,693.

Proportion of
land under
each crop.

947. Of every thousand acres cultivated during the past season, 489 acres were placed under wheat; 67 under oats; 34 under barley; 23 under potatoes; 125 under hay; 132 under green forage; and 129 under other kinds of crops. The tendency of late years has been to crop a larger extent of land, relatively to the whole area under tillage, with wheat, and a smaller extent with the remaining crops. The following table shows the proportion that the land under different crops has borne to the total area under tillage during each of the last eight years:—

**PROPORTION OF LAND UNDER EACH CROP TO TOTAL UNDER
CULTIVATION, 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. | 1880-81. |
| | per cent. | 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 | 48·91 |
| Oats | 11·50 | 11·36 | 11·01 | 9·36 | 7·41 | 8·35 | 9·93 | 6·71 |
| Barley | 2·63 | 2·92 | 2·80 | 2·03 | 1·35 | 1·42 | 2·56 | 3·44 |
| Potatoes | 3·97 | 3·48 | 3·27 | 3·29 | 2·61 | 2·27 | 2·46 | 2·30 |
| Hay | 11·99 | 11·76 | 13·78 | 11·97 | 12·46 | 10·74 | 11·93 | 12·50 |
| Green forage | 22·08 | 25·14 | 27·37 | 29·45 | 27·48 | 24·94 | 18·11 | 13·24 |
| Other tillage | 11·56 | 12·44 | 13·25 | 11·29 | 8·95 | 9·30 | 13·12 | 12·90 |
| Total ... | 100·00 | 100·00 | 100·00 | 100·00 | 100·00 | 100·00 | 100·00 | 100·00 |

* The total imports and total exports of these articles during 1880 will be found in the table of imports and exports following paragraph 164 *ante*, chiefly under Order 22.

948. In addition to the principal crops of which mention has been made, various descriptions of minor crops are also raised. It is not, however, presumed that the whole of such crops, or the full measure to which they are grown, is recorded by the collectors. It is certain that they are often raised in gardens, in which case the different kinds would not be distinguished in the returns. It is also probable that they may be sometimes grown upon allotments of a smaller extent than one acre, which are not taken account of. The following list must therefore be looked upon as indicating the nature of certain minor crops grown in Victoria rather than the extent to which those crops have been cultivated during the last six years. The acreage under and produce of hops, mustard, raspberries, strawberries, and tobacco were much greater in the last than in any other year shown :—

MINOR CROPS,* 1876 TO 1881.

| Nature of Crop. | | 1875-6. | 1876-7. | 1877-8. | 1878-9. | 1879-80. | 1880-81. |
|--------------------------------------|-------------------|---------|-----------------|---------|---------|----------|----------|
| Arrowroot ... | acres ... | ... | ... | ... | 4 | 3 | 9 |
| | tons (root) ... | ... | ... | ... | 3 | 17 | 37 |
| | cwt., manfd. ... | ... | ... | ... | 7 | 10 | 8 |
| Artichokes ... | acres ... | ... | ... | ... | ... | ... | 3 |
| | tons ... | ... | ... | ... | ... | ... | 45 |
| Beet, carrots, parsnips, and cabbage | acres ... | 807 | 571 | 470 | 402 | 374 | 348 |
| | tons ... | 4,268 | 3,430 | 2,272 | 1,272 | 2,504 | 2,403 |
| Broom millet... | acres ... | 96 | 8 | 7 | 6 | ... | 2 |
| | fibre, cwt. ... | 338 | 8 | ... | ... | ... | ... |
| Buckwheat ... | seed, bush. ... | 2,095 | ... | ... | ... | ... | ... |
| | acres ... | 2 | ... | 2 | ... | 1 | ... |
| Canary seed ... | bushels ... | 40 | ... | 11 | ... | 12 | ... |
| | acres ... | 50 | 30 | 82 | 4 | 1 | 57 |
| Chicory ... | bushels ... | 300 | 183 | 825 | 150 | 2 | 341 |
| | acres ... | 174 | 225 | 256 | 155 | 392 | 230 |
| " for seed | tons ... | 652 | 980 | 1,333 | 653 | 1,764 | 960 |
| | acres ... | 3 | ... | ... | ... | ... | ... |
| Currants ... | lbs. ... | 168 | ... | ... | ... | ... | ... |
| | acres ... | ... | ... | ... | ... | ... | 1 |
| Cucumbers ... | bushels ... | ... | ... | ... | ... | ... | 8 |
| | acres ... | ... | 1 | ... | ... | ... | ... |
| Flax ... | tons ... | ... | 12 | ... | ... | ... | ... |
| | acres ... | 17 | 3 | 33 | 4 | 5 | 13 |
| Garden seeds— | fibre, cwt. ... | 93 | 2 $\frac{1}{4}$ | 40 | ... | 12 | 31 |
| | linseed, bsh. ... | 80 | 52 | 125 | ... | 30 | 67 |
| Mixed ... | acres ... | ... | 50 | 16 | ... | 112 | 29 |
| | cwt. ... | ... | ... | ... | ... | ... | 812 |
| Radish ... | acres ... | ... | 1 | ... | 4 | 5 | ... |
| | lbs. ... | ... | 560 | ... | 672 | 2,240 | ... |
| Grass and clover seeds | acres ... | 2,234 | 1,993† | 1,846 | 2,824 | 2,237 | 2,817 |
| | bushels ... | 34,194 | 29,229 | 28,840 | 34,432 | 32,081 | 26,320 |

* Exclusive of those grown in gardens.

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

MINOR CROPS,* 1876 TO 1881—continued.

| Nature of Crop. | | | 1875-6. | 1876-7. | 1877-8. | 1878-9. | 1879-80. | 1880-81. |
|-------------------------------|-------------------|-----|---------|---------|---------|---------|----------|----------|
| Green pease ... | acres ... | ... | ... | 11 | ... | 37 | ... | ... |
| | tons ... | ... | ... | 18 | ... | 50 | ... | ... |
| Hops ... | acres ... | ... | 145 | 225 | 274 | 203 | 267 | 428 |
| | lbs. ... | ... | 113,344 | 129,136 | 218,848 | 130,816 | 284,480 | 307,328 |
| Kohl-rabi ... | acres ... | ... | 1 | ... | ... | ... | ... | ... |
| | cwt. ... | ... | 300 | ... | ... | ... | ... | ... |
| Lucerne for seed ... | acres ... | ... | 6 | ... | ... | 3 | 7 | ... |
| | bushels ... | ... | 42 | ... | ... | 16 | 50 | ... |
| Maize ... | acres ... | ... | 2,346 | 1,609 | 1,215 | 1,939 | 2,447 | 1,769 |
| | bushels ... | ... | 37,177 | 25,909 | 22,050 | 40,754 | 61,887 | 49,299 |
| Mangel-wurzel ... | acres ... | ... | 1,223 | 1,285 | 1,320 | 888 | 1,027 | 1,284 |
| | tons ... | ... | 16,795 | 15,386 | 15,465 | 8,275 | 14,897 | 12,640 |
| Medicinal herbs ... | acres ... | ... | ... | 1 | ... | ... | ... | 2 |
| | tons ... | ... | ... | 5 | ... | ... | ... | ... |
| Mulberry trees ... | acres ... | ... | 23 | 11† | 21 | 18 | 4 | 14 |
| | number ... | ... | 30,650 | 11,010 | 14,310 | 12,460 | ... | ... |
| Mustard ... | acres ... | ... | 40 | 74 | 58 | 39 | 92 | 233 |
| | cwt. ... | ... | 166 | 185 | 167 | 121 | 447 | 771 |
| Olives ... | acres ... | ... | 10 | 10 | 10 | 20 | 10 | 17 |
| | fruit, cwt. ... | ... | ... | ... | ... | ... | ... | 17 |
| Onions ... | oil, gallons ... | ... | ... | ... | ... | ... | ... | 15 |
| | acres ... | ... | 552 | 720 | 816 | 1,069 | 1,040 | 1,056 |
| Opium poppies ... | tons ... | ... | 4,780 | 3,579 | 3,055 | 3,600 | 7,347 | 4,979 |
| | lbs. of opium ... | ... | 4 | 4 | 3 | 3 | 5 | 15 |
| Oranges ... | heads ... | ... | 100 | 60 | ... | ... | 80 | 171 |
| | acres ... | ... | ... | ... | ... | 60,000 | ... | ... |
| Osiers ... | cases ... | ... | ... | ... | ... | 6 | 2 | 20 |
| | acres ... | ... | 3 | 5 | ... | ... | 30 | 6 |
| Pease and beans ... | acres ... | ... | ... | ... | ... | ... | ... | 31 |
| | tons ... | ... | ... | ... | ... | ... | ... | 1 |
| Prickly com-frey ... | acres ... | ... | 18,854 | 21,235 | 17,286 | 15,153 | 21,462 | 23,378 |
| | bushels ... | ... | 450,948 | 373,857 | 241,007 | 248,436 | 574,954 | 403,321 |
| Pumpkins, melons, &c. ... | acres ... | ... | ... | ... | ... | ... | ... | 1 |
| | tons ... | ... | ... | ... | ... | ... | ... | 100 |
| Rape for seed ... | acres ... | ... | 55 | 19 | 46 | 205 | 99 | 64 |
| | tons ... | ... | 67 | 77 | 159 | 1,190 | 484 | 416 |
| Raspberries ... | acres ... | ... | 34 | 10 | ... | 2 | 41 | 14 |
| | bushels ... | ... | ... | 20 | ... | 25 | ... | 128 |
| Rhubarb ... | acres ... | ... | 3 | 10 | 17 | 45 | 94 | 132 |
| | cwt. ... | ... | 60 | 51 | 224 | 476 | 1,299 | 1,591 |
| Rye and bere ... | acres ... | ... | ... | ... | 3 | 3 | ... | 18 |
| | tons ... | ... | ... | ... | 10 | 10 | ... | 81 |
| Sheep's parsley ... | acres ... | ... | 1,292 | 1,153 | 1,075 | 1,779 | 1,236 | 1,569 |
| | bushels ... | ... | 19,356 | 15,277 | 9,852 | 20,816 | 18,407 | 13,978 |
| Shrubs, forest trees, &c. ... | acres ... | ... | ... | 2 | ... | 3 | ... | ... |
| | lbs. ... | ... | ... | 1,500 | ... | 1,000 | ... | ... |
| Strawberries ... | acres ... | ... | ... | ... | ... | ... | ... | 135 |
| | cwt. ... | ... | 24 | 21 | 19 | 24 | 19 | 107 |
| Sunflowers for seed ... | acres ... | ... | 215 | 273 | 208 | 323 | 209 | 1,421 |
| | bushels ... | ... | ... | ... | ... | ... | 2 | 7 |
| | | | | | | | 40 | 142 |

* Exclusive of those grown in gardens.

† 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,* 1876 TO 1881—continued.

| Nature of Crop. | | | 1875-6. | 1876-7. | 1877-8. | 1878-9. | 1879-80. | 1880-81. |
|-------------------------------|--------------|-----|-----------|---------|---------|---------|----------|----------|
| Teazles | acres | ... | 11 | 3 | ... | ... | 1 | 2 |
| | number | ... | 1,079,000 | 19,000 | ... | ... | 8,000 | 27,000 |
| Tobacco | acres | ... | 782 | 1,479 | 2,327 | 1,936 | 531 | 1,990 |
| | cwt. | ... | † 501 | 14,413 | 15,827 | 15,662 | † 1,297 | 17,333 |
| Tomatoes | acres | ... | ... | ... | 5 | 3 | ... | 5 |
| | cwt. | ... | ... | ... | 721 | 220 | ... | 454 |
| Turnips | acres | ... | 284 | 224 | 315 | 310 | 192 | 460 |
| | tons | ... | 2,668 | 1,769 | 2,346 | 1,349 | 2,054 | 1,932 |
| Vegetable mar- rows | acres | ... | ... | 2 | ... | ... | ... | ... |
| | tons | ... | ... | 55 | ... | ... | ... | ... |
| Vetches and tares for seed | acres | ... | 26 | 8 | ... | ... | 3 | 23 |
| | bushels | ... | 492 | 47 | ... | ... | 62 | 201 |
| Vines | acres | ... | 5,081 | 4,765 | 4,419 | 4,434 | 4,284 | 4,980 |
| | wine, galls. | ... | 755,000 | 481,588 | 457,535 | 410,333 | 574,143 | 484,028 |
| Wattle trees | brandy, „ | ... | 256 | 3,725 | 840 | 1,561 | 3,284 | 3,038 |
| | acres | ... | ... | ... | ... | ... | ... | 30 |

949. Although in 1880-81 the land under vines exceeded that in the previous year by 696 acres, the wine produced was less by 90,000 gallons than in that year. 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.

950. The vine disease caused by the insect called the phylloxera vastatrix made its appearance in Victoria about the year 1875. The place it visited was the Geelong district, to which it has ever since been confined. In order, if possible, to prevent the spread of this disease, an Act‡ was passed providing for the appointment of inspectors of vineyards, with power to enter any lands where vines were grown for the purpose of ascertaining whether the vines were infected, in which case the fact was to be reported to the Chief Secretary, who might authorize steps to be taken to eradicate the disease, either by destroying the vines or otherwise, no compensation being granted to the proprietor for any loss he might sustain in consequence of such measures. As the phylloxera, however, still continued to spread, a select committee of the Legislative Assembly was appointed in November 1880 to enquire into the

* Exclusive of those grown in gardens.

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

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

condition of the disease and the best means of eradicating or otherwise mitigating it. The committee reported that the infected district extended from Geelong in a north-westerly direction 10 miles, south 5 miles, west 5 miles, and was bounded on the east by the sea; that in 1877 only two vineyards were proved to be infected, but that at the time they visited the district not less than nineteen vineyards were found to be diseased; that the disease was surely and rapidly extending, and that unless active and determined measures were taken, it would be likely to devastate all the vineyards in the colony, as had already been the case with a quarter of the vineyards of Europe and a nearly equal proportion in eastern and western America. They further stated that no means seemed to have been discovered up to the present time to suppress or destroy the phylloxera, and they considered that nothing short of uprooting the vines in the entire Geelong district, and turning over the soil on which they had grown to the depth of at least two feet, and leaving it exposed to atmospheric influences and fallow for not less than twelve months, would completely eradicate the disease; and even then it would not be safe to plant vines upon the land until after four years had expired. They therefore recommend that a cordon, having a radius of 20 miles, should be drawn round Geelong; and that no part of the vines within that cordon, whether cuttings, leaves, fruits, or roots, should be removed outside of it; that all the vines within that cordon should be inspected, and all reported as diseased, or situated within a three-mile radius of any reported as diseased, should be destroyed by the complete rooting up of such vines and burning the roots, the owners being awarded a moderate compensation, based, not upon the value of the vines, but of the grape crop which might have been expected during the next three years. Consequently upon this report, another Act* was passed, repealing all former ones relating to vines or vineyards, and providing for the proclamation of infected localities as "vine disease districts," to which inspectors should be appointed, on the receipt of whose reports the Minister might order any diseased vines to be uprooted, as well as all other vines within a radius of three miles thereof, whether diseased or not, compensation being given to owners of diseased vines up to the value of one year's crop, and to owners of vines not diseased up to the value of three years' crops. Persons were, moreover, prohibited, under a penalty not exceeding One hundred pounds or imprisonment for any term not exceeding six months, from removing from a "vine disease district" any vine or part of a vine, or planting or transplanting it after it had been so removed. The

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

Governor in Council was also granted power to restrict the importation of vines, vine cuttings, or grapes, and to make regulations for the purpose of carrying the Act into effect. The question, moreover, formed one of the subjects of discussion at the intercolonial conference held in Sydney, in January 1881, when it was agreed by the colonies of New South Wales, South Australia, and Victoria, to contribute jointly to the eradication of the vineyards in the Geelong district and the compensation of their owners.

951. The following table shows the land under gardens and orchards in 1880 and 1881. No return is made of the nature of the crops grown or the quantity of produce raised. There was a slight decrease during the year in the area under gardens, but a considerable increase in that under orchards, resulting in a net increase of 1,989 acres :—

LAND UNDER GARDENS AND ORCHARDS, 1880 AND 1881.

| Year ended 31st March. | | | | Gardens. | Orchards. | Total. |
|------------------------|-----|-----|-----|----------|-----------|--------|
| | | | | acres. | acres. | acres. |
| 1880 | ... | ... | ... | 12,842 | 7,457 | 20,299 |
| 1881 | ... | ... | ... | 12,493 | 9,795 | 22,288 |
| Increase | | | | ... | 2,338 | 1,989 |
| Decrease | | | | 349 | ... | ... |

Gardens and orchards.

952. Land in fallow is included in the area under tillage. The number of acres in this condition in 1881 was 194,140, or 28,986 more than in the previous year.

Land in fallow.

953. 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.

AVERAGE SIZE OF HOLDINGS.*

| | | | | | |
|---------|-----|-----|-----|-----|-----------|
| 1870-71 | ... | ... | ... | ... | 299 acres |
| 1875-76 | ... | ... | ... | ... | 320 " |
| 1880-81 | ... | ... | ... | ... | 365 " |

954. 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 :—

Area occupied per head of population.

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

| | | | | | |
|---------|-----|-----|-----|-----|------------|
| 1870-71 | ... | ... | ... | ... | 13.1 acres |
| 1875-76 | ... | ... | ... | ... | 16.5 " |
| 1880-81 | ... | ... | ... | ... | 21.1 " |

955. 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.

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

AVERAGE AREA CULTIVATED BY EACH HOLDER.

| | | | | | |
|---------|-----|-----|-----|-----|------------|
| 1870-71 | ... | ... | ... | ... | 28.5 acres |
| 1875-76 | ... | ... | ... | ... | 27.6 " |
| 1880-81 | ... | ... | ... | ... | 40.3 " |

Area cultivated per head of population.

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

AVERAGE AREA CULTIVATED TO EACH PERSON IN THE COLONY.

| | | | | | |
|---------|-----|-----|-----|-----|------------|
| 1870-71 | ... | ... | ... | ... | 1.25 acres |
| 1875-76 | ... | ... | ... | ... | 1.42 " |
| 1880-81 | ... | ... | ... | ... | 2.32 " |

Occupied land cultivated.

957. 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:—

PROPORTION OF OCCUPIED* LAND CULTIVATED.

| | | | | |
|---------|-----|-----|-----|----------------|
| 1870-71 | ... | ... | ... | 9.53 per cent. |
| 1875-76 | ... | ... | ... | 8.61 " |
| 1880-81 | ... | ... | ... | 11.01 " |

Leases and rental of farms.

958. The average duration of leases of farms from private persons was returned in 1879-80 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.

Prices of agricultural produce.

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

PRICES OF AGRICULTURAL PRODUCE,† 1870 TO 1881.

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

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

† See table following paragraph 307 ante.

960. It will be observed that the price of wheat was highest in 1877; that of barley, oats, and potatoes in 1874, and that of hay in 1877; also that the price of barley was lowest in 1872, that of wheat in 1880, and that of oats, potatoes, and hay in the year under review.

Years of highest and lowest prices.

961. The following statement of the average *Gazette* price of wheat per Imperial quarter* during the five years ended with 1879 has been taken from an official source,† and that of the average price in 1880 has been taken from the *London Statist*:—

Price of wheat in London.

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

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

962. The value of agricultural produce in the year ended 31st March 1881 may be estimated at nearly 5½ millions sterling. The following table shows the means whereby such an estimate is arrived at:—

Value of agricultural produce.

VALUE OF AGRICULTURAL PRODUCE, 1880-81.

| Name of Crop. | Gross Produce and Price. | | | | Estimated Value. | | | |
|--------------------------------|--------------------------|---|----|----|------------------|-----------|----|----|
| | | | £ | s. | d. | £ | s. | d. |
| Wheat ... | 9,727,369 bushels | @ | 0 | 4 | 1¾ | 2,016,402 | 10 | 8 |
| Oats ... | 2,362,425 " | @ | 0 | 2 | 3 | 265,772 | 16 | 3 |
| Barley ... | 1,068,830 " | @ | 0 | 4 | 11¼ | 263,867 | 8 | 2 |
| Other cereals ... | 466,598 " | @ | 0 | 4 | 6 | 104,984 | 11 | 0 |
| Potatoes ... | 129,262 tons | @ | 2 | 6 | 3 | 298,918 | 7 | 6 |
| Other root crops ... | 21,954 " | @ | 5 | 0 | 0 | 109,770 | 0 | 0 |
| Hay ... | 300,581 " | @ | 3 | 0 | 0 | 901,743 | 0 | 0 |
| Green forage ... | 264,611 acres | @ | 3 | 0 | 0 | 793,833 | 0 | 0 |
| Tobacco ... | 17,333 cwt. | @ | 2 | 16 | 0 | 48,532 | 8 | 0 |
| Grapes, not made into wine ... | 24,817 " | @ | 1 | 0 | 0 | 24,817 | 0 | 0 |
| Wine ... | 484,028 gallons | @ | 0 | 4 | 0 | 96,805 | 12 | 0 |
| Brandy ... | 3,038 " | @ | 0 | 10 | 0 | 1,519 | 0 | 0 |
| Other crops ... | 4,459 acres | @ | 5 | 0 | 0 | 22,295 | 0 | 0 |
| Garden and orchard produce | 22,288 " | @ | 20 | 0 | 0 | 445,760 | 0 | 0 |
| | Total ... | | | | | 5,395,020 | 13 | 7 |

* The imperial quarter is equal to 8 bushels.

† Giffen's Statistical Abstract for the United Kingdom, 1865 to 1879.

Weight of
crops.

963. 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 1880, 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 1879 and 1880 was as follows:—

SPECIFIC WEIGHT OF CROPS, 1879 AND 1880.

| Average Weight per Bushel of— | | | | 1879. | 1880. |
|-------------------------------|-----|-----|-----|-------|-------|
| | | | | lbs. | lbs. |
| Wheat | ... | ... | ... | 60 | 62 |
| Oats | ... | ... | ... | 40 | 41 |
| Barley | ... | ... | ... | 50 | 51 |
| Maize | ... | ... | ... | 56 | 55 |

Hands em-
ployed.

964. An increase took place in the number of both males and females engaged on agricultural and pastoral holdings in 1880-81 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,
1880 AND 1881.

| Year ended 31st March. | | | | Males. | Females. | Total. |
|------------------------|-----|-----|-----|--------|----------|---------|
| 1880 | ... | ... | ... | 72,084 | 34,698 | 106,782 |
| 1881 | ... | ... | ... | 81,706 | 36,248 | 117,954 |
| Increase ... | | | | 9,622 | 1,550 | 11,172 |

Rates of
agricul-
tural labor.

965. A return of the average rates of labor on farms in 1879 and 1880 is given below. It will be observed that the rates generally were lower in the latter than in the former year. Rations are allowed in all cases in addition to the wages quoted:—

RATES OF AGRICULTURAL LABOR,* 1879 AND 1880.

| Description of Labor. | | | | 1879. | | 1880. | |
|-----------------------|------------|-----|-----|-------|----|-------|----|
| | | | | 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 306 ante.

966. 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 1880, 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.

RATES OF PASTORAL LABOR,* 1879 AND 1880.

| Description of Labor. | 1879. | | | 1880. | | |
|--------------------------------------|-------|----|----|-------|----|----|
| | £ | 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 |

967. Information as to the numbers of live stock kept in the colony were obtained at the recent census. These are given in the following table, also the numbers derived from the returns of the census of 1871:—

Live stock.

LIVE STOCK, 1871 AND 1881.

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

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

Increase or decrease in ten years.

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

Stock per square mile.

970. The numbers of each description of stock returned at the census were in excess of the numbers estimated. A return of the numbers of horses, sheep, cattle, and pigs had each year been made by the collectors of agricultural statistics, but it was not possible for these officers to get information respecting the number of stock kept in towns or remote

Stock estimated and enumerated.

* See also table following paragraph 306 ante.

parts of the country away from agricultural settlement, or on small holdings, and therefore the figures they supplied were supplemented by estimates made partly by them and partly in the office of the Government Statist. It was, however, pointed out, on each occasion of the publication of the live stock returns, that too much reliance ought not to be placed upon them, and that the numbers could only be verified at a general census. The following table shows the supposed numbers on the 31st March 1880 and those actually returned at the census of 1881:—

LIVE STOCK ESTIMATED AND ENUMERATED.

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

Correct estimate of stock difficult to make.

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

Poultry.

972. No attempt is made to obtain information respecting the numbers of poultry kept except at the taking of a census. The following is a statement of numbers of the different kinds, according to the returns of the censuses of 1871 and 1881:—

POULTRY, 1871 AND 1881.

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

Increase or decrease of poultry.

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

974. 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 ... | 1880 | 2,904, | 9,871, | 30,240, | 2,863, |
| Austria and Hungary ... | 1869 | 3,543, | 12,628, | 20,103, | 6,995, |
| Belgium ... | 1866 | 283, | 1,242, | 586, | 632, |
| Denmark ... | 1876 | 352, | 1,348, | 1,719, | 504, |
| France ... | 1877 | 2,826, | 11,481, | 23,375, | 5,790, |
| Holland ... | 1878 | 275, | 1,471, | 909, | 360, |
| Italy ... | 1876 | 657, | ... | ... | ... |
| Norway ... | 1875 | 152, | 1,017, | 1,686, | 101, |
| Russia ... | 1870 | 16,160, | 22,770, | 48,132, | 9,800, |
| Sweden ... | 1878 | 465, | 2,211, | 1,536, | 431, |
| United States ... | 1878 | 10,939, | 33,235, | 38,124, | 34,766, |

975. The following is an estimate of the gross value of pastoral produce raised on holdings of all descriptions in 1880-81 :—

Value of pastoral produce.

GROSS VALUE OF PASTORAL PRODUCE, 1880-81.

| Nature of Produce. | Value. |
|--|------------------|
| Milk, butter, and cheese, from number of milch cows kept, viz., 329,198, @ £8 10s. | £ 2,798,183 |
| Estimated value of stock produced in 1880 :— | |
| Cattle, 329,198, @ £8 ... | 2,633,584 |
| Sheep, 1,178,482, @ 10s. ... | 589,241 |
| Pigs, 72,580, @ £2 10s. ... | 181,450 |
| Horses, 13,776, @ £8 ... | 110,208 |
| Excess of exports over imports of wool, Customs value ... | 3,440,189 |
| Estimated value of wool used in the colony for manufacturing purposes, 1,372,603 lbs., @ 1s. 6d. | 102,945 |
| Total ... | 9,855,800 |

NOTE.—The principle on which the numbers of "stock produced" have been estimated is different from that adopted in previous years. On the present occasion the increase of cattle has been assumed to be one to every milch cow. To obtain an estimate of the increase of sheep, one-eighth has been first deducted from the total number as representing lambs, and of the remainder, one-fifth has been considered to be breeding ewes, upon which the increase has been assumed to be 65 per cent. The increase of pigs and horses has been arbitrarily estimated at 30 and 5 per cent. respectively, upon the total numbers of such stock. The value per head set down for the different kinds of stock is intended to represent the average value per head of all the stock of each kind in the colony, young and old, for although the stock born in the year would be only six months old, on the average, when the year terminated, and would, consequently, not be of so high a value as the figures indicate, yet all the growing or fattening stock may be considered to have become more valuable during the year, and the increase of bulk and consequently of value of such stock may fairly be set down as part of the year's produce as much as the stock actually born therein, the numbers of the latter being taken as a basis whereto such values may be applied. The quantity of wool manufactured in Victoria has been ascertained from the various woollen mills. No estimate has been made of the value of meat, tallow, lard, hides, skins, horns, hoofs, bones, &c., as this is supposed to be included in the value of stock produced.

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

976. 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, 1880 AND 1881.

| Year ended 31st March. | Steam Engines. | | Value of Implements and Machines. | Value of Improvements. |
|------------------------|----------------|--------------|-----------------------------------|------------------------|
| | Number. | Horse-power. | | |
| 1880 | 467 | 3,537 | £ 2,067,695 | £ 17,448,358 |
| 1881 | 684 | 4,759 | 2,446,321 | 18,509,271 |
| Increase | 217 | 1,222 | 378,626 | 1,060,913 |

Machine
labor.

977. 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— | 1879. | 1880. |
|------------------------------------|---------|---------|
| | £ 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 |

Manufac-
tories,
works, &c.

978. The statistics of mills, manufactories, &c., were, on this occasion, collected by the census sub-enumerators, who were directed to obtain particulars respecting all establishments where goods were manufactured of the total value of £100 or upwards per annum, and all works at which steam, gas, horse, or water power was employed. They were, however, told to exercise some discretion in the case of bootmakers', tailors', dressmakers', saddlers', bakers', and confectioners' shops, and not to return such as were carrying on a purely retail business; also in the case of carpenters' and blacksmiths' shops, and not to return those whose business lay in repairing old rather than in making new articles. This was the first occasion in Victoria in which it was attempted to collect these particulars by means of the census officers, and it was not entirely successful, as, although many establishments were doubtless

returned which in former years had escaped the notice of the collectors employed by the municipal authorities, a number of establishments were also omitted, probably owing to the circumstance that the sub-enumerators found it impossible to obtain the particulars in the short space of time necessarily allowed for the census collection; also, that many of the manufactories were closed at the time of their visit, and such as were open were frequently not in charge of any one capable of giving the desired information. To rectify the omissions an officer was sent round from this department to the missed establishments in Melbourne and suburbs, and the same object was attained in country districts by means of correspondence. These arrangements have resulted, there is every reason to believe, in very complete returns being obtained.

979. The flour mills were more numerous by 6 in 1881 than in the Flour mills. previous year. An increase also took place in all the items relating thereto, especially as regards the quantity of grain operated upon and flour made :—

FLOUR MILLS, 1880 AND 1881.

| 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. | | | |
| 1880 ... | 139 | 134 | 5 | 2,571 | 439 | 770 |
| 1881 ... | 145 | 136 | 9 | 2,742 | 454 | 793 |
| Increase | 6 | 2 | 4 | 171 | 15 | 23 |

| Year ended 31st March. | Bushels of Grain operated upon. | | Tons of Flour made. | Approximate Total Value of— | | |
|------------------------|---------------------------------|---------|---------------------|-----------------------------|----------|------------|
| | Wheat. | Other. | | Machinery and Plant. | Lands.* | Buildings. |
| 1880 ... | 5,874,292 | 441,581 | 131,301 | £ 220,939 | £ 50,207 | £ 168,450 |
| 1881 ... | 7,281,053 | 747,126 | 157,784 | 227,643 | 53,492 | 181,122 |
| Increase | 1,406,761 | 305,545 | 26,483 | 6,704 | 3,285 | 12,672 |

980. The following was set down as the value of the grain operated upon, and of flour, meal, &c., produced in flour mills in 1880-81. Similar information was not furnished for 1879-80 :—

Value of material used and produced.

FLOUR MILLS, 1880-81.

| | | |
|----------------------------------|-----|-----------------|
| Value of materials operated upon | ... | £1,412,099 |
| Value of articles produced | ... | 1,651,351 |
| Difference | ... | <u>£239,252</u> |

* Three of the mills, both in 1880 and 1881, were upon Crown lands. In these cases no estimate of the value of the land is given.

Breweries.

981. The breweries returned in 1881 were fewer by 8 than those in 1880, which were also fewer by 13 than the number in 1879. Almost all the items in the year under review were below those in the previous year, the beer made being less by nearly 1,500,000 gallons, and the value of buildings, machinery, and plant, being less by £96,492. The results of the two years may be thus summarized :—

BREWERIES, 1880 AND 1881.

| Year ended 31st March. | Number of Breweries. | Breweries employing— | | | Amount of Horse-power of Steam Engines. | Number of Hands employed. | Materials used. | | |
|---------------------------|-------------------------|-------------------------|------------------|-----------------------|---|---------------------------------|--------------------|---------------------|-----------------|
| | | Steam- power. | Water- power. | Manual Labor only. | | | Sugar. | Malt. | Hops. |
| 1880 ... | 89 | 57 | 9 | 23 | 459 | 885 | lbs. 10,979,472 | bushels. 546,251 | lbs. 862,038 |
| 1881 ... | 81 | 55 | 1 | 25 | 492 | 851 | 10,808,112 | 496,168 | 709,946 |
| Increase ... | ... | ... | ... | 2 | 33 | ... | ... | ... | ... |
| Decrease ... | 8 | 2 | 8 | ... | ... | 34 | 171,360 | 50,083 | 152,092 |

| Year ended 31st March. | Quantity of Beer made. | Approximate Total Value of— | | |
|---------------------------|------------------------------|-----------------------------|-------------|--------------|
| | | Machinery and Plant. | Lands.* | Buildings. |
| 1880 ... | gallons. 13,769,990 | £ 160,215 | £ 80,230 | £ 223,930 |
| 1881 ... | 12,314,224 | 109,848 | 65,425 | 192,610 |
| Decrease ... | 1,455,766 | 50,367 | 14,805 | 31,320 |

Value of material used and produced.

982. The value of the sugar, malt, and hops used, and of the beer made, were returned for 1880-81, but not for the previous year. The following are the figures given :—

BREWERIES 1880-81.

| | | | |
|-------------------------|-----|-----|---------|
| | | | £ |
| Value of materials used | ... | ... | 442,885 |
| „ of beer made | ... | ... | 780,501 |
| | | | <hr/> |
| Difference | ... | ... | 337,616 |
| | | | <hr/> |

Brickyards and potteries.

983. In 1881, as compared with 1880, a falling off of 5 took place in the number of brickyards and potteries, of 3 in the number of machines in use, of $1\frac{1}{3}$ millions in the number of bricks made, and of £5,525 in the value of lands, buildings, and machinery. An increase of 3, however, took place in the number of steam engines, of 137 in the number

* Four of the breweries in 1880 and in 1881 were upon Crown lands. In these cases no estimate of the value of the land is given.

of men employed, and of £855 in the total value of articles manufactured. The following are the returns of the two years :—

BRICKYARDS AND POTTERIES, 1880 AND 1881.

| Year ended 31st March. | Number of Brick-yards and Potteries. | Number of Machines in use. | | Brickyards employing— | | | Amount of Horse-power of Steam Engines. | Number of Hands employed. |
|------------------------|--------------------------------------|---------------------------------|-------------------------------|-----------------------|--------------|---------------|---|---------------------------|
| | | For tempering or crushing Clay. | For making Bricks or Pottery. | Steam-power. | Horse-power. | Manual Labor. | | |
| 1880 ... | 170 | 123 | 83 | 14 | 76 | 80 | 265 | 807 |
| 1881 ... | 165 | 110 | 93 | 17 | 64 | 84 | 314 | 944 |
| Increase | ... | ... | 10 | 3 | ... | 4 | 49 | 137 |
| Decrease | 5 | 13 | ... | ... | 12 | ... | ... | ... |

| Year ended 31st March. | Number of Bricks made. | Approximate Total Value of— | | | | |
|------------------------|------------------------|-----------------------------|---------------|----------------------|----------|------------|
| | | Bricks made. | Pottery made. | Machinery and Plant. | Lands.* | Buildings. |
| 1880 ... | 54,922,000 | £ 105,409 | £ 31,570 | £ 74,079 | £ 49,692 | £ 49,158 |
| 1881 ... | 53,565,715 | 103,234 | 34,600 | 62,628 | 51,654 | 53,122 |
| Increase | ... | ... | 3,030 | ... | 1,962 | 3,964 |
| Decrease | 1,356,285 | 2,175 | ... | 11,451 | ... | ... |

984. The tanneries, fellmongeries, and wool-washing establishments, returned in 1881, exceeded by 29 those in 1880. An increase occurred in all the items respecting which information was sought in the two years. The hands employed increased by 362, and the value of lands, buildings, and plant, by £57,985. The figures are as follow :—

Tanneries, fellmongeries, &c.

TANNERIES, FELLMONGERIES, AND WOOL-WASHING ESTABLISHMENTS, 1880 AND 1881.

| Year ended 31st March. | Number of Establishments. | Establishments employing— | | | | | Amount of Horse-power of Steam Engines. | Number of Hands employed. |
|------------------------|---------------------------|---------------------------|-------------|--------------|--------------|--------------------|---|---------------------------|
| | | Steam-power. | Wind-power. | Water-power. | Horse-power. | Manual Labor only. | | |
| 1880 ... | 122 | 39 | ... | ... | 25 | 58 | 467 | 1,777 |
| 1881 ... | 151 | 49 | 1 | 1 | 29 | 71 | 531 | 2,139 |
| Increase | 29 | 10 | 1 | 1 | 4 | 13 | 64 | 362 |

* Twenty-nine of the brickyards in 1880, and 19 in 1881, were upon Crown lands. In these cases no estimate of the value of the land is given.

TANNERIES, FELLMONGERIES, AND WOOL-WASHING ESTABLISHMENTS,
1880 AND 1881—*continued.*

| Year ended 31st March. | Number of Pits. | Number of Hides and Skins Tanned. | Approximate Total Value of— | | |
|------------------------|-----------------|-----------------------------------|-----------------------------|----------|------------|
| | | | Machinery and Plant. | Lands.* | Buildings. |
| 1880 | 2,828 | 1,875,610 | £ 80,785 | £ 35,920 | £ 128,953 |
| 1881 | 3,152 | 2,066,061 | 95,346 | 49,256 | 159,041 |
| Increase | 324 | 190,451 | 14,561 | 13,336 | 30,088 |

Tanneries, fellmongeries, &c., 1880-81.

985. The subjoined particulars were returned for 1880-81, but not for the previous year :—

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

| | | |
|--------------------------------------|--------|----------------|
| Value of materials used | | £1,008,531 |
| „ articles produced | | £1,406,274 |
| Number of skins stripped of wool | | 2,404,407 |
| Quantity of wool obtained from skins | | lbs. 5,910,927 |
| „ other wool washed | | lbs. 6,413,098 |

Value of raw and manufactured materials.

986. The difference between the value of the materials used and that of the articles produced in tanneries, fellmongeries, and wool-washing works, indicates an increase in value, after going through the operations the former were subjected to in those establishments, amounting to £397,743, or 39 per cent.

Woollen mills.

987. Ten woollen mills were returned both in 1880 and 1881. The business seems to have been less active in the latter year than the former, a decrease having taken place in nearly all the items. The quantity of wool used was less by nearly a third, the value of goods manufactured fell off by £4,529, and a depreciation to the extent of £2,382 was reported in the value of lands, buildings, and machinery. The following are the returns of the two years :—

WOOLLEN MILLS, 1880 AND 1881.

| Year ended 31st March. | Total Number of Woollen Mills. | Horse-power of Steam Engines. | Quantity of Wool used. | Goods Manufactured : Quantity of— | | |
|------------------------|--------------------------------|-------------------------------|------------------------|--------------------------------------|--------------|------------|
| | | | | Tweed, Cloth, Flannel, &c. | Blankets. | Shawls. |
| 1880 | 10 | 596 | lbs. 1,944,406 | yards. 1,105,116 | pairs. 1,838 | number. 62 |
| 1881 | 10 | 610 | 1,372,603 | 1,095,013 | 1,890 | 22 |
| Increase | ... | 14 | ... | ... | 52 | ... |
| Decrease | ... | ... | 571,803 | 10,103 | ... | 40 |

* Six of the establishments in 1880, and 16 in 1881, were on Crown lands. In these cases no estimate of the value of the land is given.

WOOLLEN MILLS, 1880 AND 1881—continued.

| Year ended 31st March. | Hands employed. | | Approximate Total Value of— | | | |
|---------------------------|-----------------|----------|-----------------------------|-------------------------|--------|------------|
| | Males. | Females. | Goods Manufactured | Machinery and Plant. | Lands. | Buildings. |
| | | | £ | £ | £ | £ |
| 1880 ... | 507 | 307 | 173,239 | 143,703 | 6,942 | 67,677 |
| 1881 ... | 483 | 293 | 168,710 | 140,663 | 13,592 | 61,685 |
| Increase ... | ... | ... | ... | ... | 6,650 | ... |
| Decrease ... | 24 | 14 | 4,529 | 3,040 | ... | 5,992 |

988. The value of the raw material used in woollen mills was returned for 1880-81, but not for the previous year. The amount was entered as £89,412, which, placed against the value of articles produced set down in the table as £168,710, shows a difference in favor of the latter of £79,298, or 89 per cent.

Value of raw and manufactured materials.

989. Four more soap and candle manufactories, and 34 more persons employed therein, were returned in 1881 than in 1880. The value of lands, buildings, and machinery, connected with such works was, moreover, higher in 1881 than in the former year by £12,130. The following are the figures for the two years :—

Soap and candle works.

SOAP AND CANDLE WORKS, 1880 AND 1881.

| Year ended 31st March. | Number of Establishments. | Establishments employing— | | | Amount of Horse-power of Steam Engines. | Number of Hands employed.* | Approximate Total Value of— | | |
|---------------------------|------------------------------|------------------------------|--------------------------|-------------------------|---|----------------------------------|-----------------------------|------------|--|
| | | Steam- power. | Manual Labor only. | Machinery and Plant. | | | Lands. | Buildings. | |
| | | | | | | £ | £ | £ | |
| 1880 ... | 34 | 27 | 7 | 451 | 467 | 94,740 | 11,733 | 33,715 | |
| 1881 ... | 38 | 30 | 8 | 425 | 501 | 95,158 | 13,344 | 43,816 | |
| Increase ... | 4 | 3 | 1 | ... | 34 | 418 | 1,611 | 10,101 | |
| Decrease ... | ... | ... | ... | 26 | ... | ... | ... | ... | |

990. In addition to the above, the following particulars respecting soap and candle works were obtained for the year 1880-81 :—

Soap and candle works, 1880-81.

SOAP AND CANDLE WORKS, 1880-81.

| | |
|-----------------------------|-------------|
| Value of materials used ... | £288,340 |
| „ articles produced ... | £450,924 |
| Quantity of soap made ... | cwt. 68,131 |
| „ candles made ... | cwt. 35,536 |

* In 1880, 7, and in 1881, 6 of the hands employed were females.

Value of raw and manufactured materials.

991. According to the figures given, the value of the articles produced in soap and candle works exceeded that of the raw materials used by £162,584, or by 56 per cent.

Tobacco manufactories.

992. Sixteen tobacco manufactories were returned in 1881, or 1 more than in the previous year. The male operatives employed increased by 7, but a diminution of 34 took place in the number of females. The value of lands, buildings, and plant, increased by £3,150. Subjoined are the figures :—

TOBACCO MANUFACTORIES, 1880 AND 1881.

| Year ended 31st March. | Number of Establishments. | Establishments employing— | | Amount of Horse-power of Steam Engines. | Number of Hands employed. | | Approximate Total Value of— | | |
|---------------------------|------------------------------|------------------------------|-----------------------|---|------------------------------|----------|--------------------------------|-------------|-------------|
| | | Steam- power. | Manual Labor only. | | Males. | Females. | Machinery and Plant. | Lands. | Buildings. |
| 1880 ... | 15 | 5 | 10 | 38 | 564 | 213 | £ 39,495 | £ 19,730 | £ 19,440 |
| 1881 ... | 16 | 6 | 10 | 50 | 571 | 179 | 36,415 | 23,300 | 22,100 |
| Increase ... | 1 | 1 | ... | 12 | 7 | ... | ... | 3,570 | 2,660 |
| Decrease ... | ... | ... | ... | ... | ... | 34 | 3,080 | ... | ... |

Tobacco manufactories, 1880-81.

993. The following additional particulars respecting tobacco manufactories were obtained for the year 1880-81 :—

TOBACCO MANUFACTORIES, 1880-81.

| | | | |
|--------------------------------------|-----|------|-----------|
| Value of materials used ... | ... | ... | £126,450 |
| „ articles produced ... | ... | ... | £199,320 |
| Quantity of tobacco manufactured ... | ... | lbs. | 1,646,850 |
| „ snuff manufactured ... | ... | lbs. | 5,400 |
| Number of cigars manufactured ... | ... | ... | 4,213,000 |

Value of raw and manufactured materials.

994. The value of the articles produced in tobacco manufactories shows an excess over that of the raw materials used of £72,870, which is equivalent to an increase of value by the process of manufacture amounting to 58 per cent.

Other manufactories, works, &c.

995. The following are the returns for 1880 and 1881 of the manufactories and works, exclusive of those of which mention has already been made, viz., flour mills, breweries, brickyards, potteries, tanneries, fellmongeries, wool-washing establishments, woollen mills, soap works, candle manufactories, and tobacco manufactories. With one trifling exception increases occur in all the columns :—

MANUFACTORIES, WORKS, ETC., 1880 AND 1881.

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

| Year ended 31st March. | Number of Manufactories, Works, &c. | Manufactories, &c., employing— | | | | | Amount of Horse-power employed. |
|------------------------|-------------------------------------|--------------------------------|--------|------|--------------|---------------|---------------------------------|
| | | Steam. | Water. | Gas. | Horse-power. | Manual Labor. | |
| 1880 ... | 1,660 | 648 | 6 | 29 | 14 | 963 | 8,289 |
| 1881 ... | 1,863 | 745 | 11 | 41 | 7 | 1,059 | 9,338 |
| Increase ... | 203 | 97 | 5 | 12 | ... | 96 | 1,049 |
| Decrease ... | ... | ... | ... | ... | 7 | ... | ... |

| Year ended 31st March. | Number of Hands employed. | | Approximate Total Value of— | | |
|------------------------|---------------------------|----------|-----------------------------|-------------|-------------|
| | Males. | Females. | Machinery and Plant. | Lands. | Buildings. |
| 1880 ... | 21,829 | 5,121 | £ 2,022,524 | £ 1,037,171 | £ 1,892,317 |
| 1881 ... | 25,305 | 6,082 | 2,273,316 | 1,262,383 | 2,178,369 |
| Increase ... | 3,476 | 961 | 250,792 | 225,212 | 286,052 |

996. By summarizing the returns of manufactories and works of all descriptions, including not only such as are embraced in the foregoing table, but also those excluded therefrom—viz., flour mills, breweries, potteries, tanneries, fellmongeries, wool-washing establishments, woollen mills, soap works, candle manufactories, and tobacco manufactories—it is found that the total number of establishments was apparently greater by 230 in 1881 than in the previous year, and that increases are shown in all the other items. According to the figures, the number of establishments using steam increased by 171, the amount of horse-power by 1,925, the hands employed by 4,894, and the capital invested in lands, buildings, machinery, and plant, by £753,583. It is possible, however, portion of this appearance of increase may be due to the fact that the more complete machinery of the census led to the discovery of establishments which had been in existence previously but had escaped the notice of the municipal collectors. The following are the figures returned for the two years :—

Manufactories of all descriptions.

MANUFACTORIES, WORKS, ETC., 1880 AND 1881.

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

| Year ended 31st March. | Total Number of Establishments. | Number of Establishments using Steam. | Horse-power of Engines. | Number of Hands employed. | Approximate Value of Lands,* Buildings, Machinery, and Plant. |
|------------------------|---------------------------------|---------------------------------------|-------------------------|---------------------------|---|
| 1880 ... | 2,239 | 877 | 12,677 | 33,247 | £ 6,711,745 |
| 1881 ... | 2,469 | 1,048 | 14,502 | 38,141 | 7,465,328 |
| Increase ... | 230 | 171 | 1,825 | 4,894 | 753,583 |

* In the case of establishments standing upon Crown lands no estimate of the value of the land is given. The number of such establishments in both the years was 204.

Names of
manufac-
tories.

997. 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 materials used and produced, and 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 five years:—

| | 1877. | 1878. | 1879. | 1880. | 1881. | | 1877. | 1878. | 1879. | 1880. | 1881. | | |
|--|-------|-------|-------|-------|-------|--|-------|-------|-------|-------|-------|-----|----|
| Printing establishments | 6 | 5 | .. | 5 | .. | Asphalte works | .. | .. | .. | .. | 1 | | |
| Pianoforte manufactory | .. | .. | 1 | .. | .. | Boot manufactories | .. | 11 | 14 | 16 | 26 | 47 | |
| Wax model manufactory | 1 | .. | .. | .. | .. | Clothing factories | .. | 5 | 2 | 7 | 12 | 24 | |
| Wax flower manufactory | 1 | .. | .. | .. | .. | Hat, cap—manufactories | .. | 12 | 6 | 6 | 4 | 2 | |
| Picture-frame manufactories | 2 | 1 | 1 | .. | .. | Umbrella manufactories | .. | .. | 1 | 3 | .. | .. | |
| Turnery and carving works | 2 | .. | 4 | 3 | 2 | Wig manufactories | .. | 3 | .. | .. | .. | .. | |
| Die sinkers and engravers | .. | .. | .. | 1 | 3 | Rope works | .. | 1 | .. | .. | .. | .. | |
| Philosophical instrument manufactories | 1 | .. | .. | .. | 2 | Cheese factories | .. | .. | .. | 2 | 1 | 4 | |
| Medical galvanic apparatus manufactory | 1 | .. | .. | .. | .. | Meat-curing establishments | .. | .. | .. | 1 | .. | 4 | |
| Spectacles manufactories | .. | .. | .. | .. | 2 | Bread and biscuit manufactories | .. | 8 | 7 | 4 | 29 | 22 | |
| Surgical instrument manufactories | 1 | .. | .. | .. | 2 | Confectionery works | .. | 1 | .. | .. | 1 | .. | |
| Gunsmiths | .. | .. | .. | 1 | 4 | Gingerbeer manufactories | .. | .. | 1 | 2 | 2 | .. | |
| Agricultural implement manufactories | 4 | 1 | .. | 5 | 1 | Sauce manufactory | .. | .. | .. | 1 | .. | .. | |
| Bellows manufactory | .. | 1 | .. | .. | .. | Vinegar works | .. | .. | .. | 1 | .. | .. | |
| Cutlery works | .. | 1 | .. | 1 | 2 | Coffee works | .. | .. | 1 | .. | .. | .. | |
| Engine, machine—manufactories | 1 | 1 | 5 | 1 | .. | Fancy leather manufactory | .. | 1 | .. | .. | .. | .. | |
| Machine-merchants' establishments | .. | 2 | .. | .. | .. | Glue manufactory | .. | 1 | .. | .. | .. | .. | |
| Saddle, harness—manufactories | 20 | 13 | 27 | 10 | 13 | Candle manufactory | .. | .. | .. | .. | 1 | .. | |
| Coachbuilders and wheelwrights' establishments | 13 | 1 | 19 | 16 | 30 | Soap works | .. | .. | .. | 2 | .. | .. | |
| Boat builders | .. | .. | 1 | 3 | 4 | Tallow-rendering works | .. | 1 | .. | .. | .. | 2 | |
| Joinery works | .. | 6 | 3 | .. | .. | Wool-washing establishment | .. | 1 | .. | .. | .. | .. | |
| Window-frame works | .. | 1 | 2 | .. | .. | Basket-making works | .. | 1 | 5 | 3 | 2 | 1 | |
| Lime works | .. | .. | .. | 1 | 2 | Blind (window) manufactory | .. | 1 | .. | 1 | .. | .. | |
| Carpenters, builders, &c. | .. | .. | .. | .. | 10 | Chaff-cutting works | .. | .. | .. | .. | 4 | 3 | 1 |
| Bedding and upholstery manufactories | 4 | 4 | 7 | 3 | 9 | Hat-box manufactory | .. | .. | .. | .. | .. | 1 | .. |
| Cabinet works | .. | .. | 4 | 1 | 11 | Cooperage works | .. | .. | 7 | 4 | 8 | .. | .. |
| Iron safe manufactory | .. | .. | .. | .. | 1 | Sawmills and wood yards | .. | .. | .. | .. | .. | 1 | 9 |
| Dye works | .. | .. | .. | 2 | 1 | Tent manufactories | .. | .. | 2 | 2 | 1 | .. | .. |
| Salt works | .. | .. | .. | .. | 1 | Marble works | .. | .. | .. | .. | 1 | 1 | 1 |
| Electric bell manufactory | 1 | .. | .. | .. | .. | Goldsmiths', jewellers', and watchmakers' establishments | .. | 8 | .. | 13 | 7 | 7 | |
| Life-preserving apparatus manufactory | 1 | .. | .. | .. | .. | Electro-plating works | .. | .. | 2 | .. | .. | .. | |
| Patent medicine manufactories | 1 | .. | .. | .. | 3 | Brass works | .. | .. | 1 | .. | .. | 2 | |
| | | | | | | Iron and tin works | .. | 4 | 13 | 29 | 11 | 29 | |
| | | | | | | Wire-working establishments | .. | 2 | .. | 1 | .. | .. | |
| | | | | | | Total.. | .. | 144 | 98 | 188 | 164 | 250 | |

MANUFACTORIES, WORKS, ETC., 1871, 1876, AND 1881.

| Description of Manufactory, Work, &c. | Number of Establishments. | | | 1880-1. | | | |
|--|---------------------------|---------|---------|---------------------------|-----------------------|--------------------|---|
| | 1870-1. | 1875-6. | 1880-1. | Number of Hands employed. | Approximate Value of— | | |
| | | | | | Materials used. | Articles produced. | Lands, Buildings, Machinery, and Plant. |
| | | | | | £ | £ | £ |
| BOOKS AND STATIONERY. | | | | | | | |
| Account-book manufactories, manufacturing stationers | 10 | 16 | 7 | 570 | 62,386 | 100,057 | 83,500 |
| Printing establishments | 17 | 34 | 85 | 2,147 | 172,155 | 522,097 | 416,618 |
| MUSICAL INSTRUMENTS. | | | | | | | |
| Organ-building establishments | 1 | 1 | 2 | 28 | 3,500 | 8,050 | 2,950 |
| Pianoforte manufactories | 4 | 9 | 5 | 23 | 1,700 | 4,150 | 3,650 |
| PRINTS, PICTURES, ETC. | | | | | | | |
| Picture-frame makers, carvers, and gilders | ... | 8 | 13 | 72 | 5,627 | 11,550 | 23,070 |
| CARVING FIGURES, ETC. | | | | | | | |
| Indiarubber stamp manufactories | ... | 3 | 2 | 7 | 350 | 1,700 | 2,950 |
| Modelling (architectural and figure), &c., works | ... | 2 | 8 | 27 | 2,584 | 5,900 | 9,380 |
| Statuary works | ... | 1 | ... | ... | ... | ... | ... |
| Turnery works | ... | 7 | 10 | 69 | 4,965 | 10,800 | 16,715 |
| Wood carving and ornamental works | ... | 1 | ... | ... | ... | ... | ... |
| Wooden pipe manufactory | 1 | 2 | ... | ... | ... | ... | ... |
| DESIGNS, MEDALS, AND DIES. | | | | | | | |
| Diesinkers, engravers, medalists, trade-mark makers | ... | 4 | 6 | 55 | 3,350 | 9,200 | 15,350 |
| PHILOSOPHICAL INSTRUMENTS, ETC. | | | | | | | |
| Philosophical instrument manufactories | ... | 3 | 1 | ... | ... | ... | ... |
| Spectacles manufactory | ... | 1 | ... | ... | ... | ... | ... |
| SURGICAL INSTRUMENTS. | | | | | | | |
| Surgical instrument, truss—manufactories | ... | 4 | 6 | 34 | 2,400 | 5,600 | 11,460 |
| ARMS, AMMUNITION, ETC. | | | | | | | |
| Blasting powder, dynamite, &c.—manufactories | ... | 6 | 3 | 39 | 9,964 | 16,737 | 7,600 |
| Fuse manufactory | 1 | 1 | 1 | ... | ... | ... | ... |
| Gunmakers | ... | 3 | ... | ... | ... | ... | ... |
| MACHINE TOOLS AND IMPLEMENTS. | | | | | | | |
| Agricultural implement manufactories | 42 | 47 | 54 | 975 | 91,659 | 202,535 | 107,380 |
| Bellows manufactory | ... | 1 | ... | ... | ... | ... | ... |
| Cutlery, machine-tool—manufactories | 1 | 9 | 3 | 8 | 800 | 2,400 | 3,750 |
| Engine, machine—manufactories | 18 | 52 | 77 | 1,811 | 117,869 | 287,725 | 321,796 |

MANUFACTORIES, WORKS, ETC.—continued.

| Description of Manufactory, Works, &c. | Number of Establishments. | | | 1880-1. | | | |
|---|---------------------------|---------|---------|---------------------------|-----------------------|--------------------|---|
| | 1870-1. | 1875-6. | 1880-1. | Number of Hands Employed. | Approximate Value of— | | |
| | | | | | Materials used. | Articles produced. | Lands, Buildings, Machinery, and Plant. |
| | | | | | £ | £ | £ |
| CARRIAGES AND HARNESS. | | | | | | | |
| Carriage lamp manufactories ... | ... | ... | 3 | 22 | 900 | 2,950 | 2,500 |
| Coach, waggon, &c.—manufactories* | 2 | 105 | 135 | 1,380 | 101,165 | 217,615 | 188,435 |
| Perambulator manufactories ... | ... | 2 | ... | ... | ... | ... | ... |
| Saddle, harness—manufactories ... | ... | 19 | 47 | 371 | 35,792 | 81,130 | 59,526 |
| Saddle-tree, &c., manufactories ... | ... | 4 | 4 | 45 | 2,400 | 6,860 | 3,177 |
| Saddlery, ironmongery, and coach spring manufactories ... | ... | 2 | ... | ... | ... | ... | ... |
| Whip manufactories ... | 3 | 5 | 3 | 20 | 940 | 2,950 | 2,870 |
| SHIPS AND BOATS. | | | | | | | |
| Ship, boat—builders ... | 15 | 17 | 10 | 60 | 3,570 | 14,614 | 9,745 |
| Ships' wheels, blocks, &c.—manufactories | ... | 1 | 3 | 7 | 505 | 1,100 | 2,195 |
| Floating-docks ... | ... | 1 | 4 | 127 | ... | ... | 430,600 |
| Graving-docks ... | 6 | 3 | ... | ... | ... | ... | ... |
| Patent slips ... | ... | 5 | 2 | 33 | ... | ... | 4,000 |
| HOUSES, BUILDINGS, ETC. | | | | | | | |
| Lime works ... | 36 | 28 | 21 | 151 | 6,560 | 17,216 | 15,208 |
| Cement works ... | ... | ... | 4 | 24 | 1,150 | 4,000 | 3,200 |
| Patent ceiling ventilator manufactory ... | ... | 1 | 1 | ... | ... | ... | ... |
| Roof-covering composition manufactories | ... | 1 | 2 | 5 | 944 | 2,180 | 1,555 |
| FURNITURE. | | | | | | | |
| Bedding and upholstery manufactories | 7 | 6 | 11 | 61 | 9,000 | 18,980 | 14,175 |
| Cabinet works, including billiard-table makers* | 2 | 20 | 63 | 1,082 | 131,000 | 258,188 | 176,707 |
| Earth-closet manufactories ... | 3 | 3 | ... | ... | ... | ... | ... |
| Iron safe manufactories ... | 2 | 2 | 2 | 12 | 670 | 970 | 1,060 |
| Looking-glass manufactories ... | 2 | 3 | 2 | 4 | 400 | 1,300 | 1,970 |
| CHEMICALS. | | | | | | | |
| Chemical works ... | 3 | 5 | 6 | 33 | 25,160 | 43,600 | 28,210 |
| Dye works ... | 10 | 17 | 6 | 57 | 1,130 | 7,150 | 15,160 |
| Essential oil manufactories ... | 2 | 4 | 4 | 30 | 1,825 | 3,900 | 2,910 |
| Ink, blacking, blue, washing-powder, &c.—manufactories | 3 | 8 | 12 | 160 | 37,280 | 58,560 | 33,690 |
| Japanners ... | ... | 1 | ... | ... | ... | ... | ... |
| Match (vesta) manufactory ... | ... | 1 | ... | ... | ... | ... | ... |
| Paint, varnish—manufactory ... | 1 | 1 | ... | ... | ... | ... | ... |
| Photographic apparatus manufactory ... | ... | 1 | ... | ... | ... | ... | ... |
| Salt works ... | 4 | 7 | 8 | 80 | 4,882 | 10,810 | 10,461 |
| Tar-distilling, asphalte—works ... | 1 | 2 | 8 | 107 | 10,640 | 27,783 | 9,885 |
| TEXTILE FABRICS. | | | | | | | |
| Woollen mills ... | 2 | 6 | 10 | 776 | 89,412 | 168,710 | 215,940 |

* 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, Works, &c. | Number of Establishments. | | | 1880-1. | | | |
|--|---------------------------|---------|---------|---------------------------|-----------------------|--------------------|---|
| | 1870-1. | 1875-6. | 1880-1. | Number of Hands Employed. | Approximate Value of— | | |
| | | | | | Materials used. | Articles produced. | Lands, Buildings, Machinery, and Plant. |
| | | | | | £ | £ | £ |
| DRESS. | | | | | | | |
| Boot manufactories | 17 | 46 | 105 | 3,919 | 355,418 | 686,922 | 196,809 |
| Clothing factories | 35 | 47 | 63 | 4,378 | 370,181 | 761,401 | 199,996 |
| Fur manufactories | ... | 4 | 3 | 19 | 4,300 | 6,900 | 2,300 |
| Hat, cap—manufactories | 10 | 15 | 22 | 378 | 34,753 | 66,264 | 38,885 |
| Oilskin, waterproof-clothing—manufactories | ... | 4 | 5 | 45 | 900 | 5,700 | 3,560 |
| Umbrella and parasol manufactories | ... | 7 | 9 | 83 | 13,180 | 24,825 | 9,430 |
| Wig manufactory | ... | ... | 1 | ... | ... | ... | ... |
| FIBROUS MATERIALS. | | | | | | | |
| Jute factory | ... | 1 | 1 | ... | ... | ... | ... |
| Mat manufactories | ... | ... | 3 | 34 | 4,410 | 7,050 | 2,733 |
| Rope, twine—works | 12 | 10 | 14 | 186 | 36,565 | 60,230 | 37,515 |
| ANIMAL FOOD. | | | | | | | |
| Cheese factories | ... | 17 | 28 | 122 | 17,733 | 31,586 | 32,994 |
| Meat-curing establishments | 14 | 17 | 16 | 447 | 192,150 | 258,790 | 76,950 |
| VEGETABLE FOOD. | | | | | | | |
| Biscuit manufactories | 8 | 7 | 13 | 471 | 106,110 | 181,840 | 45,775 |
| Confectionery works | 4 | 8 | 8 | 177 | 61,600 | 88,800 | 41,475 |
| Flour mills | 147 | 157 | 145 | 793 | 1,412,099 | 1,651,351 | 462,257 |
| Jam manufactories | 2 | 7 | 9 | 228 | 67,480 | 99,230 | 29,261 |
| Macaroni works | ... | 1 | 2 | 3 | 125 | 230 | 510 |
| Maizena, oatmeal, starch—manufactories | 2 | 3 | 4 | 22 | 3,620 | 4,500 | 2,330 |
| Rice mills | 2 | 1 | 1 | ... | ... | ... | ... |
| DRINKS AND STIMULANTS. | | | | | | | |
| Aërated waters, gingerbeer, liqueur, &c.—works | 112 | 124 | 114 | 608 | 91,849 | 196,810 | 133,063 |
| Breweries | 116 | 103 | 81 | 851 | 442,885 | 780,501 | 367,883 |
| Coffee, chocolate, spice—works | 10 | 11 | 10 | 196 | 233,540 | 320,036 | 91,350 |
| Chicory mills | ... | 2 | 2 | 7 | 1,815 | 2,750 | 1,610 |
| Distilleries | 5 | 5 | 6 | 45 | 26,368 | 44,500 | 46,900 |
| Malthouses | 16 | 16 | 14 | 94 | 67,635 | 98,000 | 47,007 |
| Sauce, pickle—manufactories | ... | 3 | 11 | 87 | 8,450 | 18,340 | 12,582 |
| Sugar (treacle) refinery | 1 | 1 | 1 | ... | ... | ... | ... |
| Tobacco, cigars, snuff—manufactories | 9 | 12 | 16 | 750 | 126,450 | 199,320 | 81,815 |
| Vinegar works | ... | 6 | 5 | 69 | 8,500 | 14,600 | 16,185 |
| ANIMAL MATTERS. | | | | | | | |
| Boiling-down establishments | 24 | 22 | 15 | 98 | 28,303 | 77,000 | 14,940 |
| Bone mills and bone manure manufactories | 17 | 17 | 15 | 95 | 50,225 | 70,845 | 32,013 |
| Brush manufactories | 2 | 4 | 8 | 163 | 15,700 | 27,800 | 10,810 |
| Comb manufactory | ... | ... | 1 | ... | ... | ... | ... |

MANUFACTORIES, WORKS, ETC.—continued.

| Description of Manufactory, Works, &c. | Number of Establishments. | | | 1880-1. | | | |
|---|---------------------------|---------|---------|---------------------------|-----------------------|--------------------|---|
| | 1870-1. | 1875-6. | 1880-1. | Number of Hands Employed. | Approximate Value of— | | |
| | | | | | Materials used. | Articles produced. | Lands, Buildings, Machinery, and Plant. |
| | | | | £ | £ | £ | |
| ANIMAL MATTERS—continued. | | | | | | | |
| Catgut manufactories | ... | 1 | 2 | 12 | 800 | 2,000 | 1,480 |
| Curled hair manufactories | ... | 2 | 3 | 16 | 1,700 | 2,565 | 1,820 |
| Fancy dyed wool mat and rug factories | ... | 1 | ... | ... | ... | ... | ... |
| Flock manufactories | 2 | 4 | 4 | 30 | 4,350 | 7,900 | 11,800 |
| Glue, oil—manufactories | 5 | 10 | 8 | 31 | 8,700 | 14,200 | 12,000 |
| Manure (poudrette) manufactory | ... | 1 | ... | ... | ... | ... | ... |
| Morocco, fancy leather—manufactories | ... | 1 | 3 | 12 | 2,480 | 4,400 | 2,520 |
| Parchment and skin manufactory | 1 | ... | ... | ... | ... | ... | ... |
| Portmanteau, trunk—manufactories | ... | 8 | 7 | 49 | 5,680 | 9,520 | 8,147 |
| Soap, candle, tallow—works | 29 | 43 | 38 | 501 | 288,340 | 450,924 | 152,318 |
| Tanneries, fellmongeries, and wool-washing establishments | 92 | 143 | 151 | 2,139 | 1,008,531 | 1,406,274 | 303,643 |
| VEGETABLE MATTERS. | | | | | | | |
| Bark mills | ... | 4 | 8 | 66 | 17,000 | 25,650 | 9,960 |
| Basket-making works | ... | 6 | 9 | 32 | 1,670 | 4,560 | 6,743 |
| Blind (window) manufactories | ... | 9 | 12 | 82 | 5,500 | 11,750 | 9,850 |
| Broom manufactory | 1 | 2 | 2 | 26 | 6,200 | 13,000 | 1,760 |
| Chaff-cutting, corn-crushing—works* | 157 | 185 | 165 | 709 | 357,232 | 516,623 | 176,050 |
| Cooperage works | 4 | 15 | 24 | 168 | 17,829 | 35,243 | 20,567 |
| Cork manufactories | ... | ... | 2 | 9 | 2,100 | 3,100 | 2,500 |
| Fancy-box manufactories | 1 | 3 | 5 | 71 | 3,080 | 6,745 | 4,135 |
| Firewood sawing mills | ... | 2 | ... | ... | ... | ... | ... |
| Hat-box manufactory | ... | 1 | ... | ... | ... | ... | ... |
| Ladders and steps—joiner's | ... | 1 | ... | ... | ... | ... | ... |
| Moulding, framing, turning, and saw mills | 127 | 165 | 171 | 2,921 | 551,463 | 971,027 | 364,623 |
| Packing-case manufactories | ... | ... | 2 | 13 | 800 | 1,650 | 960 |
| Paper manufactories | 1 | 2 | 3 | 185 | 24,300 | 47,370 | 65,196 |
| Paper-bag manufactories | ... | 8 | 4 | 127 | 30,320 | 47,700 | 21,609 |
| Tent, tarpaulin—manufactories | ... | ... | 12 | 72 | 28,860 | 47,250 | 13,574 |
| Wheelbarrow manufactory | ... | ... | 1 | ... | ... | ... | ... |
| COAL. | | | | | | | |
| Gasworks | 11 | 15 | 19 | 257 | 97,392 | 226,116 | 815,306 |
| Patent fuel factory | ... | ... | 1 | ... | ... | ... | ... |
| STONE, CLAY, EARTHENWARE; AND GLASS. | | | | | | | |
| Artificial stone manufactories | 1 | ... | ... | ... | ... | ... | ... |
| Brickyards and potteries | 301 | 241 | 165 | 944 | ... | 137,834 | 167,404 |
| Filter manufactories | ... | 2 | 1 | ... | ... | ... | ... |
| Glass manufactories, works | 2 | 3 | ... | ... | ... | ... | ... |
| Glass works | 2 | 2 | 9 | 238 | 12,705 | 41,150 | 27,440 |
| Marble and monumental works | 1 | 19 | 31 | 260 | 30,709 | 62,964 | 39,956 |
| Stone-breaking works | 2 | 4 | 1 | ... | ... | ... | ... |
| Stone sawing, polishing—works | | | 7 | 12 | 151 | 19,874 | 41,650 |

* 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 15,844 in 1880-81.

MANUFACTORIES, WORKS, ETC.—continued.

| Description of Manufactory, Works, &c. | Number of Establishments. | | | 1880-1. | | | |
|--|---------------------------|--------------|--------------|---------------------------|-----------------------|--------------------|---|
| | 1870-1. | 1875-6. | 1880-1. | Number of Hands Employed. | Approximate Value of— | | |
| | | | | | Materials used. | Articles produced. | Lands, Buildings, Machinery, and Plant. |
| | | | | £ | £ | £ | |
| WATER.* | | | | | | | |
| Ice manufactory | 1 | 1 | 2 | 40 | 2,000 | 7,000 | 20,500 |
| GOLD, SILVER, AND PRECIOUS STONES. | | | | | | | |
| Assaying works | ... | 1 | ... | ... | ... | ... | ... |
| Electro-plating and gilding works ... | ... | 4 | 5 | 24 | 1,100 | 4,300 | 5,690 |
| Goldsmiths and jewellers (manufacturing) | ... | 15 | 23 | 347 | 60,920 | 105,350 | 68,350 |
| Lapidaries | ... | 1 | ... | ... | ... | ... | ... |
| METALS OTHER THAN GOLD AND SILVER. | | | | | | | |
| Antimony-smelting works | 1 | 5 | 3 | 67 | 27,000 | 41,000 | 22,200 |
| Pyrites works | ... | ... | 1 | ... | ... | ... | ... |
| Bell foundry | ... | 1 | 1 | ... | ... | ... | ... |
| Iron and tin works | 11 | 45 | 61 | 956 | 143,000 | 247,299 | 151,066 |
| Iron, brass, and copper foundries ... | 58 | 76 | 73 | 2,076 | 214,326 | 441,894 | 350,651 |
| Lead works | 2 | 2 | 6 | 39 | 18,550 | 25,500 | 19,950 |
| Tin-smelting works | ... | 1 | 3 | 35 | 5,396 | 7,610 | 2,080 |
| Copper-smelting works | ... | ... | 1 | ... | ... | ... | ... |
| Type foundry | 1 | ... | ... | ... | ... | ... | ... |
| Wire-working establishments | ... | 5 | 10 | 68 | 3,650 | 9,800 | 15,990 |
| Total where only one return was received for each of certain descriptions† | ... | ... | ... | 488 | 282,210 | 430,730 | 247,940 |
| Total | 1,578 | 2,241 | 2,469 | 38,141 | 8,012,745 | 13,384,836 | 7,465,328 |

998. In 1881 advantage was taken of the census machinery to endeavor to obtain for the first time a return of the approximate value of the materials used and articles produced in all the manufactories. This enquiry was responded to in the majority of instances, and in cases where the information was not given the values have been estimated upon the same proportions as obtained in similar works respecting which the information was supplied. The result is given in the two columns preceding the final one of the last table, the totals and the difference between them being as follow :—

* Works for the storage and supply of water are not included in the manufacturing tables. A table of waterworks follows paragraph 1,001 *post*.

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

VALUE OF RAW AND MANUFACTURED MATERIALS, 1880-81.

| | | | | £ |
|----------------------------------|-----|-----|-----|------------|
| Value of materials operated upon | ... | ... | ... | 8,012,745 |
| „ articles produced | ... | ... | ... | 13,384,836 |
| Difference | | | | 5,372,091 |

999. The figures in the lower line, which show the difference between the value of the raw material and the manufactured articles, may be said roughly to represent the gross produce of manufacturing industry during the year. It will be found that they express an increase of value obtained in the process of manufacture amounting to 67 per cent.

1000. 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 56 per cent. between the first and second periods, and by 10 per cent. between the second and third periods; the hands employed increased by 69 per cent. and 28 per cent. respectively; and the value of lands, buildings, machinery, and plant, increased respectively by 62 per cent. and 30 per cent. :—

SUMMARY OF MANUFACTORIES, WORKS, ETC., 1871, 1876, AND 1881.

| Year ended 31st March. | Total Number of Establish- ments. | Number of Establishments using Steam. | Horse-power of Engines. | Number of Hands employed. | Approximate Value of Lands, Buildings, Machinery, and Plant. |
|---------------------------|---|---|----------------------------|---------------------------------|--|
| | | | | | £ |
| 1871 ... | 1,578 | 645 | 9,128 | 17,630 | 3,543,431 |
| 1876 ... | 2,241 | 904 | 12,562 | 29,821 | 5,753,491 |
| 1881 ... | 2,469 | 1,048 | 14,502 | 38,141 | 7,465,328 |

Waterworks.

1001. Extensive works for the storage and supply of water for domestic, mining, and irrigation purposes have been constructed by the Government in various parts of the colony. The most important of these is the Yan Yean reservoir, together with the subsidiary reservoirs at Morang and Preston, by means of which Melbourne is provided with a supply of fresh water at a high pressure. The Yan Yean is an artificial lake situated 19 miles from the city, and 595 feet above its level, and covers an area of 1,300 acres, or rather more than two square miles. To meet the increased demand for water consequent upon the growth of the city and suburbs, it is proposed to turn into the reservoir one or more streams, by which means all fear of the supply becoming exhausted in seasons of drought will be at an end. The

following table contains a list 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 nearly thirteen thousand million gallons, and their cost over three and a half millions sterling :—

WATERWORKS IN VICTORIA.

| Name of Town or District to be supplied. | Reservoir. | | Actual or Estimated Cost. |
|--|----------------------------------|-------------------|---------------------------|
| | Where situated. | Storage Capacity. | |
| | | gallons. | £ |
| Melbourne and suburbs | Yan Yean ... | 6,400,000,000 | 1,611,517 |
| | Morang (pipe head) ... | 2,800,000 | |
| | Preston ... | 15,000,000 | |
| | Malmsbury ... | 2,841,000,000 | |
| | Expedition Pass ... | 128,000,000 | |
| | Old Post Office Hill ... | 2,000,000 | |
| | Barker's Creek, Harcourt ... | 611,500,000 | |
| | Red Hill ... | 1,250,000 | |
| | Spring Gully ... | 149,000,000 | |
| | Crusoe Gully ... | 320,000,000 | |
| Coliban Scheme, including Reservoirs at | Big Hill ... | 68,000,000 | 899,100 |
| | Taradale (tank) ... | 65,000 | |
| | Crocodile Gully ... | 5,407,462 | |
| | Spring Gully ... | 7,000,000 | |
| | Solomon Gully ... | 1,250,000 | |
| | Big Hill, Pipe Head Reservoir | 300,000 | |
| | Sparrowhawk, Pipe Head Reservoir | 1,500,000 | |
| | Stony Creek (Old) ... | 166,000,000 | |
| | Stony Creek (New) ... | 143,000,000 | |
| | Lovely Banks ... | 6,000,000 | |
| Geelong and suburbs, including Reservoirs at | Anakie (pipe head) ... | 900,000 | 324,700 |
| | Newtown ... | 500,000 | |
| | Bullarook ... | 45,000,000 | |
| Creswick ... | Ashwell's Gully ... | 8,500,000 | 14,377 |
| | Adekate Creek ... | 18,000,000 | 232 |
| Tarnagulla ... | Tarnagulla ... | 6,000,000 | 100 |
| Inglewood { (Old) (New) | Inglewood ... | 5,670,000 | 1,401 |
| | Inglewood ... | 13,000,000 | 1,112 |
| Maryborough ... | Maryborough ... | 21,100,000 | 4,116 |
| Maldon ... | Maldon ... | 17,500,000 | 2,256 |
| Beechworth ... | Lake Kerferd ... | 110,000,000 | 3,937 |
| Chiltern ... | Barrambogie Springs ... | 3,084,319 | 40,120 |
| | Railway Tank ... | 6,000 | 6,282 |
| Wangaratta ... | Tank at Railway Station | 40,000 | 345 |
| Rutherglen ... | Rutherglen ... | 27,000,000 | 4,620 |
| | Oliver's Gully ... | 19,615,554 | 3,500 |
| Ararat ... | Langi-Giran ... | 15,200,000 | 5,000 |
| | Opossum Gully ... | 24,621,547 | 40,052 |
| Beaufort ... | Beaufort ... | 85,881,110 | 1,831 |
| | Service Reservoir, Camp Hill | 1,200,000 | 1,991 |
| | | | 7,253 |

WATERWORKS IN VICTORIA—continued.

| Name of Town or District to be supplied. | Reservoir. | | Actual or Estimated Cost. £ | |
|---|--|-----------------------------------|--|-----|
| | Where situated. | Storage Capacity. gallons. | | |
| Ballarat ... | Four and One Weir Basin in Bungaree | 632,960,000 | 360,000 | |
| Clunes ... | Newlyn ... | 265,000,000 | 81,724 | |
| Blackwood ... | Lerderberg River ... | 64,441,237 | 1,090 | |
| Buninyong ... | Buninyong ... | 10,462,485 | 1,047 | |
| Ovens ... | Sandy Creek ... | 70,000,000 | 2,835 | |
| Indigo ... | Suffolk Lead ... | 1,701,562 | 437 | |
| Sandhurst ... | Grassy Flat (1) ... | 58,860,375 | 5,821 | |
| | Grassy Flat (2) ... | 26,769,369 | | |
| Kilmore ... | Kilmore ... | 14,466,000 | 2,755 | |
| Myers Creek ... | Myers Creek ... | 13,000,000 | 844 | |
| Echuca ... | Echuca (tank) ... | 68,000 | 7,578 | |
| Dunolly Old Lead ... | Dunolly ... | 17,200,000 | 1,912 | |
| Dunolly ... | Dunolly Township ... | 7,500,000 | 3,000 | |
| St. Arnaud ... | St. Arnaud ... | 17,000,000 | 10,328 | |
| Redbank ... | Redbank ... | 27,100,000 | 2,785 | |
| Laplough ... | Laplough ... | 9,261,946 | 1,232 | |
| Talbot ... | Amherst ... | 13,813,284 | 11,193 | |
| | Evansford ... | 182,978,781 | | |
| 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 | 1,114 | |
| Orville ... | Opossum Gully ... | 2,000,000 | 250 | |
| | Quartz Reefs ... | 9,725,627 | 1,080 | |
| | Pleasant Creek ... | 7,905,750 | 805 | |
| | Four Posts ... | 3,100,000 | 802 | |
| Stawell ... | Fyan's Creek ... | ... | 115,000 | |
| | Service Reservoir ... | 2,250,000 | | |
| Woodend ... | Newham ... | ... * | 5,023 | |
| Great Western ... | Great Western Dam ... | 1,211,662 | 428 | |
| Elaine ... | Lal Lal ... | 90,000,000 | ... † | |
| Sebastopol ... | White Horse Ranges ... | 4,830,904 | 2,862 | |
| | Linton ... | 8,000,000 | 1,826 | |
| | Haddon ... | 3,100,000 | 1,046 | |
| | Happy Valley ... | 2,350,995 | 579 | |
| | Figgoreet ... | 600,000 | 79 | |
| | Shire of Grenville ... | Kangaroo (Berringa) ... | 1,000,000 | 171 |
| | | Cape Clear ... | 400,000 | 61 |
| | Staffordshire Reef ... | 375,000 | 126 | |
| | Illabarook ... | 3,069,000 | 259 | |
| | Rokewood Junction ... | 480,000 | 117 | |
| | Lucky Womans ... | 125,000 | 43 | |
| | Shire of Leigh ... | Rokewood ... | 5,000,000 | 385 |
| | | Break-of-Day ... | 4,500,000 | 424 |
| Shire of Tullaroop ... | Teesdale ... | 4,000,000 | 216 | |
| | Chinaman's Flat ... | 2,500,000 | 1,550 | |
| Rushworth ... | Rushworth ... | 7,000,000 | 1,550 | |
| | Total ... | 12,934,782,382 | 3,623,962 | |

* No reservoir (pipe-head tank).

† Cost cannot at present be given.

1002. 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, 1880-81 | £ | 7,465,328 |
| Actual or estimated cost of waterworks | | 3,623,962 |
| Total | | £11,089,290 |

1003. In 1881, the stone quarries exceeded by 26, the quantity of stone raised exceeded by 120,000 cubic yards, and the value of such stone exceeded by £3,279, the number, quantity, and value in 1880. In the same interval of twelve months the hands employed in stone quarries increased by 62, and the value of lands, buildings, and plant connected therewith increased by £5,580. The following are the returns :—

Stone quarries.

STONE QUARRIES, 1880 AND 1881.

| Year ended 31st March. | Number of Quarries. | Cubic Yards of Stone raised. | | | | | Steam Engines in use. | |
|------------------------|---------------------|------------------------------|--------|--------------------------|----------|--------|-----------------------|--------------|
| | | Bluestone. | Slate. | Sandstone and Freestone. | Granite. | Other. | Number. | Horse-power. |
| 1880 | 103 | 245,844 | 1,135 | 14,100 | 602 | 1,600 | 7 | 90 |
| 1881 | 129 | 373,545 | 706 | 5,500 | 2,000 | 1,200 | 7 | 86 |
| Increase | 26 | 127,701 | ... | ... | 1,398 | ... | ... | ... |
| Decrease | ... | ... | 429 | 8,600 | ... | 400 | ... | 4 |

| Year ended 31st March. | Number of Hands employed. | Approximate Total Value of— | | | |
|------------------------|---------------------------|-----------------------------|----------------------|---------|------------|
| | | Stone raised. | Machinery and Plant. | Lands.* | Buildings. |
| | | £ | £ | £ | £ |
| 1880 | 502 | 57,252 | 18,338 | 6,975 | 2,242 |
| 1881 | 564 | 60,531 | 21,198 | 9,171 | 2,766 |
| Increase | 62 | 3,279 | 2,860 | 2,196 | 524 |

1004. The quantity of gold raised in Victoria during any given year may be estimated in several ways; the following are the results for 1880 of four different methods of making the calculation :—

Gold raised, 1880.

* Thirty-three of the stone quarries in 1880, and 82 in 1881, were upon Crown lands. In these cases no estimate of the value of the land has been given.

ESTIMATES OF GOLD YIELD, 1880.

| | Estimated Quantity. | | |
|---|---------------------|------|-----|
| | oz. | dwt. | gr. |
| 1. Exported gold entered as the produce of Victoria, added to Victorian gold received at Melbourne Mint | 780,073 | 16 | 0 |
| 2. Gross exports of gold, less gross imports, added to gross quantity of gold received at Melbourne Mint | 781,495 | 0 | 0 |
| 3. Gold raised, according to estimates made by the mining registrars throughout the country | 829,121 | 4 | 23 |
| 4. Gold purchased, according to returns made by managers of banks and others | 787,483 | 5 | 22 |

1005. There is no doubt that some gold is taken from the colony by private hand, and some is certainly used in the colony by manufacturing jewellers. The third is probably the only one of these estimates which would take such gold into account, and therefore it has been adopted on the present occasion. As may be supposed, it gives a somewhat higher result than that obtained by any of the other methods. This quantity, and its value, at £4 per oz., are compared in the following table with the quantity and assumed value of the gold estimated to have been raised in 1879 :—

QUANTITY AND VALUE OF GOLD RAISED IN 1879 AND 1880.

| Year. | Gold raised in Victoria. | |
|-----------------|--------------------------|----------------------|
| | Estimated Quantity. | Value, at £4 per oz. |
| | oz. | £ |
| 1879 | 758,947 | 3,035,788 |
| 1880 | 829,121 | 3,316,484 |
| Increase | 70,174 | 280,696 |

1006. Until 1879 the quantity of gold raised from year to year had been steadily diminishing, but a revival took place in 1880, the yield of gold in that year having been above that in any other since 1876. The excess over the yield in 1879 was 70,000 oz., valued at £280,000. The following figures give an estimate of the quantity of gold raised in 1870 and each subsequent year :—

ESTIMATED QUANTITY OF GOLD RAISED, 1870 TO 1880.

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

Gold raised,
1879 and
1880.

Gold raised,
1870 to
1880.

1007. Carrying on to the end of 1880 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 1,654,891 oz., which is nearly twice the quantity raised in 1880 :—

Gold raised,
1851 to
1880.

ESTIMATED TOTAL QUANTITY AND VALUE OF GOLD RAISED IN VICTORIA, 1851 TO 1880.*

| Gold raised in Victoria. | Estimated Quantity. | Value, at £4 per oz. |
|--------------------------|---------------------|----------------------|
| | oz. | £ |
| Prior to 1880 ... | 48,817,596 | 195,270,384 |
| During 1880 ... | 829,121 | 3,316,484 |
| Total ... | 49,646,717 | 198,586,868 |

1008. 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 over 70 million oz., valued at 277 million pounds sterling. The following table, which has been compiled in the office of the Government Statist, Melbourne, contains particulars for each colony to the end of 1879, and of that raised during 1879. Western Australia is absent from the list, since little, if any, gold has yet been discovered there :—

Gold raised
in Austral-
asian
colonies.

PRODUCE OF GOLD IN AUSTRALASIAN COLONIES.†

| Colony. | Gold produced. | | | | | |
|-----------------------------------|---------------------|--------------------|---------------------|------------------|---------------------|--------------------|
| | Prior to 1879. | | During 1879. | | Total. | |
| | Estimated Quantity. | Value. | Estimated Quantity. | Value. | Estimated Quantity. | Value. |
| | oz. | £ | oz. | £ | oz. | £ |
| Victoria ... | 48,058,649 | 192,234,596 | 758,947 | 3,035,788 | 48,817,596 | 195,270,384 |
| New South Wales | 8,811,346 | 32,643,175 | 107,640 | 399,187 | 8,918,986 | 33,042,362 |
| Queensland ... | 2,901,092 | 10,727,909 | 281,827 | 1,024,337 | 3,182,919 | 11,752,246 |
| South Australia | 57,103 | 227,417 | 14,251 | 57,004 | 71,354 | 284,421 |
| Total of Aus- tralia | 59,828,190 | 235,833,097 | 1,162,665 | 4,516,316 | 60,990,855 | 240,349,413 |
| Tasmania ... | 70,585 | 278,954 | 60,155 | 230,895 | 130,740 | 509,849 |
| New Zealand ... | 8,959,482 | 35,005,273 | 284,100 | 1,134,641 | 9,243,582 | 36,139,914 |
| Total of Aus- tralasia | 68,858,257 | 271,117,324 | 1,506,920 | 5,881,852 | 70,365,177 | 276,999,176 |

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

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

Value of gold
per miner.

1009. The estimated value of gold raised in proportion to the number of miners at work* was greater in 1880 than in 1879, but less than in any other year since 1870. During the 11 years ended with 1880 the average per miner was highest in 1875, when it exceeded that in 1880 by £22 5s. 4¼d., and was lowest in 1870, when it was less than that in 1880 by 18s. 5¼d. The following figures, which have been taken from the reports of the Secretary for Mines, express this proportion for each of those years:—

VALUE OF GOLD PER MINER,† 1870 TO 1880.

| | | | £ | s. | d. | | | | £ | s. | d. |
|------|-----|-----|-----|----|----|------|-----|-----|----|----|-----|
| 1870 | ... | ... | 81 | 0 | 6½ | 1876 | ... | ... | 89 | 19 | 6¾ |
| 1871 | ... | ... | 93 | 6 | 1½ | 1877 | ... | ... | 82 | 6 | 1¾ |
| 1872 | ... | ... | 93 | 17 | 1½ | 1878 | ... | ... | 82 | 12 | 11½ |
| 1873 | ... | ... | 93 | 16 | 2½ | 1879 | ... | ... | 76 | 1 | 2¼ |
| 1874 | ... | ... | 99 | 8 | 3 | 1880 | ... | ... | 81 | 18 | 11¼ |
| 1875 | ... | ... | 104 | 4 | 4 | | | | | | |

Gold derived
from allu-
vial and
quartz
workings.

1010. The mining surveyors and registrars estimate that in 1880 529,195 oz., or 64 per cent. of the gold exported and minted, was obtained from quartz reefs, and 299,926 oz., or 36 per cent., was obtained from alluvial deposits. These figures, as compared with those for the previous year, show an increase of 6,616 oz. in the yield of alluvial workings, and 63,658 oz. in that of quartz reefs. With regard to the former, the Mining Department reports that the "increase is considered to be due to the opening up of new gold-producing areas, in which the rich deposits have been hitherto hidden beneath deep flows of volcanic rock. The discoveries in these tracts have been greatly facilitated by the operations of the diamond drills imported and worked by the Government. The rapid borings through dense basalt by these machines, and the information disclosed by the cores of rock obtained, have given a great impetus to alluvial mining, and have enabled mining companies to determine the downward courses of auriferous leads at distant points, and to sink shafts with precision, either upon or in close proximity thereto."‡

Steam
engines
used in
mining.

1011. 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:—

* For the number of gold miners at work at the end of each year, see paragraph 73 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.

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

STEAM ENGINES USED IN GOLD MINING, 1874 TO 1880.

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

1012. The number of mining machines of all descriptions fell from 4,379 in 1879 to 4,282 in 1880 ; and the value of such machines, as estimated by the Department of Mines, decreased from £1,899,788 in 1879 to £1,831,658 in 1880. Mining machinery.

1013. The number of quartz reefs proved to be auriferous was returned by the mining surveyors and registrars as 3,582 in 1879, and 3,630 in 1880. 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.

1014. The area of auriferous ground worked upon was stated to be approximately 1,234 square miles in 1879, and 1,235 in 1880. 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.

1015. 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 849,324 tons in 1879, and 968,883 tons in 1880. The average yield per ton of these crushings was 8 dwt. 18·77 gr. in the former, and 9 dwt. 15·06 gr. in the latter, year. From similar estimates, extending over a series of years, and embodying information respecting the crushing of more than 17,000,000 tons of quartz, an average is obtained of 10 dwt. 20·45 gr. of gold to the ton of quartz crushed. Average yield of quartz.

1016. 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 has attained a depth of over 2,000 feet from the surface. Two shafts at Stawell are 2,410 feet and 1,940 feet deep respectively, and 5 more in the same district exceeded 1,000 feet ; the deepest shaft at Sandhurst appears to be 1,476 feet ; and the deepest at Maldon 1,220, at Clunes 1,193, and at Ballarat 1,114 feet. The yield of gold from 5,250 tons Deep quartz mining.

of quartz obtained at Stawell, at depths varying from 612 to 1,200 feet, averaged from 1oz. 6 dwt. to 4 oz. 12 dwt. 16 gr. per ton; 17,216 tons at Sandhurst, at various depths between 400 and 1,267 feet, from 13 dwt. 11 gr. to 2 oz. 9 dwt. 22 gr. per ton; and 31,456 tons at Ballarat, at depths varying from 200 to 1,105 feet, a yield of from 6 dwt. 1 gr. to 14 dwt. 11 gr. per ton.*

Gold-mining
leases.

1017. Since the first issue of gold-mining leases, the total number granted has been 11,442, giving the right to mine over an area amounting in the aggregate to 210,867 acres. Of these leases, 480, for 11,138 acres, were granted in 1880, and 1,375, for 24,430 acres, were in force at the end of that year.

Gold-mining
companies.

1018. The number of gold-mining companies registered in 1880 was 390, the nominal capital of which was £3,496,732, and the number of shares 6,846,549. These figures are much larger than similar ones for any other year of the last decenniad, and exceeded those for 1879 by 223 in the number of companies registered, by over £2,210,000 in the nominal capital, and by over 4½ million in the number of shares. In the 5 years prior to 1880 there were, altogether, 509 mining companies registered, with a nominal capital amounting in the aggregate to £5,330,327, and divided into 7,092,454 shares.

Leases for
other
minerals.

1019. At the end of 1880 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 14, and the area comprised therein was less by 1,708 acres than in 1879:—

LEASES FOR MINERALS AND METALS OTHER THAN GOLD, 1880.

| Metals and Minerals. | Leases in force at end of 1880. | |
|--------------------------------------|---------------------------------|---------------|
| | Number. | Area. |
| Antimony | 21 | acres. 347 |
| Coal | 5 | 3,116 |
| Copper and the ores of copper | 9 | 722 |
| Gypsum | 1 | 18 |
| Lignite | 1 | 476 |
| Silver | 1 | 15 |
| Slate | 1 | 18 |
| Slate and flagging | 1 | 14 |
| Ironstone | 1 | 320 |
| Tin and the ores of tin | 1 | 31 |
| Total | 42 | 5,077 |

Minerals
other than
gold raised.

1020. According to the estimate of the Mining Department, the following are the values of metals and minerals other than gold raised in

* See *Mineral Statistics of Victoria for the Year 1880*; Parliamentary Paper No. 80, Session 1880-81.

Victoria from 1851 to the end of 1880. Of these productions, the value in 1880 amounted to £30,939, of which £17,857 was that of copper raised :—

VALUE OF METALS AND MINERALS OTHER THAN GOLD,
1851 TO 1880.

| | £ | | £ |
|-----------------|---------|--|----------|
| Silver | 43,629 | Slates | 940 |
| Tin | 347,704 | Gypsum... .. | 7 |
| Copper | 90,821 | Magnesite | 12 |
| Antimony | 159,060 | Ores, mineral earthy clays, &c., unenumerated | 4,802 |
| Lead | 4,892 | Diamonds | 108 |
| Iron | 3,936 | Sapphires, &c. | 630 |
| Coal | 13,508 | | |
| Lignite | 2,772 | | |
| Kaolin | 7,444 | | |
| Flagging | 51,018 | | |
| | | Total | £731,283 |

1021. 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 1880 :—

MINERS FOR MINERALS OTHER THAN GOLD.

| Mineral or Metal Mined for. | Number of Miners. | Mineral or Metal Mined for. | Number of Miners. |
|-----------------------------|-------------------|-----------------------------|-------------------|
| Tin | 13 | Kaolin | 2 |
| Copper | 50 | Lignite | 10 |
| Antimony | 8 | Cobalt | 4 |
| Ironstone | 47 | | |
| Limestone | 12 | | |
| Coal | 6 | | |
| Slate and flag | 25 | | |
| | | Total | 177 |

1022. The value of lands held under the bye-laws of the various mining districts, and under lease from the Crown, is estimated by the Mining Department to have been £4,684,928 in 1879, and £5,975,450 in 1880.

1023. The revenue derived from the goldfields amounted to £15,642 in 1879, and £16,895 in 1880. The amount in the latter year was made up of the following items :—

REVENUE FROM GOLDFIELDS, 1880.

| | £ |
|---|---------|
| Miners' rights | 5,320 |
| Business licenses | 453 |
| Rents for leases of auriferous mineral lands | 10,464 |
| Water-right and searching licenses | 658 |
| Total | £16,895 |

1024. The weekly rates of wages paid for different descriptions of mining labor in the year 1880 are thus quoted by the Mining Department :—

* For number of gold miners, see paragraph 72 ante.

RATES OF MINING LABOR, 1880.

| | 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 2s. to £3 10s. |
| Mining manager ... | £2 5s. to £10 | Miner ... | £1 10s. to £2 10s. |
| Engineer ... | £2 to £6 | Surface man (laborer) | £1 to £2 10s. |
| Engine-driver ... | £2 to £3 10s. | Boy ... | 10s. to £1 18s. |
| Pitman ... | £2 to £4 | Chinese ... | 12s. 6d. to £2 |
| Blacksmith ... | £2 2s. to £4 | | |

Value of mining produce.

1025. The estimated value of the produce raised from Victorian mines and quarries in 1880 was as follows:—

VALUE OF MINING PRODUCE, 1880.

| | £ |
|----------------------------------|-------------------|
| Value of gold raised ... | 3,316,484 |
| „ other metals and minerals ... | 30,939 |
| „ stone raised from quarries ... | 50,238 |
| Total ... | £3,397,661 |

Agricultural, pastoral, and mining produce.

1026. The estimated value of the agricultural, pastoral, and mining produce raised in Victoria during each of the last seven years is given in the following table. It should be borne in mind that the prices of agricultural and pastoral produce, on which the value mainly depends, fluctuates from year to year. In 1878 and 1879 these prices were below the average.* In all the years except 1877 and 1879, the value of the pastoral produce was greater than that of the other two industries combined:—

VALUE OF AGRICULTURAL, PASTORAL, AND MINING PRODUCE, 1874 TO 1880.

| Year. | Estimated Value of— | | | Total. |
|----------|-----------------------|--------------------|-----------------|------------|
| | Agricultural Produce. | Pastoral Produce.† | Mining Produce. | |
| | £ | £ | £ | £ |
| 1874 ... | 4,410,436 | 9,840,562 | 4,740,679 | 18,991,677 |
| 1875 ... | 4,835,894 | 9,541,551 | 4,475,876 | 18,853,321 |
| 1876 ... | 5,574,239 | 10,069,570 | 3,949,135 | 19,592,948 |
| 1877 ... | 5,792,898 | 8,652,471 | 3,322,264 | 17,767,633 |
| 1878 ... | 4,912,745 | 8,360,265 | 3,211,990 | 16,485,000 |
| 1879 ... | 5,875,313 | 6,375,965 | 3,136,527 | 15,387,805 |
| 1880 ... | 5,395,021 | 9,855,800 | 3,397,661 | 18,648,482 |

Agricultural, pastoral, mining, and manufacturing produce.

1027. The census of 1881, for the first time, enabled an approximate return to be made of the value of manufacturing produce and

* For prices of agricultural produce in different years, see table following paragraph 959 ante.

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

the result has already been stated* to be £5,372,091. If this amount be added to the figures in the lowest line of the last column in the above table, a gross total of the value of agricultural, pastoral, mining, and manufacturing produce will be obtained for the year 1880, amounting in the aggregate to £24,020,573.

1028. The patents for inventions applied for in 1880 numbered 160, Patents. as against 158 in the previous year. Since 1854 the total number of patents applied for has been 2,946.

1029. The Victorian Copyright Act (33 Vict. No. 350) came into Copyrights. force in December 1869. Since then the following copyrights have been registered:—

COPYRIGHTS, 1870 TO 1880.

| Subject of Copyright. | Copyrights Registered. | | |
|--------------------------------------|------------------------|--------------|--------|
| | Prior to 1880. | During 1880. | Total. |
| DESIGNS. | | | |
| Articles of manufacture, chiefly of— | | | |
| Metals | 155 | 23 | 178 |
| Wood, stone, cement, or plaster ... | 36 | 7 | 43 |
| Glass | 4 | 3 | 7 |
| Earthenware | 2 | ... | 2 |
| Ivory, bone, papier-maché, &c. ... | 15 | 8 | 23 |
| Woven fabrics | 10 | ... | 10 |
| Miscellaneous | 13 | ... | 13 |
| LITERARY PRODUCTIONS. | | | |
| Literary works | 745 | 64 | 809 |
| Dramatic „ | 45 | 7 | 52 |
| Musical „ | 67 | 6 | 73 |
| WORKS OF ART. | | | |
| Paintings | 3 | 1 | 4 |
| Drawings | 13 | 6 | 19 |
| Engravings | 596 | 38 | 634 |
| Photographs | 803 | 55 | 858 |
| Sculpture | ... | 1 | 1 |
| Total | 2,507 | 219 | 2,726 |

1030. Provision for the registration of trade-marks was established Trade-marks. under the Trade-marks Registration Act 1876 (40 Vict. No. 539) which came into operation on the 22nd September of that year. From that period to the end of 1880, 351 trade-marks were submitted for registration, and 245 were registered. During the year 1880, the number submitted was 81, and the number registered 58.

* See paragraph 998 ante.