

# TOTALS

| Year | Average Rainfall | Wheat     |                  | Wool                       | Live Stock |            |
|------|------------------|-----------|------------------|----------------------------|------------|------------|
|      |                  | Area      | Average per Acre | Total Product <sup>1</sup> | Cattle     | Sheep      |
|      |                  | Acres     | Bushels          | lbs.                       |            |            |
| 1915 | 22-88            | 3,679,971 | 15-90            | 82,330,198                 | 1,043,604  | 10,545,632 |
| 1916 | 30-27            | 3,125,692 | 16-37            | 94,845,024                 | 1,175,098  | 12,576,587 |
| 1917 | 31-36            | 2,690,216 | 14-03            | 105,424,682                | 1,371,049  | 14,760,013 |
| 1918 | 24-70            | 2,214,490 | 11-40            | 126,647,061                | 1,596,544  | 15,773,902 |
| 1919 | 22-77            | 1,918,269 | 7-75             | 132,847,167                | 1,631,120  | 14,422,745 |

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|      |                  | Acres     | Bushels          | lbs.                       |            |         |
| 1915 | 22-82            | 1,215,122 | 10-72            | 2,852,096                  | 20,875     | 347,359 |
| 1916 | 17-72            | 1,245,104 | 15-08            | 3,417,692                  | 24,682     | 479,598 |
| 1917 | 29-55            | 1,303,194 | 17-24            | 4,434,550                  | 33,044     | 709,692 |
| 1918 | 13-02            | 542,115   | 7-70             | 9,225,091                  | 48,853     | 841,155 |
| 1919 | 11-46            | 319,327   | 3-70             | 1,657,025                  | 39,682     | 448,186 |

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|      |                  | Acres   | Bushels          | lbs.                       |            |           |
| 1915 | 18-38            | 556,836 | 10-67            | 12,617,621                 | 36,473     | 1,466,544 |
| 1916 | 22-54            | 706,637 | 20-75            | 14,403,191                 | 40,300     | 1,785,752 |
| 1917 | 21-56            | 637,933 | 20-03            | 10,280,006                 | 46,680     | 1,258,187 |
| 1918 | 16-44            | 608,700 | 17-04            | 11,712,040                 | 56,763     | 2,442,365 |
| 1919 | 13-56            | 476,253 | 14-83            | 22,317,671                 | 33,143     | 2,740,356 |

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|      |                  | Acres     | Bushels          | lbs.                       |            |           |
| 1915 | 16-75            | 1,063,816 | 10-38            | 10,646,891                 | 108,086    | 1,470,633 |
| 1916 | 23-60            | 949,155   | 15-06            | 13,519,281                 | 131,368    | 1,822,186 |
| 1917 | 26-34            | 796,452   | 13-04            | 15,184,300                 | 175,770    | 2,241,146 |
| 1918 | 22-86            | 681,491   | 10-87            | 16,341,720                 | 208,635    | 2,804,177 |
| 1919 | 15-04            | 466,213   | 7-61             | 18,237,791                 | 308,410    | 2,356,716 |

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|------|------------------|--------|------------------|----------------------------|------------|-----------|
|      |                  | Area   | Average per Acre | Total Product <sup>1</sup> | Cattle     | Sheep     |
|      |                  | Acres  | Bushels          | lbs.                       |            |           |
| 1915 | 34-17            | 86,438 | 16-31            | 5,442,097                  | 122,400    | 772,422   |
| 1916 | 44-01            | 67,803 | 17-32            | 6,736,125                  | 166,373    | 353,014   |
| 1917 | 36-09            | 42,581 | 6-54             | 6,843,161                  | 170,220    | 1,694,679 |
| 1918 | 36-96            | 22,262 | 7-89             | 7,761,126                  | 211,807    | 1,638,686 |
| 1919 | 37-27            | 17,679 | 7-21             | 7,946,391                  | 329,168    | 1,632,921 |

| Year | Average Rainfall | Wheat  |                  | Wool                       | Live Stock |           |
|------|------------------|--------|------------------|----------------------------|------------|-----------|
|      |                  | Area   | Average per Acre | Total Product <sup>1</sup> | Cattle     | Sheep     |
|      |                  | Acres  | Bushels          | lbs.                       |            |           |
| 1915 | 25-05            | 38,835 | 18-09            | 7,379,801                  | 61,484     | 840,711   |
| 1916 | 34-44            | 28,314 | 16-55            | 7,810,930                  | 69,442     | 1,131,316 |
| 1917 | 35-86            | 22,123 | 11-55            | 8,685,418                  | 78,505     | 1,288,739 |
| 1918 | 28-30            | 6,867  | 6-25             | 10,451,280                 | 74,177     | 1,374,255 |
| 1919 | 27-27            | 6,589  | 7-37             | 10,612,082                 | 105,369    | 1,271,484 |

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|------|------------------|--------|------------------|----------------------------|------------|-----------|
|      |                  | Area   | Average per Acre | Total Product <sup>1</sup> | Cattle     | Sheep     |
|      |                  | Acres  | Bushels          | lbs.                       |            |           |
| 1915 | 34-67            | 32,435 | 19-80            | 7,424,425                  | 106,120    | 1,009,607 |
| 1916 | 38-70            | 42,220 | 19-24            | 8,255,143                  | 203,630    | 1,203,986 |
| 1917 | 32-41            | 38,781 | 14-38            | 8,229,445                  | 223,381    | 1,307,507 |
| 1918 | 30-11            | 7,776  | 13-28            | 10,070,746                 | 204,011    | 1,291,333 |
| 1919 | 25-43            | 4,383  | 13-47            | 10,467,123                 | 207,030    | 1,297,743 |

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|------|------------------|---------|------------------|----------------------------|------------|-----------|
|      |                  | Area    | Average per Acre | Total Product <sup>1</sup> | Cattle     | Sheep     |
|      |                  | Acres   | Bushels          | lbs.                       |            |           |
| 1915 | 27-44            | 172,976 | 20-69            | 28,021,210                 | 244,501    | 3,402,634 |
| 1916 | 30-72            | 164,560 | 12-38            | 32,676,657                 | 273,176    | 3,832,083 |
| 1917 | 31-70            | 139,322 | 17-48            | 35,184,352                 | 324,269    | 4,576,510 |
| 1918 | 25-70            | 70,531  | 10-63            | 18,860,251                 | 355,036    | 4,899,240 |
| 1919 | 26-47            | 37,219  | 15-95            | 14,609,673                 | 362,337    | 4,638,190 |

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|      |                  | Area   | Average per Acre | Total Product <sup>1</sup> | Cattle     | Sheep     |
|      |                  | Acres  | Bushels          | lbs.                       |            |           |
| 1915 | 27-63            | 19,675 | 22-00            | 7,147,011                  | 264,564    | 1,050,627 |
| 1916 | 37-78            | 21,162 | 15-58            | 8,347,921                  | 286,508    | 1,261,696 |
| 1917 | 34-63            | 14,914 | 18-33            | 7,594,250                  | 309,648    | 1,266,882 |
| 1918 | 33-20            | 4,072  | 14-64            | 6,490,523                  | 343,806    | 1,376,466 |
| 1919 | 37-04            | 2,671  | 10-82            | 9,160,594                  | 363,404    | 1,328,427 |

# VICTORIA.

Showing Statistics of Wheat, Wool, Live Stock and Rainfall in each District.

Scale of Miles  
Dept. of Lands & Survey, Meib.

**PRODUCTION.**

**LAND SETTLEMENT, ETC.**

The total area of the State is 56,245,760 acres. This comprises—

|                                      | Acres.     |
|--------------------------------------|------------|
| Lands alienated in fee simple .. ..  | 24,605,825 |
| Lands in process of alienation .. .. | 8,282,115  |
| Crown lands .. ..                    | 23,357,820 |
| Total .. ..                          | 56,245,760 |

The Crown lands comprise—

|   |           |
|---|-----------|
| Permanent forests .. ..                       | 3,689,600 |
| Timber Reserves .. ..                         | 770,000   |
| Water Reserves .. ..                          | 313,702   |
| Reserves for Agricultural Colleges, &c. ..    | 85,882    |
| Reserves in the Mallee .. ..                  | 397,881   |
| Other Reserves .. ..                          | 303,000   |
| Roads .. ..                                   | 1,751,757 |
| Water frontages, beds of rivers, lakes, &c. } | 1,936,645 |
| Unsold land in cities, towns, and boroughs }  | 1,936,645 |

Land in occupation under—

|                                  |            |
|----------------------------------|------------|
| Grazing Area Leases .. ..        | 2,408,481  |
| Perpetual Leases .. ..           | 147,212    |
| Other Leases and Licences .. ..  | 107,046    |
| Temporary Grazing Licences .. .. | 10,905,572 |
| Unoccupied .. ..                 | 541,042    |
| Total .. ..                      | 23,357,820 |

In the following table are shown the area of Crown lands sold absolutely and conditionally, and the area of such lands alienated in fee simple in each year since 1899.

A portion of the area conditionally sold each year reverts to the Crown in consequence of the non-fulfilment of conditions by the selectors. The lands alienated each year include areas selected in previous years.

### ALIENATION OF CROWN LANDS, 1900 TO 1919.

| Year. | Area of Crown Lands Sold.   |                              | Crown Lands alienated in Fee Simple. |                 |
|-------|-----------------------------|------------------------------|--------------------------------------|-----------------|
|       | Absolutely, at Auction, &c. | Conditionally to Selectors.* | Area.                                | Purchase Money. |
|       | Acres.                      | Acres.                       | Acres.                               | £               |
| 1900  | 7,685                       | 225,098                      | 494,752                              | 526,650         |
| 1901  | 7,052                       | 516,412                      | 406,145                              | 438,363         |
| 1902  | 7,304                       | 299,502                      | 523,574                              | 555,538         |
| 1903  | 13,223                      | 334,590                      | 510,080                              | 542,011         |
| 1904  | 9,588                       | 253,592                      | 584,010                              | 613,511         |
| 1905  | 8,778                       | 217,419                      | 907,339                              | 934,386         |
| 1906  | 6,642                       | 173,113                      | 344,519                              | 375,296         |
| 1907  | 3,313                       | 191,232                      | 181,050                              | 208,619         |
| 1908  | 6,552                       | 213,883                      | 137,023                              | 176,335         |
| 1909  | 7,393                       | 257,179                      | 150,948                              | 188,017         |
| 1910  | 5,795                       | 248,694                      | 127,993                              | 171,904         |
| 1911  | 4,068                       | 205,708                      | 159,892                              | 136,277         |
| 1912  | 4,120                       | 114,630                      | 128,427                              | 165,854         |
| 1913  | 4,205                       | 171,449                      | 153,051                              | 164,065         |
| 1914  | 3,705                       | 166,026                      | 129,525                              | 145,003         |
| 1915  | 3,287                       | 129,232                      | 117,257                              | 113,167         |
| 1916  | 2,061                       | 140,341                      | 89,203                               | 80,238          |
| 1917  | 2,075                       | 89,164                       | 82,042                               | 79,992          |
| 1918  | 1,760                       | 74,514                       | 76,064                               | 78,235          |
| 1919  | 1,166                       | 70,729                       | 102,294                              | 114,654         |

\* Exclusive of Mallee selectors.

From the period of the first settlement of the State to the end of 1919 the amount realized by the sale of Crown lands was £33,759,095, which represents an average of £1 0s. 6d. per acre for all lands alienated or in process of alienation. Payment of a considerable portion of this amount extended over a series of years without interest, upon very easy terms.

Amount realized by sale of Crown lands.

Lands remaining for disposal. The next table shows the whole of the unalienated lands of the Crown remaining for disposal:—

CROWN LANDS REMAINING FOR DISPOSAL ON 31st DECEMBER, 1919.

| Location.                                 | Classification.   |         |           |             |              | Total.     |
|---|---|---------|-----------|-------------|--------------|------------|
|   | Agricultural and Grazing.   |         |           |             | Auri-ferous. |            |
|   | First.  | Second. | Third.    | Un-classed. |              |            |
| County.                                   | Acres.  | Acres.  | Acres.    | Acres.      | Acres.       | Acres.     |
| Bulu Bulu .. .. .                         | 2,565   | 52,747  | 47,764    | .. .. .     | .. .. .      | 103,076    |
| Croajingolong .. .. .                     | 2,510   | 5,416   | 565,210   | 837,400     | 13,850       | 1,424,396  |
| Dargo .. .. .                             | .. .. .   | .. .. . | 88,880    | 431,900     | 72,000       | 592,780    |
| Tambo .. .. .                             | .. .. .   | .. .. . | 203,050   | 398,850     | 900          | 602,800    |
| Tanjil .. .. .                            | .. .. .   | .. .. . | 99,690    | 361,650     | 67,000       | 528,340    |
| Wonnangatta .. .. .                       | .. .. .   | 39      | 129,618   | 942,100     | .. .. .      | 1,071,757  |
| Bogong .. .. .                            | 3,471   | 11,580  | 182,801   | 169,724     | 123,612      | 491,188    |
| Benambra .. .. .                          | .. .. .   | 403     | 224,644   | 320,974     | 86,335       | 632,356    |
| Delatite .. .. .                          | 610   | 22,899  | 198,694   | 234,300     | 66,941       | 523,444    |
| Moirá .. .. .                             | 544   | .. .. . | 10,010    | .. .. .     | .. .. .      | 16,554     |
| Angiesey .. .. .                          | 26  | 3,726   | 66,368    | .. .. .     | 7,728        | 77,848     |
| Bourke .. .. .                            | .. .. .   | 162     | 100       | .. .. .     | .. .. .      | 262        |
| Dalhousie .. .. .                         | .. .. .   | 482     | 2,624     | .. .. .     | 5,583        | 8,689      |
| Evelyn .. .. .                            | .. .. .   | 21,140  | .. .. .   | .. .. .     | 3,330        | 24,470     |
| Mornington .. .. .                        | .. .. .   | 6,136   | 51,985    | .. .. .     | .. .. .      | 58,121     |
| Bendigo .. .. .                           | 80  | 635     | 3,553     | .. .. .     | 6,124        | 10,392     |
| Rodney .. .. .                            | .. .. .   | 103     | 146       | .. .. .     | 2,480        | 2,729      |
| Borong .. .. .                            | .. .. .   | 205     | 40,399    | .. .. .     | 7,860        | 48,464     |
| Gladstone .. .. .                         | 393   | 1,147   | 1,335     | .. .. .     | 21,270       | 24,145     |
| Lowan .. .. .                             | .. .. .   | 139     | 64,228    | .. .. .     | .. .. .      | 64,367     |
| Kara Kara .. .. .                         | .. .. .   | 131     | 2,492     | .. .. .     | 4,948        | 7,571      |
| Talbot .. .. .                            | .. .. .   | 485     | 180       | .. .. .     | 46,905       | 47,570     |
| Tatchera .. .. .                          | .. .. .   | 70      | .. .. .   | .. .. .     | .. .. .      | 70         |
| Heytesbury .. .. .                        | .. .. .   | 1,200   | 168,700   | .. .. .     | .. .. .      | 169,900    |
| Polwarth .. .. .                          | 5,023   | 15,074  | 32,480    | .. .. .     | .. .. .      | 52,577     |
| Grant .. .. .                             | .. .. .   | 75      | 23,960    | .. .. .     | 8,600        | 32,635     |
| Grenville .. .. .                         | .. .. .   | 20      | .. .. .   | .. .. .     | 15,038       | 15,058     |
| Ripon .. .. .                             | .. .. .   | .. .. . | 13,558    | .. .. .     | 6,230        | 19,788     |
| Normanby .. .. .                          | .. .. .   | 48      | 66,197    | .. .. .     | .. .. .      | 66,245     |
| Dundas .. .. .                            | .. .. .   | 40      | 24,297    | 9,166       | .. .. .      | 33,503     |
| Villiers .. .. .                          | .. .. .   | .. .. . | 620       | .. .. .     | .. .. .      | 620        |
| Follett .. .. .                           | .. .. .   | 268     | 16,233    | .. .. .     | .. .. .      | 16,501     |
| Totals .. .. .                            | 15,222  | 144,370 | 2,329,316 | 3,706,064   | 566,734      | 6,762,296  |
| Throughout the State .. .. .              | Swamp or reclaimed lands .. .. .  |         |           |             |              | 1,310      |
| .. .. .                                   | Lands which may be sold by auction .. .. .  |         |           |             |              | 9,103      |
| The north-western portion of the State    | Mallee lands (such as are suitable to be eventually classed 1st, 2nd, or 3rd class for selection) .. .. . |         |           |             |              | 4,673,495  |
| Total area remaining for disposal .. .. . |   |         |           |             |              | 11,446,614 |

Much of the land included in the above statement is temporarily leased under grazing licences.

Pastoral occupation of Crown lands. The particulars of Crown lands leased for pastoral occupation on 31st December, 1919, are as follows:—

|                                       |            |
|---------------------------------------|------------|
| Number of Licences and Leases .. .. . | 13,919     |
| Area (acres) .. .. .                  | 13,531,476 |
| Annual Rental .. .. .                 | £41,288    |

These licences and leases are not all on the same basis as regards the terms and the privileges of tenure. For instance, grazing area leases

have been granted for any term of years expiring not later than 29th December, 1920, whilst grazing licences are renewable annually, and are only granted for waste lands of the Crown until required under the principal sections of the Act. The lessee of a grazing area has the privilege of selecting (*i.e.*, of purchasing under the deferred payment system on certain conditions) out of his lease for agricultural or grazing purposes an area not exceeding 200 acres of first class, 320 acres of second class, or 640 acres of third class land, according to classification; and the lessee of a Mallee allotment has a like privilege of selecting out of his lease 640 acres of first class, 1,000 acres of second class, or 1,280 acres of third class land, according to classification.

**Persons who may select land.** Any person of the age of 18 years or upwards is eligible to apply to select under the Land Acts a prescribed area varying according to the classification of the land—less the area of previous selections.

**Land Laws.** A conspectus of the provisions of the Victorian Land Acts appears in the *Year-Book* for 1916-17 and previous issues.

**Official register of private farms for sale.** At the Lands Inquiry Office, in addition to particulars regarding Crown lands, &c., available for settlement, a register is kept of suitable private farms for sale. These are classified according to value and utility. The list is comprehensive and embraces the whole State, and intending purchasers can inspect with confidence any of the properties submitted. No charge is made by the Government for any work done in this connexion.

**Transfer of Land Act.** The "Torrens System," whereby persons acquiring possession of land may receive a clear title, was introduced into Victoria in 1862. The system has been the means of simplifying procedure in connexion with the transferring of land. It gives a title to the transferee free of any latent defect and reduces the cost of dealing in real estate by reason of the simplicity of the procedure. All land parted with by the Crown since 1862 is under the operation of the Transfer of Land Act, and the Crown grant issues through the Titles Office; but, to bring under the Act land that was parted with prior to that year, application must be made accompanied by strict proofs of the applicant's interest in the property. During 1919 there were submitted 436 applications to have brought under the Act land amounting to 43,252 acres in extent, and to £581,206 in value; whilst the land actually brought under the Act during the year by application was 6,556 acres valued at £255,422. Up to the end of 1919 there had been brought under the Act 2,996,556 acres valued at £60,695,874. The number of certificates of title issued in 1919 was 19,343.

**Assurance Fund.** When application is made to have land brought under the Transfer of Land Act, a contribution to the assurance fund of  $\frac{1}{4}$ d. in the £1 on the value of the land is levied on the applicant, to assure and indemnify the Government in granting a clear title against all the world, as some other person may have a latent interest in the property, and it may be necessary for the Government to recompense such person out of the fund for the loss of his interest.

The amount at credit of the fund at 30th June, 1918, was £136,624. Receipts during 1918-19 comprised contributions £1,393, interest on stock £2,845, and interest on £75,073, advanced for the purchase of land adjoining the Titles Office, £3,003. During the year £110 was paid out of the fund for claims and £2,516 was paid out under the provisions of the Country Roads (Special Loan) Act. The balance at the credit of the assurance fund on 30th June, 1919, was £141,239. The amount paid up to 30th June, 1919, as compensation and for judgments recovered, including costs, was £7,722.

### CLOSER SETTLEMENT.

**Closer Settlement.** Under the provisions of the Closer Settlement Act the Closer Settlement Board is empowered to expend at the rate of £500,000 per annum in the purchase—either by voluntary or compulsory acquisition—of lands (whether privately owned or held under lease from the Crown) for subdivision into suitable allotments according to the class of the land, and for disposal by the Board to eligible applicants, as stated hereafter. Lands well adapted for settlement are thus made available in those portions of the State in which railways, water supply and markets are provided, and in which roads and other facilities are good. The areas purchased comprise ordinary farming lands in a more or less improved condition, and lands in irrigated districts with plentiful supplies of water for irrigation.

Every application for a Closer Settlement allotment must be accompanied by the registration fee of 5s., a lease fee of £1, and a deposit (equal to 3 per cent. of the capital value of the land) which is deducted from the purchase money. The applicant is required to give evidence of suitability and fitness, &c., to occupy the land. If successful, a permit giving immediate possession is issued (followed by a lease as soon as practicable), and no further payment is required for six months. The deposit, less the 5s. registration fee, is at once returned to any unsuccessful applicant. Only one allotment of the maximum value can be granted to any one person, and the principle of residence for eight months in each year is a condition of the lease.

In addition to the provisions for the purchase of large estates for subdivision, the Closer Settlement Act provides that any one or more persons, who are eligible to acquire a farm allotment under the Closer Settlement Act, may enter into a provisional agreement with the owner of a block of private land for the purchase thereof, and acquire it through the Closer Settlement Board. The value of the land must not exceed the maximum allowed under the Act, unless two or more eligible persons agree to purchase it. Agreements with full details and an application on the proper forms must be filled in and lodged with the Board, together with a valuation fee of £4, when an inspection and valuation of the property will be made. The fee may be returned if, after a preliminary inspection, the Board does not approve of the application. Should the Board decide to acquire the land, the purchaser is required to deposit an amount not exceeding four half-yearly

instalments, and is otherwise subject to all the provisions of the Closer Settlement Act with regard to payments, residence, improvements, &c.

Repurchased lands are disposed of as farm allotments, agricultural labourers' allotments, and workmen's home allotments under conditional purchase lease, the terms of which are briefly stated herein, but are more particularly described in each title as issued.

Conditional purchase leases are granted to successful applicants under the Closer Settlement Act, and are for such a term not exceeding  $31\frac{1}{2}$  years as may be agreed upon between the lessee and the Board. The purchase money is payable by 63 or a less number of half-yearly instalments. In some cases the Board has granted applications made for extension of payments under a lease to  $46\frac{1}{2}$  years, the payments being by 93 half-yearly instalments. The deposit lodged with the application is credited as part of the principal, and the balance bears interest at  $4\frac{1}{2}$  per cent. Each instalment includes interest upon the balance of purchase money remaining unpaid, and is 3 per cent. half-yearly (6 per cent. per annum) of the capital value of the allotment (less the amount of the deposit). Payments in advance may be made at any time, at the option of the lessee, and a proportionate reduction of interest secured thereby.

In special cases, when a lessee is unable to meet the instalments of purchase money as they fall due, the Board has power to suspend such payments up to an amount not exceeding 60 per cent. of the value of the improvements effected by the lessee. Interest at the rate of 5 per cent. per annum is charged on the amount in arrear or on any instalments which may have been suspended.

The lessee must reside on the allotment. Personal residence by the lessee's wife, or child over 13 years of age, or parent dependent for support, may, with the approval of the Board, be considered personal residence by the lessee. A farm lessee cannot transfer, assign, mortgage, or sublet the whole or any part of his allotment within the first six years of the lease. The Crown grant may be issued to the lessee at the end of any half-year after the first twelve years have expired, on payment of the balance of purchase money. The residence condition is not carried into the Crown Grant.

Lands for farm allotments are subdivided into suitable areas not exceeding in value a maximum amount of £2,500; and no lease thereof can be granted to a person who at the date of application is directly or indirectly the owner of any other land in Victoria (township land excepted) which, together with the allotment applied for, exceeds such value. Improvements of a permanent and substantial character must be effected by the lessee of a farm allotment to the value of at least two instalments of the purchase money before the end of the first year from the date of the lease, 10 per cent. of the purchase money before the end of the third year, and a further 10 per cent. before the end of the sixth year. Improvements must thus be made to the value of at least 20 per cent. of the total purchase money payable for the allotment; and, if they are

**Farm allotments.**

made in excess of requirements during either of the two earlier periods mentioned, the excess is set off against the expenditure necessary by the end of the sixth year. Where special circumstances warrant action, the Minister, upon the recommendation of the Board, may modify the improvement conditions.

**Advances to settlers.**

The Closer Settlement Act provides for advances by the Closer Settlement Board to settlers who are—

- (a) Lessees under the *Closer Settlement Act* 1915.
- (b) Licensees of an agricultural or grazing allotment under the *Land Act* 1915.
- (c) Licensees under section 86 of the *Land Act* 1915 or corresponding sections of any repealed Act.
- (d) Conditional purchase lessees under the *Land Act* 1915; or
- (e) Conditional purchase lessees under the Murray Settlements Act, now Section 245, *Land Act* 1915.
- (f) Selection purchase lessees under Sections 46 and 50, *Land Act* 1915.
- (g) Perpetual lessees under Section 54, *Land Act* 1915.

Advances of not more than £500, and not exceeding 60 per cent. of the value of improvements effected on the land, may be made during the first six years of the lease for the following purposes:—

1. The erection of dwelling-houses or outbuildings, or the effecting of other improvements.
2. Carrying on farming, grazing, agricultural and horticultural pursuits.

After six years the lessee may obtain an advance up to £1,000 on a 60 per cent. basis of the value of his improvements and the purchase money paid for the land. The amounts allowed by the Board to lessees under the Closer Settlement Act towards the cost of erecting dwelling-houses and outbuildings on farm allotments must not exceed 10 per cent. of the value of the land, except where the land is valued at less than £500, when the maximum is not to exceed £50.

Advances are repayable by equal half-yearly instalments, extending over a period fixed by the Board not exceeding twenty years, with interest at 5 per cent. per annum; but may be repaid at any time in whole or in part under a duly proportionate rebate of interest.

Where the whole or part of an advance has been repaid the Board has power to make a further advance up to £500 or £1,000 as the case may be.

**Wire netting advances.**

Advances of wire netting may also be made under the Closer Settlement Act to owners of land—

- (a) if such land is held as above mentioned; or
- (b) if such land immediately adjoins any unoccupied Crown land or is not included in any municipality.

The wire netting supplied is No. 17 gauge,  $1\frac{1}{2}$ -in. mesh, 42 inches wide, weighs 28 cwt. to the mile, and is supplied in rolls of not less than 100 yards. Each advance is limited to a quantity sufficient for 6 miles of vermin-proof fencing, and the price of the wire netting is deemed to be the amount of the advance, which is repayable by a

cash payment or on terms over a period not exceeding ten years, with interest at 4 per cent. per annum.

The following is a complete statement of all estates acquired by the Closer Settlement Board for the purpose of closer settlement at 30th June, 1920, including the estates acquired under the provisions of the Small Improved Holdings Act, the administration of which has been transferred to the Board.

### CLOSER SETTLEMENT ESTATES AT 30TH JUNE, 1920.

| Estates.                      | Area.* | Purchase Money, including Discount. | Price Paid Per Acre. | No. of Lessees.  |                            |                                     | Area Vacant and Available. |
|-------------------------------|--------|-------------------------------------|----------------------|------------------|----------------------------|-------------------------------------|----------------------------|
|                               |        |                                     |                      | Farm Allotments. | Workmen's Home Allotments. | Agricultural Labourers' Allotments. |                            |
|                               | acres. | £                                   | £ s. d.              |                  |                            |                                     |                            |
| <b>Dry Areas—</b>             |        |                                     |                      |                  |                            |                                     |                            |
| Wando Vale ..                 | 10,446 | 63,985                              | 6 2 6                | 67               | ..                         | ..                                  | 25                         |
| Walmer ..                     | 13,769 | 44,751                              | 3 5 0                | 42               | ..                         | 2                                   | 6                          |
| Whitfield ..                  | 4,247  | 36,096                              | 8 10 0               | 34               | ..                         | 1                                   | 98                         |
| Brunswick ..                  | 91     | 2,793                               | 29 0 0               | ..               | 56                         | ..                                  | 9                          |
| Eurack ..                     | 5,109  | 53,640                              | 10 10 0              | 46               | ..                         | ..                                  | 4                          |
| Rootsray ..                   | 31     | 2,494                               | 80 0 0               | ..               | 85                         | ..                                  | ..                         |
| Dal Campbell ..               | 45     | 2,357                               | 47 8 0               | ..               | 63                         | ..                                  | 2                          |
| Springvale ..                 | 3,396  | 25,895                              | 7 12 6               | 22               | ..                         | ..                                  | ..                         |
| Memsie ..                     | 10,028 | 57,159                              | 5 14 0               | 44               | ..                         | ..                                  | 10                         |
| Richmond Vale ..              | 1,790  | 11,000                              | 8 11 6               | 10               | ..                         | 1                                   | ..                         |
| Overnewton ..                 | 11,336 | 71,492                              | 6 4 6                | 67               | ..                         | ..                                  | ..                         |
| Wyuna ..                      | 23,016 | 120,376                             | 5 5 0                | 119              | ..                         | 10                                  | 23                         |
| Restdown ..                   | 17,894 | 60,391                              | 3 7 6                | 53               | ..                         | ..                                  | ..                         |
| Strathkellar ..               | 10,227 | 74,150                              | 7 5 0                | 56               | ..                         | 6                                   | 29                         |
| Bona Vista ..                 | 2,060  | 28,832                              | 14 0 0               | 30               | ..                         | 4                                   | 112                        |
| Cadman's ..                   | 18     | 844                                 | 50 0 0               | ..               | 42                         | ..                                  | ..                         |
| Lara ..                       | 8,329  | 45,825                              | 5 10 0               | 32               | ..                         | 7                                   | 343                        |
| Tandarra ..                   | 4,558  | 21,083                              | 4 12 6               | 19               | ..                         | ..                                  | 8                          |
| Exford ..                     | 8,054  | 64,039                              | 8 0 0                | 45               | ..                         | 6                                   | 4                          |
| Colbinabbin ..                | 19,164 | 110,198                             | 5 17 6               | 85               | ..                         | ..                                  | 69                         |
| Pirron Yaloak ..              | 1,058  | 23,796                              | 22 7 6               | 21               | ..                         | ..                                  | ..                         |
| Numurkah ..                   | 2,360  | 18,901                              | 8 0 0                | 13               | ..                         | 1                                   | ..                         |
| Allambee ..                   | 5,025  | 31,794                              | 6 6 4                | 11               | ..                         | ..                                  | 3,318                      |
| Pender's Grove ..             | 233    | 23,337                              | 100 0 0              | ..               | 259                        | ..                                  | ..                         |
| Phoenix ..                    | 23     | 968                                 | 40 0 0               | ..               | 47                         | ..                                  | 2                          |
| Keayang ..                    | 1,494  | 14,966                              | 10* 0 0              | 13               | ..                         | ..                                  | ..                         |
| Werneth ..                    | 6,588  | 31,043                              | 4 15 0               | 21               | ..                         | ..                                  | 11                         |
| Staughton Vale ..             | 9,857  | 66,466                              | 6 15 0               | 44               | ..                         | ..                                  | ..                         |
| Glenhuntly ..                 | 74     | 7,040                               | 94 0 0               | ..               | 153                        | ..                                  | 2                          |
| The Heart ..                  | 3,793  | 56,322                              | 14 12 2              | 40               | ..                         | ..                                  | 5                          |
| Mooralla ..                   | 17,199 | 60,197                              | 3 10 0               | 26               | ..                         | 12                                  | 561                        |
| Maribyrnong ..                | 1,112  | 10,842                              | 9 15 0               | 12               | ..                         | 2                                   | ..                         |
| Kenilworth ..                 | 18,440 | 55,321                              | 3 0 0                | 29               | ..                         | ..                                  | 10                         |
| Doogalook ..                  | 4,640  | 29,002                              | 6 5 0                | 17               | ..                         | ..                                  | ..                         |
| Werribee ..                   | 15,218 | 148,802                             | 13 0 0               | 35               | ..                         | ..                                  | 1,859                      |
| Konongwootong ..              | 10,181 | 104,363                             | 10 3 0               | 65               | ..                         | 15                                  | 45                         |
| Cornella Creek ..             | 29,567 | 121,034                             | 4 15 0               | 79               | ..                         | 1                                   | 1,018                      |
| Koyuga ..                     | 789    | 3,914                               | ..                   | 2                | ..                         | ..                                  | ..                         |
| Meadowbank ..                 | 313    | 9,085                               | 29 0 0               | 5                | ..                         | ..                                  | ..                         |
| Oaklands ..                   | 8,069  | 26,309                              | 3 5 0                | 12               | ..                         | ..                                  | ..                         |
| Hurstwood ..                  | 6,493  | 31,811                              | 4 15 0               | 14               | ..                         | ..                                  | ..                         |
| Eumeralla ..                  | 10,034 | 57,570                              | 5 13 7               | 34               | ..                         | 7                                   | ..                         |
| Morven ..                     | 8,029  | 39,533                              | 4 17 6               | 20               | ..                         | ..                                  | 11                         |
| Mt. Widderin ..               | 8,333  | 48,634                              | 5 15 6               | 23               | ..                         | ..                                  | 3                          |
| Tooronga ..                   | 101    | 17,675                              | 178 4 4              | ..               | 210                        | ..                                  | ..                         |
| Nerrin Nerrin and Westmere .. | 7,743  | 67,915                              | ..                   | 32               | ..                         | 1                                   | 74                         |
| Bellarine ..                  | 204    | 5,457                               | 26 15 0              | 7                | ..                         | ..                                  | 33                         |
| Daylesford ..                 | 70     | 2,957                               | 42 5 2               | 16               | ..                         | ..                                  | ..                         |

\* The area given is that to the nearest acre, and in some cases includes Crown lands transferred to the Board without purchase.

CLOSER SETTLEMENT ESTATES AT 30TH JUNE, 1920—continued.

| Estates.                                       | Area.*         | Purchase Money, including Discount. | Price Paid Per Acre. | No. of Lessees.  |                            |                                     | Area Vacant and Available. |
|--|----------------|-------------------------------------|----------------------|------------------|----------------------------|-------------------------------------|----------------------------|
|  |                |                                     |                      | Farm Allotments. | Workmen's Home Allotments. | Agricultural Labourers' Allotments. |                            |
|  | acres.         | £                                   | £ s. d.              |                  |                            |                                     |                            |
| <b>Dry Areas—continued.</b>                    |                |                                     |                      |                  |                            |                                     |                            |
| Mordialloc ..                                  | 460            | 7,850                               | 17 1 6               | ..               | ..                         | 33                                  | 22                         |
| Thomastown ..                                  | 581            | 11,230                              | 19 5 6               | 28               | ..                         | 2                                   | 2                          |
| Wangaratta ..                                  | 796            | 9,660                               | 12 3 4               | 30               | ..                         | ..                                  | 89                         |
| Warragul ..                                    | 98             | 2,060                               | 21 0 0               | 3                | ..                         | ..                                  | ..                         |
| Belmont ..                                     | 113            | 3,161                               | 28 0 0               | ..               | ..                         | 5                                   | ..                         |
| Highton ..                                     | 425            | 11,032                              | 26 0 0               | 17               | ..                         | 17                                  | 14                         |
| Deepdene ..                                    | 2,985          | 35,742                              | 12 0 0               | 15               | ..                         | ..                                  | 194                        |
| Glenaladale ..                                 | 2,109          | 28,787                              | 13 10 0              | 17               | ..                         | ..                                  | ..                         |
| Cremona ..                                     | 1,292          | 20,140                              | Various              | 2                | ..                         | ..                                  | ..                         |
| Boisdale ..                                    | 2,521          | 72,174                              | Various              | 46               | ..                         | ..                                  | 95                         |
| Pannoo ..                                      | 15,102         | 98,455                              | Various              | 44               | ..                         | ..                                  | 289                        |
| Marathon and Willow Grove ..                   | 14,783         | 58,752                              | Various              | 27               | ..                         | ..                                  | 1,369                      |
| Dunrobin ..                                    | 18,814         | 119,779                             | 6 6 0                | 56               | ..                         | 22                                  | 9                          |
| Kilmany ..                                     | 8,746          | 106,080                             | 12 0 0               | 73               | ..                         | ..                                  | 2                          |
| Waubra ..                                      | 47             | 1,042                               | 22 10 0              | 10               | ..                         | 3                                   | ..                         |
| Nathalia ..                                    | 30             | 362                                 | 12 0 0               | ..               | ..                         | 5                                   | ..                         |
| Moyhu ..                                       | 2,422          | 19,580                              | 8 0 0                | 14               | ..                         | ..                                  | ..                         |
| †Condah ..                                     | 157            | 1,725                               | 10 19 8              | ..               | ..                         | ..                                  | ..                         |
| ‡Mackey ..                                     | 1,078          | 20,626                              | 19 2 10              | ..               | ..                         | ..                                  | ..                         |
| Ascot Vale ..                                  | 488            | 3,671                               | Various              | ..               | ..                         | ..                                  | ..                         |
| Nanneella ..                                   | 738            | 7,767                               | Various              | 6                | ..                         | 11                                  | 29                         |
| Cohuna ..                                      | 223            | 2,215                               | Various              | 2                | ..                         | ..                                  | ..                         |
| Bamawm ..                                      | 162            | 1,391                               | 8 12 0               | ..               | ..                         | ..                                  | ..                         |
| Thornbury ..                                   | 11             | 5,625                               | ..                   | ..               | 47                         | ..                                  | ..                         |
| Crown Lands Sec. 6-11—Purchases                | 2,904          | 20,043                              | Various              | 16               | 79                         | 21                                  | 13                         |
| Barwidgee ..                                   | 52,351         | 342,831                             | Various              | 276              | ..                         | 14                                  | 2,308                      |
| Derrinalium ..                                 | 574            | 3,359                               | ..                   | 2                | ..                         | ..                                  | ..                         |
| Mystic Park ..                                 | 103            | 2,150                               | ..                   | 1                | ..                         | ..                                  | ..                         |
| Mystic Park ..                                 | 1,225          | 4,670                               | ..                   | 2                | ..                         | ..                                  | ..                         |
| <b>Irrigable Areas—</b>                        |                |                                     |                      |                  |                            |                                     |                            |
| Nanneella ..                                   | 8,565          | 78,654                              | Various              | 95               | ..                         | 3                                   | 449                        |
| Bamawm ..                                      | 13,365         | 122,944                             | Various              | 158              | ..                         | 11                                  | 477                        |
| Shepparton ..                                  | 9,243          | 136,839                             | Various              | 216              | ..                         | 42                                  | 96                         |
| Swan Hill ..                                   | 7,358          | 73,637                              | Various              | 147              | ..                         | 1                                   | 79                         |
| Cohuna ..                                      | 11,531         | 114,856                             | Various              | 110              | ..                         | 7                                   | 1,454                      |
| Tongala ..                                     | 15,228         | 172,396                             | Various              | 207              | ..                         | 24                                  | 436                        |
| Kyabram ..                                     | 2,507          | 30,629                              | Various              | 34               | ..                         | 7                                   | 1,086                      |
| Koondrook ..                                   | 3,423          | 23,201                              | Various              | 36               | ..                         | ..                                  | ..                         |
| Werribee ..                                    | 7,996          | 153,871                             | ..                   | 131              | ..                         | 21                                  | 779                        |
| Koyuga ..                                      | 4,173          | 36,228                              | ..                   | 42               | ..                         | 14                                  | 39                         |
| Echuca ..                                      | 3,235          | 29,142                              | Various              | 27               | ..                         | 1                                   | 15                         |
| Dingee ..                                      | 472            | 4,160                               | Various              | 8                | ..                         | 8                                   | 20                         |
| Cornelia Creek ..                              | 2,507          | 16,501                              | ..                   | 14               | ..                         | ..                                  | 194                        |
| Stanhope (including Lauderdale and Bonshaw) .. | 21,357         | 223,300                             | Various              | 231              | ..                         | 15                                  | 4,890                      |
| Sec. 6-11—Purchases                            | 710            | 7,489                               | ..                   | 7                | ..                         | ..                                  | ..                         |
| Acquired, but not available                    | 1,075          | 10,791                              | ..                   | ..               | ..                         | ..                                  | ..                         |
| <b>Total ..</b>                                | <b>573,731</b> | <b>4,269,051</b>                    | <b>..</b>            | <b>3,512§</b>    | <b>1,046</b>               | <b>363</b>                          | <b>22,143</b>              |

\* The area given is that to the nearest acre, and in some cases includes Crown lands transferred to the Board without purchase.

† Disposed of to the Crown Lands Department.

‡ Disposed of for public purposes.

§ Includes 452 Discharged Soldiers.

On 30th June, 1920, the Board had 99 properties, with a total area of 573,731 acres, of which 22,143 acres were available for allotment, and 1,075 acres had not at that date been made available for occupation. Portions of estates amounting in the aggregate to 32,960 acres have been sold by public competition and for public reserves without any restrictions, and are not under conditional purchase lease.

Up to the end of June, 1920, 452 allotments, containing 37,634 acres, had been sold to discharged soldiers and transferred to the Discharged Soldiers Settlement Act.

The extent of the settlement effected by the Board at 30th June in each of the years 1916 to 1920 is summarized in the next statement.

**Extent of  
Closer  
Settlement.**

#### CLOSER SETTLEMENT HOLDINGS, 1916 to 1920.

|                             | At 30th June— |         |         |         |         |
|-----------------------------|---------------|---------|---------|---------|---------|
|                             | 1916.         | 1917.   | 1918.   | 1919.   | 1920.   |
| <b>In occupation—</b>       |               |         |         |         |         |
| Number of Holdings ..       | 4,321         | 4,509   | 4,492   | 4,477   | 4,921   |
| Area .. .. acres            | 494,965       | 507,500 | 506,838 | 508,463 | 547,087 |
| Resident Population ..      | 17,600        | 17,782  | 17,620  | 17,616  | 19,392  |
| Area unallotted .. .. acres | 51,879        | 43,017  | 30,618  | 28,689  | 21,069  |

The sum of £2,865,625 had been repaid to the Closer Settlement Fund up to 30th June, 1920. Of that amount £1,675,224 had been transferred to revenue to meet interest due to stockholders, £50,000 had been invested to replace amounts written off estates re-valued, and £933,555 had been utilized for redemption and cancellation of stock and for capital and working expenditure, the balance to the credit of the fund on 30th June, 1920, being £206,846. The balance of unredeemed stock is now £4,970,263, on which the interest payable amounts to £171,562 per annum. Up to the 30th June, 1920, 12,699 applications for advances aggregating £1,033,059 had been approved, and that amount had been advanced to effect improvements, or upon improvements already effected by lessees.

**Small Improved Holdings.** Under the *Closer Settlement Act* 1909 (No. 2) the administration of the *Small Improved Holdings Act* 1906 was placed in the hands of the Closer Settlement Board, subject to the Minister. The particulars of estates dealt with under the latter Act are shown in the table on page 460 relating to closer settlement estates at 30th June, 1920.

**Soldiers Settlement Scheme.** Up to the 30th November, 1920, the Closer Settlement Board and the State Rivers and Water Supply Commission had specially purchased for the settlement of soldiers 1,401,047 acres at a cost of £10,080,257. The number of soldiers settled up to that date was as follows :—

|  |       |
|--|-------|
| On land specially purchased by the Closer Settlement Board   | 4,393 |
| On land specially purchased by the State Rivers and Water Supply Commission .. .. .  | 458   |
| On Closer Settlement old estates—Dry areas .. .. .   | 66    |
| On Closer Settlement old estates—Irrigable areas .. .. .   | 452   |
| On Crown Lands—Ordinary and Mallee Areas .. .. .   | 620   |
| On Crown Lands—Merbein and Nyah Irrigation Areas .. .. .   | 143   |
| Soldiers receiving assistance from the Closer Settlement Board, on share farming, leasing agreements and freehold land .. .. . | 408   |
| Total .. .. .  | 6,540 |

In addition to the above there were available or in process of being made available 2,263 allotments, of which 800 were on land specially purchased by the Closer Settlement Board, 1,203 in irrigable areas, and 260 on Crown land.

Up to the end of November, 1920, the amount of assistance rendered by the Board to soldier settlers by way of advances was £1,794,739.

### WATERWORKS.

**Victorian Waterworks.** Victorian Waterworks are all controlled by official bodies, either State or local. The following table summarizes those waterworks on which the Government has expended or advanced moneys and is practically a summary of all waterworks

in the State, although there are minor works constructed by municipalities out of municipal funds.

**WATERWORKS—CAPITAL EXPENDITURE AND ADVANCES  
BY STATE TO 30TH JUNE, 1919.**

| Controlling Bodies.                                | Purposes of Supply. | Storage Capacity of Reservoirs. | Capital Expenditure and Advances by State. |
|--|---------------------|---------------------------------|--|
| State Rivers and Water Supply Commission—          |                     | Gallons.                        | £  |
| Coliban System ..                                  | Domestic and Mining | 10,855,000,000                  | 1,256,920                                  |
| Broken River Works ..                              | Stock and Domestic  | ..                              | 14,853                                     |
|  |                     | Acre feet.                      |  |
| Goulburn-Waranga ..                                | Irrigation, &c. ..  | 302,000                         | 1,500,985                                  |
| North-west (Kerang) Lakes                          | Stock and Domestic  | 88,500                          | 11,082                                     |
| Kow Swamp Works ..                                 | Irrigation, &c. ..  | 40,860                          | 187,334                                    |
| Loddon River Works ..                              | " " ..              | 14,000                          | 167,636                                    |
| Sugarloaf Reservoir (under construction) ..        | " " ..              | 300,000                         | 304,342                                    |
|  |                     | Cubic feet.                     |  |
| Lake Lonsdale Reservoir                            | Stock and Domestic  | 1,981,000,000                   | 49,054                                     |
| Lower Wimmera Compensation Works ..                | " "                 | 125,000,000                     | 8,558                                      |
| Long Lake Pumping Works ..                         | " "                 | 166,000,000                     | 27,346                                     |
| Pyke's Creek and Werribee Scheme ..                | Irrigation, &c. ..  | 31,850                          | 156,530                                    |
| Irrigation and Water Supply Districts (20)         | " " ..              | ..                              | 1,750,969                                  |
| Waterworks Districts (18)                          | Stock and Domestic  | ..                              | 1,384,111                                  |
| First Mildura Irrigation and Water Supply Trust .. | Irrigation ..       | ..                              | 103,732                                    |
|  |                     | Gallons.                        |  |
| Waterworks Trusts (98) ..                          | Stock and Domestic  | 1,180,000,000                   | 1,210,097                                  |
| Municipal Corporations (29)                        | " "                 | 3,110,000,000                   | 779,834                                    |
| Abolished Irrigations and Water Supply Trusts (8)  | Irrigation ..       | ..                              | 31,953                                     |
| Miscellaneous Expenditure                          | " ..                | ..                              | 157,571                                    |
| Melbourne and Metropolitan Board of Works ..       | Domestic ..         | 6,460,000,000                   | 4,921,066                                  |
| Geelong Waterworks Trust                           | " ..                | 2,703,967,000                   | 590,923                                    |
| Total ..   | .. ..               | ..                              | 14,614,896                                 |

Of the expenditure given in the case of the Melbourne waterworks, £3,189,934 represents money borrowed by the State, £1,630,148 of which has been redeemed—£800,000 out of consolidated revenue, and £830,148 by payments from the Melbourne and Metropolitan Board of

Works, to which body the waterworks were transferred in 1891. The loan liability to the State of the Melbourne and Metropolitan Board of Works on 30th June, 1919, was £1,559,786. Further particulars relating to this Board will be found on page 268, Part VI., of this volume.

The Geelong Waterworks were sold by the Government to the Geelong Municipal Waterworks Trust in 1908 for £265,000. The expenditure shown in the above table includes, in addition to this amount, the outstanding State loan liability on account of the works, viz., £157,923, and the capital expenditure by the Trust since acquiring the works, viz., £168,000.

The next table summarizes the amounts disbursed on State works and those granted and lent to local bodies by the State on account of waterworks. In addition to their receiving free grants large sums have been written off the liabilities of the local bodies.

**CAPITAL EXPENDITURE AND LOANS FOR WATERWORKS.**

|  | Expenditure and Advances by State. | Interest Capitalized. | Free State Grants. | Capital Written Off. | Payments towards Redemption. | Amount standing at Debit, 30th June, 1919. |
|--|------------------------------------|-----------------------|--------------------|----------------------|------------------------------|--|
|  | £                                  | £                     | £                  | £                    | £                            | £  |
| State Works .. ..                                  | 3,636,640                          | ..                    | 2,798*             | ..                   | ..                           | 3,636,640                                  |
| Irrigation and Water Supply Districts (20) .. ..   | 1,750,939                          | ..                    | 15,406             | 575,152              | 18,279                       | 1,157,538                                  |
| First Mildura Irrigation and Water Supply Trust .. | 103,732                            | ..                    | ..                 | ..                   | 2,911                        | 100,821                                    |
| Waterworks Districts (18) ..                       | 1,384,111                          | ..                    | 46,439             | 169,927              | 35,164                       | 1,179,020                                  |
| Waterworks Trusts (98) ..                          | 1,165,811                          | 6,871                 | 37,414             | 130,989              | 134,606                      | 907,087                                    |
| Geelong Waterworks and Sewerage Trust ..           | 455,676                            | ..                    | ..                 | ..                   | 297,753                      | 157,923                                    |
| Municipal Corporations (20) ..                     | 770,291                            | 43,633                | ..                 | 165,870              | 131,814                      | 516,240                                    |
| " " (9) ..   | 9,543                              | 346                   | ..                 | ..                   | 9,889                        | ..   |
| Melbourne and Metropolitan Waterworks System ..    | 3,189,934                          | ..                    | ..                 | ..                   | 1,630,148                    | 1,559,786                                  |
| Abolished Trusts (8) ..                            | 31,710                             | ..                    | 243                | 31,680               | 30                           | ..   |
| Miscellaneous .. ..                                | 157,571                            | ..                    | ..                 | ..                   | ..                           | 157,571                                    |
| <b>Total .. ..</b>                                 | <b>12,705,988</b>                  | <b>50,850</b>         | <b>102,300</b>     | <b>1,073,618</b>     | <b>2,260,594</b>             | <b>9,422,626</b>                           |

\* Originally grants to Waterworks Trusts, the works on which spent having been taken over by the State.

In addition to the capital written off, as shown above, arrears of interest amounting to £579,786 have been written off certain

liabilities to the State, viz., £342,773 from the liabilities of what were originally Irrigation and Water Supply Trusts, £85,556 from the liabilities of Waterworks Trusts, and £151,457 from the liabilities of Municipal Corporations. Thus the amount actually written off the liabilities of the Trusts (Irrigation and Waterworks) and Corporations is £1,653,404. Interest outstanding at 30th June, 1919, amounted to £35,797, viz., £12,241 against the First Mildura Trust, £13,898 against Waterworks Trusts, and £9,658 against Municipal Corporations.

### IRRIGATION.

**Progress of  
Irrigation.**

Prior to 1905 the management of irrigation in Victoria was in the hands of various Irrigation Trusts, which were financed by the State. These Trusts drifted into financial difficulties and the State was compelled to assume control. In the year mentioned, by the authority of Parliament, the State Rivers and Water Supply Commission was constituted and intrusted with the management of all irrigation works, except those controlled by the First Mildura Trust. This authority is embodied in the *Water Act* 1915—which consolidates the *Water Acts* of 1905 and 1909, of which an epitome has been given in previous issues of this work—and the *Water Acts* 1916 and 1918. The chief difficulties under which the Irrigation Trusts laboured were sparse settlement, and the absence of powers to make compulsory charges on the properties commanded by the irrigation channels. Since the assumption of control by the Commission, a policy of closer settlement on the lands served by the irrigation channels has been inaugurated and vigorously pushed on, and a system of compulsory rating enforced, along with which there has been the allotment of water as a right to properties in channelled areas.

An illustration of the influence of closer settlement and the allotment of water rights in extending irrigation is contained in the following table, which shows, for the districts having water rights, most of which are directly affected by the Commission's Closer Settlement policy, the areas irrigated in 1909-10—the year in which these two factors

were first put into operation—and the average areas for the last five years.

PROGRESS OF IRRIGATION IN CLOSER SETTLEMENT  
AREAS.

| District<br>(having allotted Water Rights). | Area Irrigated. |                                    |
|---|-----------------|------------------------------------|
|   | 1909-10.        | Average for<br>past Five<br>Years. |
|   | Acres.          | Acres.                             |
| Supplied from the Goulburn—                 |                 |                                    |
| Shepparton .. ..                            | ..              | 12,157                             |
| Rodney .. ..                                | 32,356          | 46,951                             |
| Stanhope (two years) .. ..                  | ..              | 3,766                              |
| Tongala .. ..                               | 2,270           | 8,367                              |
| Rochester .. ..                             | 500             | 20,462                             |
| Dingee .. ..                                | ..              | 1,346                              |
| Tragowel Plains .. ..                       | 20,000          | 31,426                             |
| Supplied from the Murray—                   |                 |                                    |
| Cohuna .. ..                                | 12,000          | 15,614                             |
| Gannawarra .. ..                            | 7,825           | 15,159                             |
| Koondrook .. ..                             | 5,029           | 14,715                             |
| Swan Hill .. ..                             | 5,410           | 9,453                              |
| Nyah .. ..                                  | 569             | 1,675                              |
| Merbein .. ..                               | 202             | 5,871                              |
| Supplied from the Werribee—                 |                 |                                    |
| Bacchus Marsh .. ..                         | 31              | 3,134                              |
| Werribee .. ..                              | ..              | 3,191                              |
| Total .. ..                                 | 86,192          | 193,287                            |

The area under irrigated culture in the whole State, in 1919-20, for all kinds of crop, was 371,248 acres, being an increase of 89,089 acres over the area irrigated in the previous year. This constitutes a new record, and is 120,581 acres above the average of the previous four years.

Total area irrigated.

The subjoined table shows the total extent of irrigated land in the State in 1909-10 and each of the last five years, and the purposes for which the land was utilized :—

### IRRIGATED AREAS : HOW UTILIZED.

| Crop.                                      | 1909-10. | 1915-16. | 1916-17. | 1917-18. | 1918-19. | 1919-20. |
|--|----------|----------|----------|----------|----------|----------|
|  | acres.   | acres.   | acres.   | acres.   | acres.   | acres.   |
| Cereals .. .. .                            | 23,715   | 61,663   | 18,790   | 3,243    | 44,765   | 76,810   |
| Lucerne .. .. .                            | 24,124   | 70,372   | 74,042   | 50,869   | 64,131   | 71,364   |
| Sorghum and other annual fodders ..        | 8,094    | 15,412   | 14,707   | 10,589   | 19,083   | 32,955   |
| Pastures .. .. .                           | 50,541   | 82,622   | 87,458   | 54,985   | 89,986   | 117,263  |
| Vineyards and orchards                     | 17,524   | 32,918   | 38,246   | 32,785   | 38,260   | 43,586   |
| Fallow .. .. .                             | 4,988    | 5,621    | 3,220    | 2,323    | 5,575    | 8,502    |
| Miscellaneous ..                           | 785      | 2,399    | 4,242    | 3,002    | 3,559    | 2,768    |
|  | 129,771  | 271,007  | 240,705  | 157,796  | 264,359  | 353,248  |
| Details not available (private diversions) | 8,000    | 17,000   | 17,000   | 17,000   | 17,800   | 18,000   |
| Total .. .. .                              | 137,771  | 288,007  | 257,705  | 174,796  | 282,159  | 371,248  |

Of the total area irrigated in 1919-20 for which details of crops are available—353,248 acres—the percentages devoted to different purposes were as follows :—Pastures, 33 ; cereals, 22 ; lucerne, 20 ; vineyards, orchards, and gardens, 12 ; sorghum and other annual fodder crops, 9 ; fallow, 3 ; and miscellaneous, 1. The abnormally heavy rainfall in the year 1917-18—particularly in the cereal irrigation period—made it unnecessary, in many instances, to water land which in ordinary seasons is under irrigated culture.

The Closer Settlement operations of the Commission during the past year have again been confined almost exclusively to the settlement of discharged soldiers. A strong demand by soldiers for irrigable blocks was maintained throughout the year, but the lands held in reserve for the purpose, together with several purchases made during the year, proved sufficient to meet the bulk of the requirements. During the year ended in October, 1920, there were granted 540 applications for new blocks, of which 529 were to soldiers. The remaining 11 blocks, being not quite up to the standard adopted for soldier settlement, were allotted under the Closer Settlement Acts to experienced agriculturists, who expect to be able to work them to advantage. The total area now occupied on the irrigable closer settlement estates subdivided by the Commission is 114,000 acres, while 15,000 acres in irrigation districts outside the closer settlement areas have been settled under Section 20 of the *Closer Settlement Act* 1915 referred to below.

Since the work of repatriation was commenced, the Commission has settled 1,000 discharged soldiers on irrigable farms. Of this total 200 have selected fruit blocks on the Murray Frontage Settlements at Nyah and Merbein, 92 are at Swan Hill and 19 in the Cohuna district engaged in fruit culture and dairying ; and in the Goulburn Valley

Closer Settlement in Irrigation Districts.

there are over 200 on the Stanhope Estate and 118 at Tongala on lands mainly devoted to dairying, and 84 at Shepparton, who are principally orchardists; there are also 45 in the Rochester district, who have adopted mixed farming. At Werribee 74 are settled on dairying blocks, while in the new irrigation centre at Maffra there are 19 engaged in beet-growing and dairying. About 230 of the soldier settlers in these closer settlement areas and in irrigation districts generally availed themselves of the provisions of Section 20 of the *Closer Settlement Act* 1915, which enabled them to acquire, by agreement with the owners, irrigable farms selected by themselves, such agreements, after careful inspection and valuation of the properties by competent valuers, being ratified by the Governor in Council on the recommendation of the Commission.

The following statement shows the lands purchased and subdivided by the State and the extent of settlement on each estate up to 30th September, 1920. From this statement it will be seen that the subdivided portions of the estates are already supporting more than fifteen times as many families as were living on them prior to their subdivision for closer settlement. The statement shows also particulars of settlement effected under Section 20 of the *Closer Settlement Act* 1915 outside the large estates subdivided by the Commission:—

CLOSER SETTLEMENT IN IRRIGATION DISTRICTS.

| Closer Settlement Estates.  | Area of Lands purchased by the State in Acres. | Properties Subdivided. |                   |  |                                     |                        |  |   |
|---|--|------------------------|-------------------|--|-------------------------------------|------------------------|--|---|
|   |  | Area in Acres.         | Number.           | Number of Families thereon when purchased. | Subdivided into—                    |                        | Number of Closer Settlement Blocks now occupied. | Present Increase in Number of Families. |
|   |  |                        |                   |  | Number of Closer Settlement Blocks. | Average Area in Acres. |  |   |
| Shepparton ..   | 10,700   | 10,700                 | 26                | 24   | 323                                 | 31                     | 309  | 285                                     |
| Tatura ..   | 100  | 100                    | 1                 | ..   | 4                                   | 24                     | 4  | 4                                       |
| Stanhope ..   | 20,900   | 20,400                 | 6                 | 12   | 299                                 | 63                     | 248  | 236                                     |
| Kyabram ..  | 3,000  | 2,500                  | 5                 | 7  | 47                                  | 53                     | 40   | 33                                      |
| Tongala ..  | 15,900   | 15,900                 | 32                | 31   | 245                                 | 62                     | 240  | 209                                     |
| Cornelia Creek ..   | 2,500  | 2,500                  | 1                 | ..   | 14                                  | 176                    | 13   | 13                                      |
| Koyuga ..   | 4,200  | 4,200                  |                   |  | 53                                  | 76                     | 50   | 50                                      |
| Nanneella ..  | 8,600  | 8,600                  | 16                | 6  | 101                                 | 82                     | 95   | 89                                      |
| Rchuca ..   | 3,200  | 3,200                  | 6                 | 4  | 27                                  | 117                    | 25   | 21                                      |
| Bamawn ..   | 13,400   | 13,400                 | 28                | 21   | 175                                 | 73                     | 171  | 150                                     |
| Dingee ..   | 500  | 500                    | 3                 | 1  | 15                                  | 30                     | 14   | 13                                      |
| Cohuna ..   | 11,500   | 11,500                 | 27                | 8  | 127                                 | 87                     | 109  | 101                                     |
| Koondrook ..  | 3,400  | 3,400                  | 5                 | 4  | 33                                  | 99                     | 33   | 29                                      |
| Swan Hill ..  | 9,500  | 9,450                  | 24                | 14   | 203                                 | 44                     | 195  | 181                                     |
| Werribee ..   | 8,550  | 8,550                  | 1                 | 11   | 193                                 | 41                     | 172  | 161                                     |
| Maffra ..   | 4,900  | 600                    | 5                 | 4  | 19                                  | 32                     | 17   | 13                                      |
| Nyah ..   | 3,500  | 3,500                  | 7                 | 1  | 193                                 | 17                     | 183  | 182                                     |
| Merbein ..  | 7,700  | 7,700                  | Crown Lands Pt. 1 | ..   | 354                                 | 22                     | 354  | 354                                     |
| Red Cliffs ..   | 33,000   | 800                    |                   | 3  | 12                                  | 13                     | 12   | 9                                       |
|   | 165,350  | 127,800                | 194               | 151  | 2,437                               | 49                     | 2,284  | 2,133                                   |
| Properties acquired under Section 20, <i>Closer Settlement Act</i> 1915, outside above estates .. | 14,977   | ..                     | ..                | ..   | ..                                  | ..                     | 152  | ..                                      |

There are now available, and ready for immediate occupation, 153 allotments, varying from 2 to 150 acres, containing in all 6,770 acres. In addition to this, the Commission has in process of reticulation and subdivision some 20,000 acres of irrigable land, mainly at Red Cliffs and Maffra, referred to hereunder, and about 17,000 acres of Mallee land at Red Cliffs, which, being above channel level, will be disposed of in large areas.

The demand for lands in the Murray Frontage districts was so keen that the Commission, with a view to making ample provision for all soldiers desiring to make homes in the district, acquired the large estate of 33,000 acres—known as "Red Cliffs"—adjoining the Mildura Settlement. This estate is now being subdivided and made ready for occupation. The preparatory work is providing employment for some 300 returned soldiers.

The Commission also recently acquired, for soldier settlement, some 5,000 acres of land on the rich river flats along the Macallister, Avon, and Thomson Rivers, near Maffra, Stratford, and Sale. These lands are eminently suitable for beet culture and dairying; the existence of sugar, butter, and condensed milk factories in the vicinity, as well as the proximity of the purchased properties to railway stations, has made this new irrigation centre attractive to soldier applicants. In view of the demand for blocks, part of this land has already been subdivided in its present condition, and nineteen allotments have been settled, provision being made whereby adjoining land may be leased by soldiers whose blocks—pending irrigation—may prove too small for a living area.

Owing to the continued development of the Stanhope Estates, and an increased demand for building sites in the townships of Stanhope and Girgarre, further sales of allotments in these townships have been held, for which very satisfactory prices have been realized.

The construction of storage works by the State Rivers and Water Supply Commission was continued during the year. Satisfactory progress was made with the construction of Sugarloaf Reservoir, on the Upper Goulburn, and the enlargement of Waranga Reservoir, which are the principal works for irrigation requirements now being carried on.

Progress was also made with the works for supplementing the domestic and stock supplies to the districts served by the Wimmera-Mallee system. The work of converting Taylor's Lake into a controllable reservoir (to hold 30,000 acre-feet) has been almost completed, and this reservoir is now in use to the extent of half its ultimate full capacity. As, however, the demand for water is steadily increasing, steps are being taken to improve two other adjacent natural storages, Pine Lake and Green Lake, which, by a comparatively small expenditure, can be made to store 62,000 and 10,000 acre-feet respectively.

The construction of the main channel to connect the channels of the Long Lake and Tyntynder Waterworks Districts with the Wimmera-Mallee System having been completed, these districts, hitherto supplied from the Murray River by pumping at Long Lake and Nyah, are now

**Water Supply  
Construction  
Works,  
1919-20.**

supplied with equal efficiency and at a lower cost from the Wimmera River by gravitation. The comprehensive Wimmera-Mallee gravitation channel system now serves a total area of 8,500 square miles, extending approximately from Lake Lonsdale—at the foot of the Grampians Ranges—on the south, to Ouyen and Piangil, some ten to twenty miles beyond Lake Tyrrell, on the north, and from the Richardson and Avoca Rivers on the east to Lake Hindmarsh on the west. The channels which supply this extensive area have a total length of 4,000 miles.

The scheme prepared at the request of the Naval authorities for the supply of water to the Naval Base which is being established at Crib Point, Western Port, and the several townships and bayside resorts *en route* is well advanced, and water has been supplied to the Naval Base since 20th October, 1919.

The supply is being drawn from the head-waters of the Bunyip River, and will be conveyed through cement-lined races and pipes, *viâ* Berwick, Beaconsfield, Pakenham, and Cranbourne townships to service reservoirs of 50,000,000 gallons and 180,000 gallons respectively, at Mornington and Frankston, from which the townships of Mornington, Frankston, Seaford, Carrum, Chelsea, and Aspendale will be reticulated. From Langwarrin a pipe main, which will supply the township of Somerville *en route*, connects with the Base Reservoir, which serves the Naval Base and the neighbouring seaside resorts. These works are so far advanced that water will be available in most of the bayside townships mentioned during the summer of 1920-21.

The original scheme will be considerably expanded, as a proposal to incorporate the works of the Dandenong Waterworks Trust has already been agreed to, and consideration is being given to requests for an extension to Dromana, Sorrento, and Portsea.

A commencement has been made with the construction of the concrete masonry reservoir on the Macallister River, near Glenmaggie. This reservoir, the capacity of the first stage of which will be 60,000 acre-feet, will constitute the headwork of the new Maffra Irrigation Scheme, the channels of which will be capable of commanding some 50,000 acres of irrigable land in the vicinity of Maffra, Stratford and Sale.

A new irrigation settlement is being established at Red Cliffs (adjoining Mildura), on the River Murray. The irrigable portion of the Red Cliffs Estate (*see* page 470) contains some 15,000 acres of the finest irrigable land in the State, which is being subdivided for discharged soldiers. The supply of water will be obtained from the Murray by means of a powerful pumping plant, and conveyed, by a concrete rising main, to the system of channels which will serve the settlers' holdings. The land is being cleared, the surveys are in progress, and a commencement has been made with the construction of the works.

The total storage capacity of existing reservoirs under the Commission's control is 664,100 acre-feet, compared with 172,000 acre-feet in the drought year 1902. When the works now in hand are

completed, the total capacity will exceed 1,100,000 acre-feet, and it is estimated that Victoria's share of the Upper Murray storage will be an additional 500,000 acre-feet.

**Mildura Irrigation Settlement.** The Mildura Irrigation Settlement, on the Murray River was established in 1887 under the management of the Chaffey Brothers Limited, and in 1895 the control of the water supply was vested in the First Mildura Irrigation Trust. Water is obtained by pumping from the river. The following particulars are an indication of the prosperity of the settlement:—

#### POPULATION OF MILDURA SHIRE, 1891 to 1919.

|                     |    |       |               |    |       |
|---------------------|----|-------|---------------|----|-------|
| 1891 April (Census) | .. | 2,321 | 1914 December | .. | 7,250 |
| 1896 September      | .. | 2,000 | 1915          | .. | 7,618 |
| 1901 March (Census) | .. | 3,325 | 1916          | .. | 8,000 |
| 1911 April (Census) | .. | 6,119 | 1917          | .. | 8,250 |
|                     |    |       | 1918          | .. | 8,550 |
|                     |    |       | 1919          | .. | 9,000 |

The capital value of property in the Shire of Mildura in 1911 was £732,560. In 1919 it had risen to £2,421,620. The receipts and payments of the Mildura Irrigation Trust during the year ended 30th June, 1919, were as follows:—

#### RECEIPTS AND PAYMENTS OF FIRST MILDURA IRRIGATION TRUST, 1918-19.

| <i>Receipts.</i>       |           | £             | <i>Payments.</i>                        |           | £             |
|------------------------|-----------|---------------|---|-----------|---------------|
| Horticultural Rates    | ..        | 24,785        | Wages and Salaries                      | ..        | 9,225         |
| Special Waterings, &c. | ..        | 3,547         | Firewood                                | ..        | 8,928         |
| Miscellaneous          | ..        | 6,258         | Interest, Sinking Fund and Depreciation | ..        | 6,858         |
|                        |           |               | Miscellaneous                           | ..        | 8,002         |
| <b>Total</b>           | <b>..</b> | <b>34,590</b> | <b>Total</b>                            | <b>..</b> | <b>33,013</b> |

The extent of watering done represented 40,860 water acres in 1911-12, 36,553 acres in 1912-13, 39,541 acres in 1913-14, 42,476 acres in 1914-15, 41,405 acres in 1915-16, 29,966 acres in 1916-17, 22,876 acres in 1917-18, and 39,895 acres in 1918-19.

**Artesian Bores.** The following particulars relating to artesian boring have been supplied by the State Rivers and Water Supply Commission:—

#### ARTESIAN AND SUB-ARTESIAN BORING.

| Number of Bores Sunk. |          | Total Depth of Bores. |          |
|-----------------------|----------|-----------------------|----------|
| State.                | Private. | State.                | Private. |
|                       |          | Feet.                 | Feet.    |
| 103                   | 206      | 43,000                | 41,800   |

In 100 of the Government bores fresh water was struck at depths varying from 150 to 700 feet, the water rising to heights varying from

200 to 7 feet below the surface. In three cases the water rises from 4 feet to 17 feet above the surface.

## METEOROLOGY.

Particulars in regard to climate and weather conditions have been furnished by the Commonwealth Meteorologist, and are given in the following tables. In the first are shown the rainfall for each of the years 1917, 1918, and 1919, and the average yearly amount of rainfall deduced from all available records to December, 1919, in each of the 26 river basins or districts constituting the State of Victoria:—

## RAINFALL.—YEARLY RECORDS AND AVERAGES.

| Basin or District.                   | Rainfall.    |              |              |                                   |
|--------------------------------------|--------------|--------------|--------------|-----------------------------------|
|                                      | During 1917. | During 1918. | During 1919. | Yearly Average to December, 1919. |
|                                      | Inches.      | Inches.      | Inches.      | Inches.                           |
| Gleneel and Wannon Rivers ..         | 29.86        | 23.95        | 22.67        | 26.33                             |
| Fitzroy, Eumeralla, and Merri Rivers | 32.78        | 28.04        | 28.12        | 29.30                             |
| Hopkins River and Mt. Emu Creek      | 29.97        | 23.87        | 21.85        | 25.25                             |
| Mt. Elephant and Lake Corangamite    | 26.94        | 22.81        | 20.87        | 24.80                             |
| Cape Otway Forest ..                 | 44.09        | 39.32        | 40.37        | 41.60                             |
| Moorabool and Barwon Rivers ..       | 25.43        | 20.85        | 22.65        | 24.24                             |
| Werribee and Saltwater Rivers ..     | 26.97        | 22.77        | 23.94        | 23.64                             |
| Yarra River and Dandenong Creek ..   | 40.26        | 34.77        | 29.81        | 33.55                             |
| Koo-wee-rup Swamp ..                 | 43.01        | 34.35        | 32.74        | 35.69                             |
| South Gippsland ..                   | 37.66        | 37.66        | 45.16        | 39.10                             |
| Latrobe and Thomson Rivers ..        | 40.34        | 38.23        | 36.69        | 36.38                             |
| Macallister and Avon Rivers ..       | 22.91        | 25.56        | 31.32        | 23.75                             |
| Mitchell River ..                    | 26.28        | 24.52        | 32.97        | 27.18                             |
| Tambo and Nicholson Rivers ..        | 25.62        | 24.51        | 33.68        | 28.02                             |
| Snowy River ..                       | 27.46        | 32.99        | 45.24        | 34.85                             |
| Murray River ..                      | 25.24        | 20.40        | 14.01        | 16.40                             |
| Mitta Mitta and Kiewa Rivers ..      | 53.58        | 32.63        | 27.68        | 32.64                             |
| Ovens River ..                       | 61.88        | 39.85        | 25.73        | 33.75                             |
| Goulburn River ..                    | 42.64        | 31.62        | 20.97        | 26.96                             |
| Campaspe River ..                    | 30.58        | 24.26        | 19.36        | 23.33                             |
| Loddon River ..                      | 27.78        | 21.55        | 21.19        | 20.41                             |
| Avoca River ..                       | 22.23        | 16.36        | 13.82        | 17.08                             |
| Avon and Richardson Rivers ..        | 20.94        | 14.35        | 12.79        | 16.26                             |
| Eastern Wimmera ..                   | 25.46        | 21.40        | 17.03        | 21.22                             |
| Western Wimmera ..                   | 24.38        | 18.03        | 16.66        | 19.86                             |
| Mallee ..                            | 20.45        | 13.82        | 10.06        | 12.73                             |
| Weighted Averages ..                 | 30.77        | 24.70        | 22.77        | 24.35                             |

The wettest portions of the State are the South Gippsland, the Latrobe and Thomson, and the Cape Otway Forest districts, and the driest district is the Mallee, where the average rainfall is only 12.73 inches as compared with an average of 24.35 inches for the State.

The actual areas of the State, in square miles, subject to different degrees of rainfall are as shown in the following statement:—

### DISTRIBUTION OF AVERAGE RAINFALL.

| Rainfall.                    | Area in Square Miles. |
|------------------------------|-----------------------|
| Under 15 inches .. .. .      | 19,912                |
| From 15 to 20 inches .. .. . | 12,626                |
| From 20 to 25 inches .. .. . | 14,070                |
| From 25 to 30 inches .. .. . | 15,247                |
| From 30 to 40 inches .. .. . | 14,029                |
| From 40 to 50 inches .. .. . | 7,055                 |
| From 50 to 60 inches .. .. . | 3,348                 |
| Over 60 inches .. .. .       | 1,597                 |

The rainfall recorded for each quarter of 1919 and the quarterly averages up to 1919 deduced from all available records are as follows:—

### RAINFALL—QUARTERLY RECORDS AND AVERAGES.

| Basin or District.                    | First Quarter. |          | Second Quarter. |          | Third Quarter. |          | Fourth Quarter. |          |
|---------------------------------------|----------------|----------|-----------------|----------|----------------|----------|-----------------|----------|
|                                       | Amount.        | Average. | Amount.         | Average. | Amount.        | Average. | Amount.         | Average. |
| Glencg and Wannon Rivers .. .. .      | 559            | 369      | 497             | 791      | 833            | 883      | 378             | 590      |
| Fitzroy, Eumeralla, and Merri Rivers  | 842            | 451      | 608             | 868      | 969            | 969      | 393             | 642      |
| Hopkins River and Mt. Emu Creek       | 691            | 420      | 520             | 751      | 939            | 783      | 335             | 571      |
| Mt. Elephant and Lake Corangamite     | 603            | 455      | 566             | 705      | 620            | 736      | 298             | 584      |
| Cape Otway Forest .. .. .             | 1048           | 660      | 1116            | 1243     | 1314           | 1361     | 559             | 896      |
| Moorabool and Barwon Rivers .. .. .   | 819            | 478      | 485             | 668      | 526            | 690      | 435             | 588      |
| Werribee and Saltwater Rivers .. .. . | 1032           | 533      | 456             | 611      | 386            | 634      | 520             | 586      |
| Yarra River and Dandenong Creek       | 947            | 695      | 565             | 885      | 679            | 895      | 800             | 880      |
| Koo-wee-rup Swamp .. .. .             | 950            | 685      | 772             | 1015     | 897            | 993      | 655             | 876      |
| South Gippsland .. .. .               | 1184           | 791      | 1272            | 1112     | 1300           | 1124     | 760             | 883      |
| Latrobe and Thomson Rivers .. .. .    | 919            | 709      | 884             | 936      | 1013           | 1020     | 353             | 973      |
| Macallister and Avon Rivers .. .. .   | 798            | 625      | 571             | 526      | 813            | 597      | 950             | 627      |
| Mitchell River .. .. .                | 670            | 680      | 669             | 652      | 1023           | 699      | 935             | 687      |
| Tambo and Nicholson Rivers .. .. .    | 754            | 713      | 670             | 685      | 997            | 671      | 947             | 733      |
| Snowy River .. .. .                   | 894            | 814      | 989             | 927      | 1615           | 916      | 1026            | 828      |
| Murray River .. .. .                  | 352            | 313      | 438             | 481      | 256            | 473      | 355             | 373      |
| Mitta Mitta and Klewa Rivers .. .. .  | 419            | 594      | 794             | 929      | 638            | 863      | 917             | 778      |
| Ovens River .. .. .                   | 434            | 565      | 858             | 1001     | 574            | 1061     | 707             | 748      |
| Goulburn River .. .. .                | 545            | 473      | 557             | 808      | 490            | 821      | 505             | 594      |
| Campaspe River .. .. .                | 495            | 421      | 538             | 702      | 456            | 721      | 447             | 489      |
| Loddon River .. .. .                  | 630            | 337      | 597             | 619      | 486            | 652      | 406             | 433      |
| Avoca River .. .. .                   | 341            | 283      | 318             | 530      | 406            | 529      | 317             | 366      |
| Avon and Richardson Rivers .. .. .    | 365            | 257      | 298             | 501      | 393            | 516      | 223             | 352      |
| Eastern Wimmera .. .. .               | 548            | 309      | 410             | 648      | 504            | 700      | 241             | 465      |
| Western Wimmera .. .. .               | 479            | 257      | 301             | 619      | 602            | 639      | 234             | 421      |
| Mallee .. .. .                        | 280            | 245      | 399             | 366      | 171            | 380      | 216             | 282      |
| The whole State .. .. .               | 593            | 447      | 568             | 698      | 629            | 731      | 487             | 559      |

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NOTE.—100 pts.—1 inch.

The averages of the climatic elements for the seasons in Melbourne deduced from all available official records are given below :—

AVERAGES OF CLIMATIC ELEMENTS IN MELBOURNE.

| Meteorological Elements.                                      | Spring. | Summer. | Autumn. | Winter. |
|---|---------|---------|---------|---------|
| Mean pressure of air in inches .. ..                          | 29·971  | 29·924  | 30·080  | 30·080  |
| Monthly range of pressure of air—Inches                       | 0·889   | 0·772   | 0·811   | 0·981   |
| Mean temperature of air in shade—° Fahr.                      | 57·7    | 66·6    | 59·4    | 50·0    |
| Mean daily range of temperature of air in shade—° Fahr. .. .. | 18·7    | 21·2    | 17·4    | 14·0    |
| Mean relative humidity. Saturation = 100 .. ..                | 66      | 60      | 70      | 76      |
| Mean rainfall in inches .. ..                                 | 7·22    | 5·91    | 6·67    | 5·73    |
| Mean number of days of rain .. ..                             | 38      | 23      | 33      | 42      |
| Mean amount of spontaneous evaporation in inches .. ..        | 10·18   | 17·18   | 7·75    | 3·63    |
| Mean daily amount of cloudiness—Scale 0 to 10 .. ..           | 6·0     | 5·2     | 5·9     | 6·4     |
| Mean number of days of fog .. ..                              | 1       | 1       | 5       | 11      |

In the subjoined statement are shown the yearly averages of the climatic elements in Melbourne for 1919 and for the past 64 years, as well as the extremes between which the yearly average values of such elements have oscillated in the latter period.

YEARLY AVERAGES AND EXTREMES OF CLIMATIC ELEMENTS.

| Meteorological Elements.                         | Yearly Averages and Extremes. |                       |   |         |
|--|-------------------------------|-----------------------|---|---------|
|  | Year 1919.                    | Average for 64 Years. | Extremes between which the Yearly Average Values have oscillated in 64 years. |         |
|  |                               |                       | Highest.  | Lowest. |
| Mean atmospheric pressure (inches) ..            | 30·057                        | 30·014                | 30·106  | 29·961  |
| Highest " " " ..                                 | 30·599                        | 30·606                | 30·762  | 30·488  |
| Lowest " " " ..                                  | 29·495                        | 29·258                | 29·495  | 28·942  |
| Range (inches) .. ..                             | 1·104                         | 1·343                 | 1·719   | 1·104   |
| Mean temperature of air in shade (° Fahr.) .. .. | 59·5                          | 58·4                  | 59·9  | 57·3    |
| Mean daily maximum .. (° Fahr.)                  | 68·6                          | 67·3                  | 69·0  | 66·0    |
| Mean daily minimum .. ..                         | 50·4                          | 49·5                  | 51·2  | 47·2    |
| Absolute maximum .. ..                           | 106·6                         | 105·1                 | 111·2   | 96·6    |
| Absolute minimum .. ..                           | 29·9                          | 30·6                  | 33·9  | 27·0    |
| Mean daily range .. ..                           | 18·2                          | 17·8                  | 20·4  | 15·0    |
| Absolute annual range .. ..                      | 76·7                          | 74·4                  | 82·6  | 66·0    |
| Solar Radiation (mean maxima) ..                 | 116·6                         | 118·1                 | 127·6   | 106·0   |

YEARLY AVERAGES AND EXTREMES OF CLIMATIC ELEMENTS—  
continued.

| Meteorological Elements.                            | Yearly Averages and Extremes. |                       |   |         |
|---|-------------------------------|-----------------------|---|---------|
|   | Year 1919.                    | Average for 64 years. | Extremes between which the Yearly Average Values have oscillated in 64 years. |         |
|   |                               |                       | Highest.  | Lowest. |
| Terrestrial Radiation (mean minima) .. .. (°Fahr)   | 44·4                          | 43·8                  | 46·7  | 39·5    |
| Rainfall (in inches) .. ..                          | 24·89                         | 25·55                 | 38·04   | 15·61   |
| Number of wet days .. ..                            | 141                           | 136                   | 171   | 102     |
| Year's amount of free evaporation (in inches) .. .. | 41·79                         | 38·74                 | 45·66   | 31·59   |
| Percentage of humidity (saturation = 100) .. ..     | 63                            | 68                    | 76  | 62      |
| Cloudiness (scale 10 = overcast, 0 = clear) .. ..   | 5·5                           | 5·9                   | 6·4   | 4·8     |
| Number of days of fog .. ..                         | 21                            | 18                    | 39  | 5       |

• AGRICULTURAL RESEARCH AND EDUCATION.

**Department of Agriculture.** This Department is controlled by a Minister of the Crown, under whom there is a large staff of experts with the Director of Agriculture as permanent head. These officers are actively engaged in supervising all matters relating to the Agricultural, Pastoral, Fruit and Dairying Industries of the State, and in giving instructions to those engaged therein. The Department publishes a monthly journal.

The great expansion in our rural industries during recent years has been largely brought about by the general adoption of better methods of farming, and by the introduction of more prolific wheats, and it is claimed that these improvements have been adopted as the result of the experimental and demonstration work of the Department of Agriculture. For many years the Department carried out research work on a large number of experimental plots on private farms throughout the State, but in 1912 the great majority of these plots were discontinued, and a commencement was made towards a policy of concentration in experimental investigation. In furtherance of this policy a Central Research Farm has been established at Werribee, and it is there that the initiative with regard to all experimental and research work is undertaken. The State farms at Rutherglen and Longerenong are used as district experimental stations for the North-East and the Wimmera respectively. The problems investigated on these farms are fully described in the 1915-16 issue of this work.

**Agricultural Colleges.** An Act for the establishment of Agricultural Colleges was passed in 1884, and 14,460 acres, comprising 5,975

acres at Dookie, 2,386 acres at Longerenong, 2,500 acres at Gonyah Gonyah, 2,800 acres at Olangolah, and 817 acres at Bullarto, were reserved as sites for colleges and experimental farms. An additional area of 800 acres has been purchased for cultivation purposes at Dookie. The areas at Dookie and Longerenong are being used for the purpose for which they were reserved, but the other three are devoted to other uses.

In addition to the college and farm lands, provision was made by the Act of 1884 to permanently reserve from sale an area of not more than 150,000 acres of Crown lands, and to vest it in trustees to be appointed, who should hold it in trust for the benefit of and by way of an endowment for State agricultural colleges and experimental farms. The land so reserved now amounts to 71,412 acres, which are let for grazing and agricultural purposes.

The fee for students in residence at the agricultural colleges is £25 per annum for maintenance, including stationery and medical and other charges. No charge is made for instruction. Accommodation is provided at Dookie for 100 and at Longerenong for 40 students.

**School of  
Primary  
Agriculture  
and  
Horticulture.**

This institution is situated in the Burnley Gardens, close to the Hawthorn and Heyington railway stations. The Hawthorn electric trams from Princes-bridge pass the gates.

The classes are open to male and female students above fourteen years of age. The Course for the Certificate in Horticulture occupies two years, and is intended for those who propose to follow orchard or garden work as a profession. Several of the female students who have completed the course are now occupied in gardening or nursery work. A practical training is obtained in the orchards, gardens, and nursery connected with the school; the course also includes lectures and demonstrations by various expert teachers. The students in this class attend daily (Saturdays excepted). The fees are £5 per annum.

A part-time class in gardening for men and women is held on Tuesday and Thursday afternoons. The members of this class attend also the demonstrations on poultry management, bee-keeping, and fruit-preserving. The fees are £2 per annum.

Pupils from the secondary schools attend classes for the study of the principles of primary agriculture. These classes are held primarily for students taking the subject of agriculture for the intermediate and leaving examinations at the Melbourne University. The class from each school attends on a separate half-day each week and the instruction is free.

A class for instructing discharged soldiers in horticultural work is also in operation.

Excursions to up-to-date farms, orchards, and nurseries form part of the work in all the classes.

For 1920, the students enrolled numbered 152.

Various particulars relating to the State Experimental Farms and Agricultural Colleges are embodied in the next statement.

**GOVERNMENT EXPERIMENTAL FARMS AND  
AGRICULTURAL COLLEGES, 1919.**

| Particulars.                                 | Central<br>Research<br>Farm,<br>Werribee. | Ruther-<br>glen<br>Farm,<br>&c. | Dookie<br>Agri-<br>cultural<br>College. | Longere-<br>nong<br>Agri-<br>cultural<br>College. | School<br>of<br>Primary<br>Agricul-<br>ture, &c. |
|--|---|---------------------------------|---|---|--|
|  | No.                                       | No.                             | No.                                     | No.   | No.  |
| Professional Staff .. .. .                   | 1   | 2                               | 11                                      | 6   | 3  |
| Hands employed .. .. .                       | 44  | 43                              | 31                                      | 14  | 6  |
| Students .. .. .                             | 20  | 15                              | 90                                      | 57  | 173  |
|  | £   | £                               | £                                       | £   | £  |
| Value of plant and machinery .. .. .         | 2,716                                     | 1,611                           | 5,457                                   | 2,003   | 150  |
| Value of produce for year .. .. .            | 12,500                                    | 4,000                           | 4,970                                   | 6,130   | 282  |
| Receipts—                                    |   |                                 |   |   |  |
| Government Grant .. .. .                     | 10,660                                    | 6,900                           | ..                                      | ..  | 1,950  |
| Fees .. .. .                                 | ..  | ..                              | 1,927                                   | 998   | 409  |
| Sale of produce, &c. .. .. .                 | 11,861                                    | 2,632                           | 5,537                                   | 5,100   | 854  |
| Other .. .. .                                | 233                                       | 166                             | ..                                      | ..  | 7  |
| <b>Total receipts .. .. .</b>                | <b>22,754</b>                             | <b>9,698</b>                    | <b>7,464</b>                            | <b>6,098</b>                                      | <b>3,220</b>                                     |
| Expenditure—                                 |   |                                 |   |   |  |
| Salaries—                                    |   |                                 |   |   |  |
| Professional Staff .. .. .                   | 300                                       | 560                             | 3,296                                   | 1,584   | 714  |
| General Staff .. .. .                        | 4,733                                     | 4,941                           | 3,235                                   | 1,553   | 1,139  |
| Buildings and maintenance .. .. .            | 1,502                                     | 1,664                           | 3,587                                   | 3,269   | 264  |
| Other .. .. .                                | 2,576                                     | 2,551                           | 389                                     | 72  | 123  |
| <b>Total expenditure .. .. .</b>             | <b>9,111</b>                              | <b>9,716</b>                    | <b>15,507</b>                           | <b>6,478</b>                                      | <b>2,240</b>                                     |
|  | Acres.                                    | Acres.                          | Acres.                                  | Acres.  | Acres.   |
| Area under—                                  |   |                                 |   |   |  |
| Cereals for Grain .. .. .                    | 270                                       | 184                             | 359                                     | 362   | ..   |
| Hay .. .. .                                  | 400                                       | 200                             | 112                                     | 90  | ..   |
| Fruit trees, &c. .. .. .                     | ..  | 2                               | 15                                      | 16  | 14   |
| Vines .. .. .                                | ..  | 58                              | 5½                                      | 8   | ½  |
| Green fodder .. .. .                         | 310                                       | 305                             | 26                                      | 79  | ..   |
| Other crops .. .. .                          | ..  | 60                              | 16½                                     | 11  | 1  |
| <b>Total area under crop .. .. .</b>         | <b>980</b>                                | <b>809</b>                      | <b>534</b>                              | <b>566</b>  | <b>15½</b>                                       |
| Area of land in fallow .. .. .               | 650                                       | 190                             | 300                                     | 380   | ..   |
| Area under artificially sown grasses .. .. . | 94  | 4                               | ..                                      | ..  | 9  |
| Area resting .. .. .                         | 400                                       | ..                              | 816                                     | 712   | ..   |
| <b>Total area of arable land .. .. .</b>     | <b>2,124</b>                              | <b>1,003</b>                    | <b>1,650</b>                            | <b>1,658</b>                                      | <b>24½</b>                                       |
| Balance of area .. .. .                      | 85  | 310                             | 4,263                                   | 728   | 8½   |
| <b>Total area of farm .. .. .</b>            | <b>2,209</b>                              | <b>1,313</b>                    | <b>5,913</b>                            | <b>2,386</b>                                      | <b>33</b>  |
|  | No.                                       | No.                             | No.                                     | No.   | No.  |
| Live Stock—                                  |   |                                 |   |   |  |
| Horses .. .. .                               | 98  | 32                              | 90                                      | 51  | 1  |
| Dairy cows .. .. .                           | 65  | 11                              | 35                                      | 24  | 3  |
| All other cattle .. .. .                     | 88  | 22                              | 80                                      | 32  | 15   |
| Sheep .. .. .                                | 1,200                                     | 740                             | 1,708                                   | 525   | ..   |
| Pigs .. .. .                                 | ..  | 53                              | 66                                      | 60  | ..   |

The orchards, nurseries, and gardens of the State are systematically inspected by the officers of the Vegetation and Diseases Branch of the Department of Agriculture. Nurseries are inspected every six months, and certified to by the departmental supervisor if clean and free from disease. Old, worn-out, and infected orchards are destroyed.

There has been considerable alteration in the departmental policy with respect to experimental orchards. The small and comparatively valueless demonstration orchards are being replaced by larger areas

on which experimental and demonstration works have been concentrated.

Experiments are carried out in the treatment of diseases; lectures and demonstrations are given on the various phases of horticulture; and sites are selected on the farms of intending fruit-growers, to whom advice is given as to the most suitable varieties to be planted and their subsequent treatment.

The fear of introducing the fruit-flies *Tephritis tryoni* and *Halterophora capitata* and diseases arising from other causes has necessitated a thorough examination of fruit from Queensland, New South Wales, and elsewhere. The fruit-fly question is a very grave one, and, should either of the above-named insects obtain a footing in Victoria, a great portion of the large and important fruit industry of our State would be practically ruined.

Plants and cuttings coming from foreign parts are fumigated if a certificate that they have been treated at the port of shipment does not accompany the consignment. Even when they have been thus certified, the Senior Fruit Inspector has the right of examination and, if necessary, of ordering a second fumigation.

The State has about 12,000,000 acres of woodland, and **Forestry.** of this area 4,160,342 acres are set aside as climatic reserves and for the production of timber. Of the State forest domain, some 3,000,000 acres are situated on the slopes of high mountain ranges, and their protection is essential for the maintenance of streams and springs; over half-a-million acres are situated in the extreme Eastern part of the State and, owing to difficulties of transport, are not at present accessible for practical working; and half-a-million acres, chiefly in the central district, which have been cut over, are closed for the protection of the young timber. Timber cutting is carried on in reserves and ordinary Crown lands in various parts of the State, wherever there are local and other markets for forest produce.

The timbers of commercial value in Victoria number twenty, all species of the eucalyptus family. Alarmist statements to the effect that there is an increasing scarcity of commercial timber here are ill-founded, as large supplies of hardwood are assured for many years to come.

A forest nursery, with provision for an annual output of from four to five million tree plants, has been completed at Creswick; the old nursery at Macedon is still in use, and a large new nursery has been established at Broadford. The plantations at Creswick, Lara, and Mt. Alexander are being gradually extended, and new plantations have been formed in the Wimmera district, in southern Gippsland, and at French Island, in coastal areas near Frankston, and at Pt. Campbell, Mt. Macedon, Ovens Valley, Scarsdale, and Ballarat East. In the past much of this work was experimental, but the experience gained in the propagation and growing of Australian hardwoods, as well as exotic conifers, has proved of great benefit to the community. Transplants are sold at low prices to municipalities and other public bodies, also to farmers. These are of special value to farmers, as

by planting trees around their homesteads their homes are protected from wind and weather, and shelter and shade are afforded to live stock, with the result that they have healthier flocks and herds, and their returns are increased. In addition to the three nurseries, there are 23 plantations having a total area of 21,940 acres.

The persons employed in connexion with the State forests and nurseries comprise administrative staff, 29; protective and general staff, 105; and nursery staff, 30. The revenue from licences and royalties in 1919 amounted to £78,829. The expenditure was £66,455, of which sum about 50 per cent. was devoted to the improvement of the natural forests and the extension of plantations.

It is estimated that the quantity of timber produced in the rough in 1919 was 79,419,819 super. feet. In addition, 403,937 tons measurement of fuel timber were produced.

The State has rendered substantial assistance to the various branches of the agricultural and pastoral industries during past years. The appended table summarizes for the last five years the items of State expenditure from consolidated revenue in this direction, and shows the amount of revenue received by the Department of Agriculture, which consists chiefly of payments by exporters for packing produce for export:—

EXPENDITURE AND REVENUE CONNECTED WITH  
AGRICULTURE, ETC., 1914-15 TO 1918-19.

|  | 1914-15. | 1915-16. | 1916-17. | 1917-18. | 1918-19. |
|--|----------|----------|----------|----------|----------|
| <i>Expenditure.</i>  |          |          |          |          |          |
| Department of Agriculture ..                                 | £ 26,297 | £ 23,622 | £ 25,102 | £ 24,726 | £ 25,365 |
| Grants to Agricultural and Horticultural Societies, &c. ..   | 7,880    | 1,163    | 826      | 675      | 675      |
| Development of Export Trade                                  | 34,275   | 33,622   | 33,409   | 39,959   | 49,550   |
| Viticultural Education and Inspection of Vineyards ..        | 3,642    | 3,479    | 3,996    | 4,988    | 4,600    |
| Maffra Beet Sugar Factory ..                                 | 25,228   | 18,693   | 42,414   | 45,042   | 38,870   |
| Fruit Cool Stores ..   | 4,115    | 3,342    | 7,817    | 1,756    | ..       |
| Technical Agricultural Education, &c. ..                     | 21,451   | 19,479   | 21,585   | 23,008   | 23,138   |
| Publishing Agricultural Reports                              | 2,555    | 2,290    | 2,700    | 2,700    | 200      |
| Advances to Settlers on account of Losses by Bush Fires, &c. | 6,157    | ..       | ..       | ..       | ..       |
| Rabbit and Vermin Extirpation ..                             | 32,211   | 24,257   | 24,388   | 30,847   | 39,460   |
| Stock and Dairy Supervision                                  | 23,813   | 20,953   | 21,190   | 22,038   | 23,327   |
| Scab Prevention and Stock Diseases ..                        |          |          |          |          |          |
| Labour Colonies ..   | 500      | 500      | 375      | 375      | 375      |
| State Forests and Nurseries ..                               | 72,757   | 54,018   | 67,411   | 60,193   | 64,192   |
| Miscellaneous ..   | 2,160    | 3,229    | 2,029    | 2,079    | 8,451    |
| Total ..   | 263,041  | 208,647  | 253,242  | 258,386  | 278,203  |
| <i>Revenue.</i>  |          |          |          |          |          |
| Department of Agriculture ..                                 | 54,410   | 36,252   | 54,210   | 61,063   | 91,430   |
| State Forests ..   | 65,840   | 53,430   | 55,192   | 61,945   | 67,181   |

In addition to the expenditure shown, various sums have been advanced from loans and votes for the purpose of aiding closer settlement, for the resumption of mallee lands, for relief to farmers on account of bush fires and flood losses, and for purchase of seed wheat and fodder. These advances are gradually being repaid.

The loan expenditure in 1918-19 was £1,164,148 on account of closer settlement (including £1,157,266 under the Discharged Soldiers Settlement Act), and £3,766 on account of wire netting.

**Special Article on Agriculture and Live Stock.** A special article on "Agriculture and Live Stock in Victoria," which was contributed by the Victorian Department of Agriculture, appeared in the *Year-Book* for 1916-17, page 707.

## AGRICULTURE.

**Progress of cultivation.** All divisions of the State are suitable for cultivation, but the Wimmera, Mallee, and Northern are the principal wheat-growing districts and furnish about 96 per cent. of the total area under this crop. It was only comparatively recently that the Mallee was devoted to agriculture and that a new, fertile, and important wheat area was added to the resources of the State. The addition of this district is due to the fact that good and payable wheat returns are obtainable with a rainfall which was at one time considered to be wholly inadequate, to the extension of railway lines and to the great improvements in agricultural machinery. Its growing importance is indicated by figures for recent periods, which show that of the wheat produced in the State the proportion obtained from the Mallee was 23 per cent. in 1919-20, as against slightly less than 5 per cent. in 1891-2. The area under cultivation in the Mallee last season was 1,533,363 acres.

The area cultivated in the State in 1919-20 was 5,358,351 acres as against an annual average of 6,212,756 acres for the previous five seasons, 3,860,108 acres for the seasons 1900-05 and 2,648,213 acres for the seasons 1890-95. Notwithstanding the great increase in the area cultivated, the dairying and pastoral industries show a considerable expansion. The value of butter and cheese exported to oversea countries increased from £537,978 in 1893 to £2,273,403 in 1919-20, while the value of oversea exports of meats increased from £94,761 to £5,238,748 in the same period.

The increase in cultivation has been associated with new and improved farming methods. The chief of these are the practice of fallowing, the use of fertilizers, the selection of suitable seeds and the increasing attention given to crop rotation. The more general adoption of improved methods in recent years has contributed greatly to

the production of the State. The following table shows the progress of cultivation from period to period during the past 65 years:—

ACREAGE CULTIVATED ANNUALLY 1855 to 1920.

| Period ended March. | Crop, Annual Average. | Fallow, Annual Average. | Total Cultivation, Annual Average. |
|---------------------|-----------------------|-------------------------|------------------------------------|
|                     | Acres.                | Acres.                  | Acres.                             |
| 1855-60 .. .. .     | 233,245               | 3,444                   | 236,689                            |
| 1860-65 .. .. .     | 418,108               | 20,848                  | 438,956                            |
| 1865-70 .. .. .     | 548,952               | 40,693                  | 589,645                            |
| 1870-75 .. .. .     | 699,802               | 73,855                  | 773,657                            |
| 1875-80 .. .. .     | 982,421               | 103,958                 | 1,086,379                          |
| 1880-85 .. .. .     | 1,631,420             | 171,114                 | 1,802,534                          |
| 1885-90 .. .. .     | 1,986,028             | 312,976                 | 2,299,004                          |
| 1890-95 .. .. .     | 2,232,625             | 415,588                 | 2,648,213                          |
| 1895-1900 .. .. .   | 2,838,381             | 395,734                 | 3,234,115                          |
| 1900-05 .. .. .     | 3,207,447             | 652,661                 | 3,860,108                          |
| 1905-10 .. .. .     | 3,375,273             | 1,029,071               | 4,404,344                          |
| 1910-11 .. .. .     | 3,952,070             | 1,434,177               | 5,386,247                          |
| 1911-12 .. .. .     | 3,640,241             | 1,469,608               | 5,109,849                          |
| 1912-13 .. .. .     | 4,079,356             | 1,627,223               | 5,706,579                          |
| 1913-14 .. .. .     | 4,391,321             | 1,738,572               | 6,129,893                          |
| 1914-15 .. .. .     | 4,622,759             | 1,346,545               | 5,969,304                          |
| 1915-16 .. .. .     | 5,711,265             | 1,358,343               | 7,069,608                          |
| 1916-17 .. .. .     | 4,851,335             | 1,899,559               | 6,750,894                          |
| 1917-18 .. .. .     | 4,110,225             | 1,672,729               | 5,782,954                          |
| 1918-19 .. .. .     | 3,942,899             | 1,548,121               | 5,491,020                          |
| 1919-20 .. .. .     | 4,000,815             | 1,357,536               | 5,358,351                          |

The principal crops grown in the State are wheat, oats, barley, potatoes and hay. The annual acreage of these for five-year periods from 1855 to 1915 and for each of the last five seasons are given in the next table:—

ANNUAL ACREAGE OF FIVE PRINCIPAL CROPS, 1855 to 1920.

| Period ended March. | Average Annual Area of— |         |         |           |           |
|---------------------|-------------------------|---------|---------|-----------|-----------|
|                     | Wheat.                  | Oats.   | Barley. | Potatoes. | Hay.      |
|                     | Acres.                  | Acres.  | Acres.  | Acres.    | Acres.    |
| 1855-60 .. .. .     | 79,079                  | 50,148  | 3,723   | 21,129    | 70,489    |
| 1860-65 .. .. .     | 158,923                 | 116,444 | 5,963   | 27,118    | 89,746    |
| 1865-70 .. .. .     | 230,505                 | 123,435 | 16,024  | 35,460    | 110,293   |
| 1870-75 .. .. .     | 325,650                 | 135,334 | 22,501  | 38,028    | 124,493   |
| 1875-80 .. .. .     | 537,238                 | 129,317 | 28,354  | 38,517    | 170,777   |
| 1880-85 .. .. .     | 1,014,824               | 165,369 | 54,022  | 39,661    | 282,774   |
| 1885-90 .. .. .     | 1,140,327               | 206,962 | 65,267  | 46,210    | 434,175   |
| 1890-95 .. .. .     | 1,332,675               | 214,840 | 63,354  | 49,808    | 440,000   |
| 1895-1900 .. .. .   | 1,794,131               | 301,317 | 61,090  | 45,669    | 495,337   |
| 1900-05 .. .. .     | 2,002,429               | 380,597 | 44,568  | 44,817    | 585,608   |
| 1905-10 .. .. .     | 1,965,320               | 379,078 | 56,016  | 52,897    | 743,167   |
| 1910-15 .. .. .     | 2,415,353               | 402,207 | 64,740  | 59,648    | 954,008   |
| 1915-16 .. .. .     | 3,679,971               | 353,932 | 61,400  | 56,910    | 1,330,455 |
| 1916-17 .. .. .     | 3,125,692               | 441,598 | 93,015  | 73,618    | 897,186   |
| 1917-18 .. .. .     | 2,690,216               | 293,214 | 84,931  | 66,966    | 748,808   |
| 1918-19 .. .. .     | 2,214,490               | 342,867 | 100,198 | 51,620    | 984,479   |
| 1919-20 .. .. .     | 1,918,260               | 559,547 | 85,323  | 53,918    | 1,116,968 |

**Production of Principal Crops.** The annual production of the five principal crops for quinquennial periods from 1855 to 1915 and for each of the last five seasons was as follows:—

**ANNUAL PRODUCTION OF PRINCIPAL CROPS, 1855 TO 1920.**

| Period ended<br>March. | Average Annual Production of— |           |           |           |           |
|------------------------|-------------------------------|-----------|-----------|-----------|-----------|
|                        | Wheat.                        | Oats.     | Barley.   | Potatoes. | Hay.      |
|                        | Bushels.                      | Bushels.  | Bushels.  | Tons.     | Tons.     |
| 1855-60 ..             | 1,734,895                     | 1,444,018 | 97,042    | 61,048    | 110,220   |
| 1860-65 ..             | 2,662,854                     | 2,693,278 | 110,108   | 64,399    | 113,392   |
| 1865-70 ..             | 4,298,676                     | 2,902,655 | 352,265   | 99,490    | 149,110   |
| 1870-75 ..             | 4,472,952                     | 2,370,839 | 428,410   | 124,110   | 158,594   |
| 1875-80 ..             | 6,547,299                     | 2,688,761 | 618,456   | 128,156   | 219,352   |
| 1880-85 ..             | 10,639,318                    | 3,906,176 | 981,421   | 143,073   | 334,190   |
| 1885-90 ..             | 10,948,554                    | 4,391,916 | 1,209,948 | 164,068   | 504,758   |
| 1890-95 ..             | 13,589,257                    | 4,906,870 | 1,164,066 | 177,743   | 589,427   |
| 1895-1900 ..           | 11,631,934                    | 5,229,188 | 973,661   | 133,122   | 563,809   |
| 1900-05 ..             | 16,432,357                    | 8,069,719 | 921,499   | 135,593   | 782,155   |
| 1905-10 ..             | 22,052,448                    | 8,063,570 | 1,182,288 | 149,022   | 1,006,061 |
| 1910-15 ..             | 23,761,038                    | 6,621,366 | 1,304,597 | 167,869   | 1,163,392 |
| 1915-16 ..             | 58,521,706                    | 9,328,894 | 1,734,511 | 173,821   | 2,342,094 |
| 1916-17 ..             | 51,162,438                    | 8,289,289 | 1,799,784 | 187,992   | 1,232,721 |
| 1917-18 ..             | 37,737,552                    | 6,141,287 | 1,970,650 | 182,195   | 949,545   |
| 1918-19 ..             | 25,239,871                    | 5,274,984 | 2,028,635 | 137,533   | 1,113,861 |
| 1919-20 ..             | 14,858,380                    | 6,603,067 | 1,528,654 | 145,888   | 1,242,489 |

Principal crops  
in Districts.

The percentage of total area under the principal crops in each district during last season was as given below :—

PERCENTAGE OF TOTAL AREA UNDER EACH PRINCIPAL CROP IN EACH DISTRICT, 1919-20.

| District.             | Percentage in each District of Area under— |       |         |           |       |              |
|-----------------------|--|-------|---------|-----------|-------|--------------|
|                       | Wheat.                                     | Oats. | Barley. | Potatoes. | Hay.  | Other Crops. |
| Central .. .. .       | 23   | 5.37  | 31.69   | 49.20     | 17.95 | 35.43        |
| North-Central .. .. . | 34   | 2.35  | 4.12    | 17.96     | 5.73  | 2.88         |
| Western .. .. .       | 1.94                                       | 9.73  | 15.42   | 16.13     | 12.71 | 6.41         |
| Wimmera .. .. .       | 24.83                                      | 28.51 | 9.68    | .39       | 18.74 | 2.16         |
| Mallee .. .. .        | 47.92                                      | 26.68 | 8.08    | .00       | 8.92  | 9.36         |
| Northern .. .. .      | 23.68                                      | 24.11 | 18.11   | .08       | 24.35 | 19.14        |
| North-Eastern .. .. . | .92  | 1.87  | .78     | 2.31      | 5.95  | 6.93         |
| Gippsland .. .. .     | 14   | 1.38  | 12.12   | 13.93     | 5.65  | 17.69        |

NOTE.—For counties contained in each District, see table on page 488.

The area under the principal crops in proportion to the total area under crop in each district during last season was as follows :—

RELATIVE AREAS DEVOTED TO DIFFERENT CROPS IN EACH DISTRICT, 1919-20.

| District.                  | Percentage of Total Area of all Crops under— |       |         |           |       |              |
|----------------------------|--|-------|---------|-----------|-------|--------------|
|                            | Wheat.                                       | Oats. | Barley. | Potatoes. | Hay.  | Other Crops. |
| Central .. .. .            | 1.14   | 7.85  | 7.06    | 6.93      | 52.34 | 24.68        |
| North-Central .. .. .      | 6.30   | 12.59 | 3.36    | 9.25      | 61.17 | 7.33         |
| Western .. .. .            | 13.66  | 19.96 | 4.83    | 3.19      | 52.09 | 6.27         |
| Wimmera .. .. .            | 55.43  | 18.56 | .96     | .02       | 24.36 | .67          |
| Mallee .. .. .             | 76.60  | 12.44 | .57     | .00       | 8.31  | 2.08         |
| Northern .. .. .           | 48.97  | 14.54 | 1.67    | .00       | 29.32 | 5.50         |
| North-Eastern .. .. .      | 15.34  | 9.10  | .58     | 1.08      | 57.80 | 16.10        |
| Gippsland .. .. .          | 1.88   | 5.58  | 7.47    | 5.43      | 45.55 | 34.09        |
| Total for Victoria .. .. . | 47.95  | 13.98 | 2.13    | 1.35      | 27.92 | 6.67         |

NOTE.—For counties contained in each District, see table on page 488.

The area and produce of the principal crops per head compared with population are given in the next table for the past fifteen years.

AREA AND PRODUCTION OF FIVE PRINCIPAL CROPS  
PER HEAD OF POPULATION, 1905-6 to 1919-20.

| Year ended March. |    |    | Wheat.                          | Oats.    | Barley.  | Potatoes. | Hay.   |
|-------------------|----|----|---------------------------------|----------|----------|-----------|--------|
|                   |    |    | Area per Head of Population.    |          |          |           |        |
|                   |    |    | Acres.                          | Acres.   | Acres.   | Acres.    | Acres. |
| 1906              | .. | .. | 1.70                            | .26      | .03      | .04       | .49    |
| 1907              | .. | .. | 1.66                            | .31      | .04      | .04       | .51    |
| 1908              | .. | .. | 1.47                            | .32      | .05      | .04       | .54    |
| 1909              | .. | .. | 1.40                            | .33      | .05      | .04       | .75    |
| 1910              | .. | .. | 1.63                            | .30      | .05      | .05       | .67    |
| 1911              | .. | .. | 1.83                            | .30      | .04      | .05       | .64    |
| 1912              | .. | .. | 1.62                            | .23      | .04      | .04       | .64    |
| 1913              | .. | .. | 1.54                            | .32      | .05      | .03       | .89    |
| 1914              | .. | .. | 1.84                            | .32      | .06      | .05       | .70    |
| 1915              | .. | .. | 2.01                            | .31      | .04      | .05       | .63    |
| 1916              | .. | .. | 2.58                            | .25      | .04      | .04       | .93    |
| 1917              | .. | .. | 2.22                            | .31      | .07      | .05       | .64    |
| 1918              | .. | .. | 1.91                            | .21      | .06      | .05       | .53    |
| 1919              | .. | .. | 1.56                            | .24      | .07      | .04       | .69    |
| 1920              | .. | .. | 1.29                            | .38      | .06      | .04       | .75    |
|                   |    |    | Produce per Head of Population. |          |          |           |        |
|                   |    |    | Bushels.                        | Bushels. | Bushels. | Tons.     | Tons.  |
| 1906              | .. | .. | 19.22                           | 5.94     | .87      | .10       | .71    |
| 1907              | .. | .. | 18.43                           | 7.21     | 1.02     | .14       | .72    |
| 1908              | .. | .. | 9.62                            | 4.13     | .84      | .11       | .54    |
| 1909              | .. | .. | 18.33                           | 8.74     | 1.19     | .12       | 1.11   |
| 1910              | .. | .. | 22.42                           | 6.16     | .80      | .14       | .92    |
| 1911              | .. | .. | 26.63                           | 7.42     | 1.03     | .13       | .99    |
| 1912              | .. | .. | 15.62                           | 3.43     | .77      | .09       | .77    |
| 1913              | .. | .. | 19.36                           | 6.15     | 1.29     | .14       | 1.16   |
| 1914              | .. | .. | 23.64                           | 6.38     | 1.30     | .13       | .97    |
| 1915              | .. | .. | 2.77                            | 1.13     | .42      | .13       | .40    |
| 1916              | .. | .. | 41.04                           | 6.54     | 1.22     | .12       | 1.64   |
| 1917              | .. | .. | 36.30                           | 5.88     | 1.28     | .13       | .87    |
| 1918              | .. | .. | 26.85                           | 4.37     | 1.40     | .13       | .68    |
| 1919              | .. | .. | 17.76                           | 3.71     | 1.43     | .10       | .78    |
| 1920              | .. | .. | 10.02                           | 4.46     | 1.03     | .10       | .84    |

Except in the three seasons 1895-6, 1902-3, and 1914-15, the wheat produced during each year since 1870 has been more than sufficient to supply home consumption.

The following table gives the annual values of the five principal crops, based upon prices realized upon farms, for each of the past ten years; also the value of each crop per acre on the average of the five years 1910-14, and for each of the years 1915 to 1919:—

## VALUES OF FIVE PRINCIPAL CROPS.

| Year.                              | Annual Value of—  |                    |                   |                    |                   |
|------------------------------------|-------------------|--------------------|-------------------|--------------------|-------------------|
|                                    | Wheat.            | Oats.              | Barley.           | Potatoes.          | Hay.              |
|                                    | £                 | £                  | £                 | £                  | £                 |
| 1910 .. ..                         | 5,512,060         | 909,295            | 227,382           | 534,515            | 2,455,560         |
| 1911 .. ..                         | 3,547,266         | 663,916            | 261,443           | 614,540            | 3,200,109         |
| 1912 .. ..                         | 4,343,202         | 953,750            | 332,430           | 678,448            | 4,010,979         |
| 1913 .. ..                         | 5,352,141         | 777,903            | 236,804           | 573,227            | 2,565,740         |
| 1914 .. ..                         | 1,391,647         | 397,078            | 161,899           | 800,269            | 4,181,827         |
| 1915 .. ..                         | 10,972,820        | 942,607            | 294,597           | 1,017,563          | 4,098,664         |
| 1916 .. ..                         | 10,232,488        | 828,929            | 299,481           | 550,086            | 2,033,990         |
| 1917 .. ..                         | 7,547,510         | 965,973            | 373,379           | 519,605            | 2,801,158         |
| 1918 .. ..                         | 5,994,469         | 1,175,882          | 461,056           | 1,079,496          | 4,622,523         |
| 1919 .. ..                         | 5,726,667         | 1,848,903          | 477,573           | 1,328,640          | 8,304,475         |
| Value per acre 1910-14, average .. | £ s. d.<br>1 13 4 | £ s. d.<br>1 16 10 | £ s. d.<br>3 15 5 | £ s. d.<br>10 14 8 | £ s. d.<br>3 8 10 |
| Value per acre 1915                | 2 19 7            | 2 13 3             | 4 16 0            | 17 17 7            | 3 1 7             |
| „ „ 1916                           | 3 5 6             | 1 17 6             | 3 4 5             | 7 9 5              | 2 5 4             |
| „ „ 1917                           | 2 16 1            | 3 5 11             | 4 7 11            | 7 15 2             | 3 14 10           |
| „ „ 1918                           | 2 14 2            | 3 8 7              | 4 12 0            | 20 18 3            | 4 13 11           |
| „ „ 1919                           | 2 19 7            | 3 6 1              | 5 11 11           | 24 12 10           | 7 8 8             |

The value of the five principal crops was £17,686,258 in 1919, as against £13,333,426 in the previous year, £12,207,625 in 1917, £13,944,974 in 1916, £17,326,251 in 1915, and £8,936,686 on the average of the five years 1910 to 1914.

On the experience of the past five seasons the area under wheat for grain represented 60 per cent. of the total under production. The acreage, the total production, and the yield per

acre are given in the next table for quinquennial periods from 1860 to 1905, and for each of the past fifteen seasons:—

## WHEAT PRODUCTION, 1860 TO 1920.

| Season ended March. | Wheat.                    |   |                 |
|---------------------|---------------------------|---|-----------------|
|                     | Acres,<br>Annual Average. | Total<br>Production,<br>Annual Average. | Yield per Acre. |
|                     |                           | Bushels.                                | Bushels.        |
| 1860-65 .. .. .     | 158,923                   | 2,662,854                               | 16·76           |
| 1865-70 .. .. .     | 230,505                   | 4,298,676                               | 18·65           |
| 1870-75 .. .. .     | 325,650                   | 4,472,952                               | 13·74           |
| 1875-80 .. .. .     | 537,238                   | 6,547,299                               | 12·19           |
| 1880-85 .. .. .     | 1,014,824                 | 10,639,318                              | 10·48           |
| 1885-90 .. .. .     | 1,140,327                 | 10,948,554                              | 9·60            |
| 1890-95 .. .. .     | 1,332,675                 | 13,589,257                              | 10·20           |
| 1895-1900 .. .. .   | 1,794,131                 | 11,631,934                              | 6·48            |
| 1900-1905 .. .. .   | 2,002,429                 | 16,432,357                              | 8·21            |
| 1906 .. .. .        | 2,070,517                 | 23,417,670                              | 11·31           |
| 1907 .. .. .        | 2,031,893                 | 22,618,043                              | 11·13           |
| 1908 .. .. .        | 1,847,121                 | 12,100,780                              | 6·55            |
| 1909 .. .. .        | 1,779,905                 | 23,345,649                              | 13·12           |
| 1910 .. .. .        | 2,097,162                 | 28,780,100                              | 13·72           |
| 1911 .. .. .        | 2,398,089                 | 34,813,019                              | 14·52           |
| 1912 .. .. .        | 2,164,066                 | 20,891,877                              | 9·65            |
| 1913 .. .. .        | 2,085,216                 | 26,223,104                              | 12·58           |
| 1914 .. .. .        | 2,565,861                 | 32,936,245                              | 12·84           |
| 1915 .. .. .        | 2,863,535                 | 3,940,947                               | 1·38            |
| 1916 .. .. .        | 3,679,971                 | 58,521,706                              | 15·90           |
| 1917 .. .. .        | 3,125,692                 | 51,162,438                              | 16·37           |
| 1918 .. .. .        | 2,690,216                 | 37,737,552                              | 14·03           |
| 1919 .. .. .        | 2,214,490                 | 25,239,871                              | 11·40           |
| 1920 .. .. .        | 1,918,269                 | 14,858,380                              | 7·75            |

Although a large area in districts of limited rainfall has been brought under cultivation for wheat growing during late years, the yield per acre for the State on the average of the past fifteen seasons was 11·72 bushels, which is better than the corresponding averages for quinquennial periods of earlier date back to 1880. This satisfactory result is largely due to the use of more prolific varieties of seed and to the more general practice of fallowing and fertilizing. In addition to the area shown for grain, 417,221 acres of wheat were cut for hay last season, so that the total area sown under wheat in 1919-20 was 2,335,490 acres.

The production of wheat in the other Australian States in 1919-20 was as follows:—New South Wales, 4,296,630 bushels, South Australia, 14,947,413 bushels, Western Australia, 11,222,950 bushels, Queensland, 311,638 bushels, and Tasmania 213,589 bushels. The total production for the Commonwealth was 45,850,600 bushels.

**Wheat growing in counties.**

The principal wheat growing areas are the Wimmera, Mallee, and Northern districts. Although other districts provide only small proportions of the area they are not to be regarded as unsuitable for wheat growing, as their average yield per acre is usually greater than in the areas mentioned. The production of wheat in different counties for each of the past three seasons is shown in the following table:—

### WHEAT YIELDS IN COUNTIES FOR THE LAST THREE SEASONS.

| Districts and Counties. | Year ended March. |                  |                  |                   |                   |                   |                   |              |             |
|-------------------------|-------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|--------------|-------------|
|                         | Area.             |                  |                  | Produce.          |                   |                   | Average per Acre. |              |             |
|                         | 1918.             | 1919.            | 1920.            | 1918.             | 1919.             | 1920.             | 1918.             | 1919.        | 1920.       |
|                         | Acres.            | Acres.           | Acres.           | Bushels.          | Bushels.          | Bushels.          | Bush.             | Bush.        | Bush.       |
| <b>Central—</b>         |                   |                  |                  |                   |                   |                   |                   |              |             |
| Bourke ..               | 8,416             | 2,198            | 1,351            | 131,443           | 23,177            | 16,427            | 15·62             | 12·82        | 12·16       |
| Grant ..                | 19,740            | 5,314            | 2,880            | 273,139           | 73,918            | 40,266            | 14·09             | 13·91        | 13·98       |
| Mornington ..           | 466               | 225              | 99               | 2,693             | 1,505             | 1,635             | 5·78              | 6·69         | 16·52       |
| Evelyn ..               | 165               | 39               | 53               | 1,598             | 451               | 721               | 9·68              | 11·56        | 13·60       |
| <b>North-Central—</b>   |                   |                  |                  |                   |                   |                   |                   |              |             |
| Anglesey ..             | 2,192             | 542              | 544              | 21,731            | 4,317             | 3,122             | 9·91              | 7·96         | 5·74        |
| Dalhousie ..            | 3,032             | 731              | 567              | 30,161            | 7,007             | 8,814             | 9·95              | 9·59         | 15·54       |
| Talbot ..               | 16,899            | 7,594            | 5,478            | 203,603           | 61,594            | 69,561            | 12·05             | 8·11         | 12·70       |
| <b>Western—</b>         |                   |                  |                  |                   |                   |                   |                   |              |             |
| Grenville ..            | 28,184            | 11,893           | 4,890            | 399,885           | 140,242           | 78,964            | 14·19             | 11·79        | 16·15       |
| Polwarth ..             | 628               | 59               | 25               | 6,170             | 669               | 284               | 9·82              | 11·34        | 11·36       |
| Heytesbury ..           | 49                | 30               | 1                | 613               | 787               | 19                | 12·51             | 26·23        | 19·00       |
| Hampden ..              | 25,344            | 13,053           | 6,843            | 255,404           | 143,564           | 114,934           | 10·08             | 11·00        | 16·80       |
| Ripon ..                | 72,203            | 38,864           | 21,288           | 958,350           | 391,114           | 346,144           | 13·27             | 11·06        | 16·26       |
| Villiers ..             | 1,927             | 829              | 543              | 14,082            | 6,120             | 7,062             | 7·31              | 7·38         | 13·01       |
| Normanby ..             | 691               | 498              | 369              | 8,878             | 7,604             | 5,976             | 12·85             | 15·27        | 16·20       |
| Dundas ..               | 9,042             | 5,192            | 3,217            | 81,380            | 50,245            | 40,805            | 9·00              | 9·68         | 12·68       |
| Follett ..              | 254               | 113              | 63               | 1,244             | 2,171             | 810               | 4·90              | 19·21        | 12·86       |
| <b>Wimmera—</b>         |                   |                  |                  |                   |                   |                   |                   |              |             |
| Lowan ..                | 174,994           | 146,993          | 112,230          | 2,881,353         | 2,310,696         | 1,511,232         | 16·52             | 15·78        | 13·47       |
| Borong ..               | 367,858           | 338,320          | 269,422          | 8,322,352         | 6,766,642         | 4,244,811         | 22·62             | 20·01        | 15·76       |
| Kara Kara ..            | 145,731           | 123,996          | 94,633           | 2,576,594         | 1,784,083         | 1,334,220         | 17·68             | 14·39        | 14·10       |
| <b>Mallee—</b>          |                   |                  |                  |                   |                   |                   |                   |              |             |
| Millewa ..              | 3,141             | 2,609            | 1,628            | 45,103            | 24,258            | 5,279             | 14·36             | 9·30         | 3·24        |
| Weeah ..                | 185,923           | 192,324          | 197,710          | 1,897,545         | 1,227,607         | 678,649           | 10·21             | 6·38         | 3·43        |
| Karkaroc ..             | 459,250           | 457,884          | 454,691          | 5,024,466         | 3,274,192         | 1,496,070         | 10·94             | 7·15         | 3·29        |
| Tatchera ..             | 320,880           | 289,295          | 265,292          | 3,946,538         | 2,729,312         | 1,220,335         | 12·30             | 9·44         | 4·60        |
| <b>Northern—</b>        |                   |                  |                  |                   |                   |                   |                   |              |             |
| Gunbower ..             | 58,540            | 38,432           | 30,670           | 833,156           | 336,026           | 274,866           | 14·23             | 8·74         | 8·96        |
| Gladstone ..            | 135,392           | 108,096          | 89,283           | 1,918,096         | 1,245,275         | 969,476           | 14·17             | 11·52        | 12·08       |
| Bendigo ..              | 173,111           | 120,159          | 94,884           | 2,398,255         | 1,360,945         | 882,069           | 13·85             | 11·33        | 9·30        |
| Rodney ..               | 134,997           | 85,760           | 66,844           | 1,710,544         | 925,769           | 458,202           | 12·67             | 10·80        | 6·85        |
| Moira ..                | 284,412           | 198,024          | 181,532          | 3,236,386         | 2,118,078         | 870,342           | 11·38             | 10·70        | 4·79        |
| <b>North-Eastern—</b>   |                   |                  |                  |                   |                   |                   |                   |              |             |
| Delatite ..             | 6,791             | 2,805            | 2,697            | 41,096            | 22,426            | 32,864            | 6·05              | 8·00         | 12·19       |
| Bogong ..               | 34,947            | 19,956           | 14,665           | 225,243           | 147,336           | 91,558            | 6·45              | 7·38         | 6·24        |
| Benambra ..             | 639               | 186              | 266              | 10,962            | 1,972             | 4,451             | 17·16             | 16·10        | 16·73       |
| Wonnangatta ..          | 4                 | 15               | ..               | 24                | 280               | ..                | 6·00              | 18·67        | ..          |
| <b>Gippsland</b>        |                   |                  |                  |                   |                   |                   |                   |              |             |
| Croajingolong ..        | 32                | 2                | 12               | 464               | 19                | 293               | 14·50             | 9·50         | 24·42       |
| Tambo ..                | 406               | 95               | 118              | 5,338             | 634               | 2,677             | 13·12             | 6·87         | 22·69       |
| Dargo ..                | 407               | 124              | 25               | 6,841             | 771               | 406               | 16·81             | 6·22         | 16·24       |
| Tanjil ..               | 11,958            | 2,257            | 2,311            | 222,016           | 37,059            | 42,642            | 18·57             | 16·42        | 13·45       |
| Buln Buln ..            | 2,171             | 594              | 145              | 39,806            | 6,506             | 2,344             | 18·34             | 10·95        | 18·17       |
| <b>Total ..</b>         | <b>2,690,216</b>  | <b>2,214,490</b> | <b>1,918,269</b> | <b>37,737,552</b> | <b>25,239,871</b> | <b>14,858,389</b> | <b>14·03</b>      | <b>11·40</b> | <b>7·75</b> |

In all of the principal wheat growing counties, except Weeah, the area under wheat was smaller in 1919-20 than in the previous season. The

reduction was more marked in the Wimmera District than in other centres.

The table which follows gives the average yield of wheat per acre in the principal wheat growing counties for each of the last ten years :—

AVERAGE YIELD OF WHEAT PER ACRE IN WHEAT GROWING COUNTIES, 1910-11 TO 1919-20.

| District and County. | Average Yield of Wheat per Acre (in Bushels) during Year ended March. |       |       |       |       |       |       |       |       |       |
|----------------------|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                      | 1911.   | 1912. | 1913. | 1914. | 1915. | 1916. | 1917. | 1918. | 1919. | 1920. |
| Western District—    |   |       |       |       |       |       |       |       |       |       |
| Ripon .. .. .        | 15·97   | 8·14  | 19·96 | 15·50 | 5·03  | 21·58 | 13·33 | 13·27 | 10·06 | 16·26 |
| Wimmera District—    |   |       |       |       |       |       |       |       |       |       |
| Lowan .. .. .        | 9·80  | 9·93  | 13·69 | 16·24 | 1·84  | 16·78 | 17·93 | 16·52 | 15·78 | 13·47 |
| Borong .. .. .       | 15·79   | 11·92 | 14·81 | 18·16 | ·95   | 19·27 | 22·49 | 22·62 | 20·01 | 15·76 |
| Kara Kara .. .. .    | 14·80   | 12·11 | 14·70 | 17·23 | 1·09  | 19·36 | 19·66 | 17·68 | 14·39 | 14·10 |
| Mallee District—     |   |       |       |       |       |       |       |       |       |       |
| Weeah .. .. .        | 12·52   | 4·95  | 10·03 | 4·89  | ·18   | 12·26 | 14·56 | 10·21 | 6·38  | 3·43  |
| Karkarooc .. .. .    | 11·41   | 5·84  | 7·58  | 5·44  | ·35   | 10·62 | 14·78 | 10·94 | 7·15  | 3·29  |
| Tatchera .. .. .     | 12·44   | 6·48  | 7·03  | 8·66  | ·37   | 10·09 | 15·80 | 12·30 | 9·44  | 4·60  |
| Northern District—   |   |       |       |       |       |       |       |       |       |       |
| Gunbower .. .. .     | 16·12   | 9·91  | 10·54 | 12·26 | ·23   | 15·33 | 15·89 | 14·23 | 8·74  | 8·96  |
| Gladstone .. .. .    | 14·15   | 11·63 | 13·00 | 17·38 | 1·52  | 17·94 | 19·10 | 14·17 | 11·52 | 12·08 |
| Bendigo .. .. .      | 18·92   | 12·22 | 14·37 | 15·60 | ·72   | 19·18 | 17·11 | 13·85 | 11·33 | 9·30  |
| Rodney .. .. .       | 15·23   | 11·50 | 14·60 | 14·75 | 1·05  | 20·15 | 14·69 | 12·67 | 10·80 | 6·85  |
| Moiira .. .. .       | 16·25   | 10·83 | 14·52 | 16·14 | 1·74  | 17·88 | 14·44 | 11·38 | 10·70 | 4·79  |

The figures show that in all of the principal wheat growing counties the yields in 1919-20 were, owing to a partial drought, lower than in the previous four seasons.

The weight of an imperial bushel of wheat is 60 lbs., but the actual weight of a bushel of Victorian wheat of the fair average quality standard annually fixed by the Chamber of Commerce was nearly 62 lbs. on the average of the past ten years. The following statement shows the variation in the f.a.q. standard weight of a bushel of Victorian wheat for each season since 1900-01 :—

F.A.Q. WHEAT STANDARD, 1902 TO 1920.

| Season ended March. |    |    | Weight of Bushel (f.a.q.). | Season ended March. |    |    | Weight of Bushel (f.a.q.). |
|---------------------|----|----|----------------------------|---------------------|----|----|----------------------------|
|                     |    |    | lbs.                       |                     |    |    | lbs.                       |
| 1902                | .. | .. | 62½                        | 1912                | .. | .. | 61½                        |
| 1903                | .. | .. | 61                         | 1913                | .. | .. | 63                         |
| 1904                | .. | .. | 60½                        | 1914                | .. | .. | 62½                        |
| 1905                | .. | .. | 61½                        | 1915                | .. | .. | 62                         |
| 1906                | .. | .. | 63                         | 1916                | .. | .. | 61                         |
| 1907                | .. | .. | 62¾                        | 1917                | .. | .. | 60¼                        |
| 1908                | .. | .. | 62½                        | 1918                | .. | .. | 60                         |
| 1909                | .. | .. | 62½                        | 1919                | .. | .. | 62½                        |
| 1910                | .. | .. | 62½                        | 1920                | .. | .. | 62                         |
| 1911                | .. | .. | 62½                        |                     |    |    |                            |

It is estimated that about 10,000,000 bushels of wheat are required locally for food and seed. The stocks of wheat and flour in the State on 30th June, 1920, and at the same date in each of the previous nine years, were as follows :—

WHEAT AND FLOUR ON HAND, 30TH JUNE, 1911 TO 1920.

| At 30th June. | Quantity in Bushels. |                                    |            |
|---------------|----------------------|------------------------------------|------------|
|               | Wheat.               | Flour<br>(equivalent in<br>Wheat). | Total.     |
| 1911 .. .. .  | 15,388,600           | 746,400                            | 16,135,000 |
| 1912 .. .. .  | 7,337,316            | 786,926                            | 8,124,242  |
| 1913 .. .. .  | 8,780,673            | 585,688                            | 9,366,361  |
| 1914 .. .. .  | 8,002,311            | 940,138                            | 8,942,449  |
| 1915 .. .. .  | 582,448              | 510,300                            | 1,092,748  |
| 1916 .. .. .  | 42,578,379           | 519,162                            | 43,097,541 |
| 1917 .. .. .  | 63,852,078           | 1,078,875                          | 64,930,953 |
| 1918 .. .. .  | 70,031,000           | 1,658,000                          | 71,689,000 |
| 1919 .. .. .  | 53,023,000           | 3,284,000                          | 56,307,000 |
| 1920 .. .. .  | 11,780,159           | 4,861,000                          | 16,641,159 |

Owing to the insufficiency of freight to transport the large wheat harvest of 1915-16, it became necessary for the Governments of Victoria and the other wheat producing States to make arrangements for providing a market for the grain. A scheme was, therefore, entered into between the Governments of the Commonwealth and of the States of New South Wales, Victoria, South Australia and Western Australia with the object of securing for all the wheat-growers of the States equitable participation in both overseas and local markets.

For this purpose it was agreed that the system of chartering overseas vessels inaugurated by the Commonwealth should be availed of for the purposes of overseas realizations, and that available freight should be allotted to the States in proportion to their several exportable surpluses, also that overseas sales should be operated by the Australian Wheat Board which should determine from time to time the Australian price for local consumption on the basis of f.o.b. Australian ports.

The Australian Wheat Board originally consisted of a Minister of the Commonwealth and of each of the States, but at a later date representatives of the wheat-growers, one for each State, were added. Overseas sales are effected by the Board operating through a Selling Agency in London and assisted and advised by the Australian heads of certain large wheat selling houses, which, prior to the scheme, had handled the great bulk of the export wheat of Australia.

In this State, legislative sanction was given to the scheme by the *Wheat Marketing Act* 1915, which, by successive Acts, has with certain modifications and amendments been extended to the succeeding harvests. Under these Acts, the Minister administering the Acts is empowered to buy and sell wheat and in effect carry on the operations

of a wheat merchant, and the buying and selling of wheat except by and to the Minister is forbidden. The Victorian Government, through the Minister, purchases wheat from growers at a price to be determined by the ultimate net realizations by the Government of the wheat so acquired, and makes advance payments from time to time on account of the expected net realizations and a final payment when these have been ascertained.

In effect the Australian Wheat Board realizes all exported wheat of a season in one pool for that season and returns to each State that proportion of the net realizations which the wheat exported from the State bears to the whole. The State then brings into account all net local realizations and thereby determines the net price per bushel payable to farmers for the quantities acquired by it from each. The whole of the handling and storage and shipping operations are conducted by each State as regards its own wheat, and no State is affected by the success or want of success attending such operations in another State.

The position of the wheat pool as regards Victoria for the five seasons—1915-16, 1916-17, 1917-18, 1918-19, and 1919-20—was as follows on 8th November, 1920—

|  | 1915-16.    | 1916-17.   | 1917-18.   | 1918-19.   | 1919-20.    |
|--|-------------|------------|------------|------------|-------------|
| Total number of bushels received                       | 59,926,000  | 50,407,000 | 36,363,000 | 23,029,000 | 12,345,000  |
| Amount paid to growers (cash at station) ..            | £12,343,000 | £9,253,000 | £8,385,000 | £5,556,000 | £4,329,000  |
| Total receipts for sales (delivered) from all pools .. | ..          | ..         | ..         | ..         | £46,058,000 |
| Bank overdraft ..                                      | ..          | ..         | ..         | ..         | £14,000     |

In connexion with the 1915-16 harvest, advances had, at the date mentioned, been made to the extent of 4s. 9d. per bushel, from which there had been deducted freight and handling charges. Advances to the amount of 4s. per bushel less freight had been made on account of the 1916-17 harvest, of 5s. less freight on the harvest of 1917-18, of 5s. 2d. less freight on the harvest of 1918-19, and of 7s. 6d. less freight on the harvest of 1919-20.

No reliable information is available in regard to the wheat production of the world since 1915. In that year the quantity produced was 4,371,058,000 bushels. In the five years 1911 to 1915 the average annual production was 3,898 million bushels, as compared with a yearly average yield of 3,332 million bushels in 1905-9 and of 3,008 million bushels in the period 1900-4.

**Oats.** In 1919-20 the area harvested for oats in Victoria was 559,547 acres, from which a yield of 6,603,067 bushels was obtained, giving an average of 11·80 bushels to the acre. The following statement shows the harvest results for this crop for each

of the past fifteen seasons and for five-year periods prior thereto back to 1865 :—

## OATS GROWN, 1865 to 1920.

| Period ended March. |    |    | Area under Crop<br>(Annual Average). | Produce<br>(Annual Average). | Average per Acre. |
|---------------------|----|----|--------------------------------------|------------------------------|-------------------|
|                     |    |    | Acres.                               | Bushels.                     | Bushels.          |
| 1865-70             | .. | .. | 123,435                              | 2,902,655                    | 23·52             |
| 1870-75             | .. | .. | 135,334                              | 2,370,839                    | 17·52             |
| 1875-80             | .. | .. | 129,317                              | 2,688,761                    | 20·79             |
| 1880-85             | .. | .. | 165,369                              | 3,906,176                    | 23·62             |
| 1885-90             | .. | .. | 206,962                              | 4,391,916                    | 21·22             |
| 1890-95             | .. | .. | 214,840                              | 4,906,870                    | 22·84             |
| 1895-1900           | .. | .. | 301,317                              | 5,229,188                    | 17·35             |
| 1900-05             | .. | .. | 380,597                              | 8,069,719                    | 21·20             |
| 1906                | .. | .. | 312,052                              | 7,232,425                    | 23·18             |
| 1907                | .. | .. | 380,493                              | 8,845,654                    | 23·25             |
| 1908                | .. | .. | 398,749                              | 5,201,408                    | 13·04             |
| 1909                | .. | .. | 419,869                              | 11,124,940                   | 26·50             |
| 1910                | .. | .. | 384,226                              | 7,913,423                    | 20·60             |
| 1911                | .. | .. | 392,681                              | 9,699,127                    | 24·70             |
| 1912                | .. | .. | 302,238                              | 4,585,326                    | 15·17             |
| 1913                | .. | .. | 439,242                              | 8,323,639                    | 18·95             |
| 1914                | .. | .. | 442,060                              | 8,890,321                    | 20·11             |
| 1915                | .. | .. | 434,815                              | 1,608,419                    | 3·70              |
| 1916                | .. | .. | 353,932                              | 9,328,894                    | 26·36             |
| 1917                | .. | .. | 441,598                              | 8,289,289                    | 18·77             |
| 1918                | .. | .. | 293,214                              | 6,141,287                    | 20·94             |
| 1919                | .. | .. | 342,867                              | 5,274,984                    | 15·38             |
| 1920                | .. | .. | 559,547                              | 6,603,067                    | 11·80             |

In addition to the area for grain shown for last season there were 681,179 acres of oats cut for hay, so that the total area sown with oats in 1919-20 was 1,240,726 acres. During 1919-20 there were exported from Victoria to overseas countries 258,227 bushels of oats and 653,412 lbs. of oatmeal.

The area under barley in 1919-20 was 85,323 acres, of which 50,049 were under malting, and 35,274 under other barley. The figures in the subjoined table show the acreage, production and yield per acre for the last ten years :—

## CULTIVATION OF BARLEY, 1910-11 to 1919-20.

| Year ended<br>March. | Area under Crop. |        | Produce. |           | Average per Acre. |          |          |       |
|----------------------|------------------|--------|----------|-----------|-------------------|----------|----------|-------|
|                      | Malting.         | Other. | Malting. | Other.    | Malting.          | Other.   | Total.   |       |
|                      | Acres.           | Acres. | Bushels. | Bushels.  | Bushels.          | Bushels. | Bushels. |       |
| 1911                 | ..               | 30,609 | 22,078   | 804,893   | 535,494           | 26·30    | 24·25    | 25·44 |
| 1912                 | ..               | 36,748 | 16,793   | 725,803   | 298,781           | 19·75    | 17·79    | 19·14 |
| 1913                 | ..               | 52,311 | 19,320   | 1,269,634 | 474,893           | 24·27    | 24·58    | 24·35 |
| 1914                 | ..               | 44,584 | 38,767   | 971,334   | 841,556           | 21·79    | 21·71    | 21·75 |
| 1915                 | ..               | 31,268 | 31,224   | 368,647   | 231,952           | 11·79    | 7·43     | 9·61  |
| 1916                 | ..               | 29,473 | 31,927   | 868,879   | 865,632           | 29·48    | 27·11    | 28·25 |
| 1917                 | ..               | 43,131 | 49,884   | 806,280   | 993,504           | 18·69    | 19·91    | 19·35 |
| 1918                 | ..               | 41,065 | 43,866   | 980,219   | 990,431           | 23·87    | 22·58    | 23·20 |
| 1919                 | ..               | 52,222 | 47,976   | 1,081,256 | 947,379           | 20·70    | 19·75    | 20·25 |
| 1920                 | ..               | 50,049 | 35,274   | 917,274   | 611,380           | 18·33    | 17·33    | 17·92 |

During 1919-20, 1,999,330 bushels of barley were used locally in the production of 1,988,940 bushels of malt.

The area planted with potatoes in 1919-20 was 53,918 acres, and the production was 145,888 tons, which represented a yield of 2·71 tons per acre, as compared with 2·66 tons in the previous season and 2·72 tons in 1917-18. The following table shows the potato returns for the past fifteen years and for earlier years in five-year periods back to 1860 :—

POTATO PRODUCTION, 1860 TO 1920.

| Period ended June. |    |    |    | Area under Crop<br>(Annual Average). | Produce<br>(Annual Average). | Average<br>per Acre. |
|--------------------|----|----|----|--------------------------------------|------------------------------|----------------------|
|                    |    |    |    | Acres.                               | Tons.                        | Tons.                |
| 1860-65            | .. | .. | .. | 27,118                               | 64,399                       | 2·37                 |
| 1865-70            | .. | .. | .. | 35,460                               | 99,490                       | 2·81                 |
| 1870-75            | .. | .. | .. | 38,028                               | 124,110                      | 3·26                 |
| 1875-80            | .. | .. | .. | 38,517                               | 128,156                      | 3·33                 |
| 1880-85            | .. | .. | .. | 39,661                               | 143,073                      | 3·61                 |
| 1885-90            | .. | .. | .. | 46,210                               | 164,068                      | 3·55                 |
| 1890-95            | .. | .. | .. | 49,808                               | 177,743                      | 3·57                 |
| 1895-1900          | .. | .. | .. | 45,669                               | 133,122                      | 2·91                 |
| 1900-05            | .. | .. | .. | 44,817                               | 135,593                      | 3·03                 |
| 1906               | .. | .. | .. | 44,670                               | 115,352                      | 2·58                 |
| 1907               | .. | .. | .. | 55,372                               | 166,839                      | 3·01                 |
| 1908               | .. | .. | .. | 54,149                               | 135,110                      | 2·50                 |
| 1909               | .. | .. | .. | 47,903                               | 152,840                      | 3·19                 |
| 1910               | .. | .. | .. | 62,390                               | 174,970                      | 2·80                 |
| 1911               | .. | .. | .. | 62,904                               | 163,312                      | 2·60                 |
| 1912               | .. | .. | .. | 47,692                               | 119,092                      | 2·50                 |
| 1913               | .. | .. | .. | 47,575                               | 191,112                      | 4·02                 |
| 1914               | .. | .. | .. | 74,574                               | 176,602                      | 2·37                 |
| 1915               | .. | .. | .. | 65,495                               | 189,225                      | 2·89                 |
| 1916               | .. | .. | .. | 56,910                               | 173,821                      | 3·05                 |
| 1917               | .. | .. | .. | 73,618                               | 187,992                      | 2·55                 |
| 1918               | .. | .. | .. | 66,966                               | 182,195                      | 2·72                 |
| 1919               | .. | .. | .. | 51,620                               | 137,533                      | 2·66                 |
| 1920               | .. | .. | .. | 53,918                               | 145,888                      | 2·71                 |

The estimated value of the potatoes produced last season was £1,328,640, as against £1,079,496 for the preceding year, and £519,605 for the year 1917-18.

In 1919 the production of hay amounted to 1,242,489 tons, as against 1,113,861 tons in the previous year and 949,545 tons in 1917. The quantity of straw returned for the season

1919-20 was 45,929 tons as against 47,509 tons for the previous year. The hay returns for five-year periods from 1860 to 1909 and for each of the past ten seasons are shown in the following table:—

## HAY PRODUCTION, 1860 TO 1919.

| Period. |    |    |    | Area cut for Hay<br>(Annual Average). | Produce<br>(Annual Average). | Average per<br>Acre. |
|---------|----|----|----|---------------------------------------|------------------------------|----------------------|
|         |    |    |    | Acres.                                | Tons.                        | Tons.                |
| 1860-64 | .. | .. | .. | 89,746                                | 113,392                      | 1.26                 |
| 1865-69 | .. | .. | .. | 110,293                               | 149,110                      | 1.35                 |
| 1870-74 | .. | .. | .. | 124,493                               | 158,594                      | 1.27                 |
| 1875-79 | .. | .. | .. | 170,777                               | 219,352                      | 1.28                 |
| 1880-84 | .. | .. | .. | 282,774                               | 334,190                      | 1.18                 |
| 1885-89 | .. | .. | .. | 434,175                               | 504,758                      | 1.16                 |
| 1890-94 | .. | .. | .. | 440,000                               | 589,427                      | 1.34                 |
| 1895-99 | .. | .. | .. | 495,337                               | 563,809                      | 1.14                 |
| 1900-04 | .. | .. | .. | 585,608                               | 782,155                      | 1.34                 |
| 1905-09 | .. | .. | .. | 743,167                               | 1,006,061                    | 1.35                 |
| 1910    | .. | .. | .. | 832,669                               | 1,292,410                    | 1.55                 |
| 1911    | .. | .. | .. | 860,205                               | 1,032,288                    | 1.20                 |
| 1912    | .. | .. | .. | 1,203,728                             | 1,572,933                    | 1.31                 |
| 1913    | .. | .. | .. | 977,684                               | 1,350,374                    | 1.38                 |
| 1914    | .. | .. | .. | 895,755                               | 568,956                      | .64                  |
| 1915    | .. | .. | .. | 1,330,455                             | 2,342,094                    | 1.76                 |
| 1916    | .. | .. | .. | 897,186                               | 1,232,721                    | 1.37                 |
| 1917    | .. | .. | .. | 748,808                               | 949,545                      | 1.27                 |
| 1918    | .. | .. | .. | 984,479                               | 1,113,861                    | 1.13                 |
| 1919    | .. | .. | .. | 1,116,998                             | 1,242,489                    | 1.11                 |

The estimated value of hay was £8,304,475 for 1919, as compared with £4,622,523 for 1918, and £2,801,158 for 1917. Of the total hay produced in 1919, 807,366 tons were eaten, 401,657 tons were wheated, and 33,466 tons were made from lucerne and other crops, and the yields per acre were 1.19, .96, and 1.80 tons respectively.

Prices of  
agricultural  
produce.

Information is obtained direct from growers, in February or March of each year, in regard to the prices of the leading agricultural products other than the main crop of potatoes, the price of which is ascertained in June or July. The following table gives the average price of each product for the last eighteen years :—

## PRICES OF PRODUCE, 1903 TO 1920.

| Year. | Average Price in February and March. |                      |                      |                      |                   |                   |                          |  |
|-------|--------------------------------------|----------------------|----------------------|----------------------|-------------------|-------------------|--------------------------|--|
|       | Wheat.                               | Oats.                | Barley.              |                      | Hay.              | Potatoes.         |                          |  |
|       |                                      |                      | Malting.             | Other.               |                   | Early Crop.       | Main Crop (after March). |  |
|       | Per bushel.<br>s. d.                 | Per bushel.<br>s. d. | Per bushel.<br>s. d. | Per bushel.<br>s. d. | Per ton.<br>s. d. | Per ton.<br>s. d. | Per ton.<br>s. d.        |  |
| 1903  | 6 0                                  | 3 2½                 | 4 5½                 | 3 8                  | 100 1             | 91 3              | 47 1                     |  |
| 1904  | 2 8                                  | 1 1½                 | 2 10½                | 1 9½                 | 27 2              | 52 6              | 26 1                     |  |
| 1905  | 2 11½                                | 1 6                  | 3 2½                 | 2 1                  | 33 6              | 110 0             | 84 0                     |  |
| 1906  | 2 10½                                | 1 10½                | 3 11                 | 2 8½                 | 38 0              | 115 6             | 101 5                    |  |
| 1907  | 2 9                                  | 1 10½                | 4 2                  | 2 2½                 | 38 2              | 59 1              | 37 6                     |  |
| 1908  | 4 0½                                 | 3 0½                 | 4 11½                | 3 7                  | 88 7              | 70 4              | 54 11                    |  |
| 1909  | 3 9¼                                 | 1 9¼                 | 3 9¼                 | 2 5                  | 46 0              | 80 0              | 51 0                     |  |
| 1910  | 3 9¼                                 | 1 11½                | 3 8¼                 | 2 4¼                 | 41 0              | 78 0              | 57 0                     |  |
| 1911  | 3 2                                  | 1 10½                | 4 3½                 | 2 0½                 | 38 0              | 82 0              | 63 0                     |  |
| 1912  | 3 4½                                 | 2 10½                | 5 7                  | 3 11½                | 62 0              | 116 0             | 101 0                    |  |
| 1913  | 3 3½                                 | 2 3½                 | 4 1                  | 3 1                  | 51 0              | 116 0             | 66 0                     |  |
| 1914  | 3 3                                  | 1 9                  | 3 1½                 | 2 0¼                 | 38 0              | 81 0              | 62 0                     |  |
| 1915  | 7 0½                                 | 4 11¼                | 5 8½                 | 4 10¼                | 147 0             | 80 0              | 85 0                     |  |
| 1916  | 3 9                                  | 2 0¼                 | 3 11½                | 2 10                 | 35 0              | 201 0             | 106 0                    |  |
| 1917  | 4 0                                  | 2 0                  | 3 11½                | 2 10                 | 33 0              | 114 0             | 53 0                     |  |
| 1918  | 4 0                                  | 3 1¼                 | 4 2½                 | 3 4¼                 | 59 0              | 79 0              | 55 0                     |  |
| 1919  | 4 9                                  | 4 5½                 | 5 0½                 | 3 11¼                | 83 0              | 210 0             | 149 0                    |  |
| 1920  | 7 8½                                 | 5 7¼                 | 6 7¼                 | 5 8                  | 134 0             | 219 0             | 178 0                    |  |

The area under other than principal crops and the Other Crops production since March, 1914, are shown in the subjoined table:—

## OTHER THAN PRINCIPAL CROPS, 1914-15 TO 1919-20.

| Crop.                                   | 1914-15.  |                                   | 1915-16.  |                                   | 1916-17.  |                                   |
|---|-----------|-----------------------------------|-----------|-----------------------------------|-----------|-----------------------------------|
|   | Acres.    | Bushels.                          | Acres.    | Bushels.                          | Acres.    | Bushels.                          |
| Maize.. ..                              | 19,433    | 1,018,419                         | 22,258    | 999,886                           | 23,076    | 1,172,330                         |
| Rye .. ..                               | 1,955     | 13,415                            | 3,137     | 42,857                            | 3,481     | 42,953                            |
| Peas .. ..                              | 12,159    | 114,493                           | 8,221     | 147,488                           | 9,642     | 154,964                           |
| Mangel-wurzel ..                        | 893       | 8,921                             | 1,091     | 13,067                            | 860       | 10,307                            |
| Beet, Carrots, Parsnips, and Turnips .. | 563       | 2,249                             | 758       | 4,938                             | 524       | 2,025                             |
| Onions .. ..                            | 8,937     | 31,528                            | 9,294     | 37,587                            | 6,324     | 28,163                            |
| Green Forage ..                         | 139,654   | ..                                | 60,426    | ..                                | 49,667    | ..                                |
| Grass and Clover Seeds ..               | 149       | 1,100                             | 2,435     | 24,087                            | 1,769     | 13,174                            |
| Hops .. ..                              | 115       | 903                               | 107       | 855                               | 87        | 975                               |
| Tobacco .. ..                           | 196       | 1,192                             | 160       | 596                               | 73        | 410                               |
| Vines—Grapes                            | 21,801    | 620,876                           | 22,353    | 1,084,766                         | 23,264    | 1,013,197                         |
| Flax .. ..                              | 671       | { 1,385 fibre }<br>{ 1,827 seed } | 361       | { 1,987 fibre }<br>{ 1,370 seed } | 443       | { 1,371 fibre }<br>{ 1,481 seed } |
| Gardens and Orchards ..                 | 87,237    | ..                                | 91,499    | ..                                | 93,833    | ..                                |
| Minor Crops ..                          | 6,904     | ..                                | 6,497     | ..                                | 7,183     | ..                                |
| Land in Fallow                          | 1,346,545 | ..                                | 1,358,343 | ..                                | 1,899,559 | ..                                |
| Artificial Grasses                      | 1,202,130 | ..                                | 1,182,995 | ..                                | 1,292,817 | ..                                |
|   | 1917-18.  |                                   | 1918-19.  |                                   | 1919-20.  |                                   |
|   | Acres.    | Bushels.                          | Acres.    | Bushels.                          | Acres.    | Bushels.                          |
| Maize.. ..                              | 20,987    | 1,152,787                         | 22,559    | 711,679                           | 23,474    | 878,922                           |
| Rye .. ..                               | 1,597     | 17,021                            | 982       | 7,428                             | 784       | 8,547                             |
| Peas .. ..                              | 11,058    | 191,856                           | 11,021    | 142,835                           | 8,253     | 120,636                           |
| Mangel-wurzel ..                        | 690       | 7,826                             | 581       | 9,818                             | 547       | 6,388                             |
| Beet, Carrots, Parsnips, and Turnips .. | 500       | 2,809                             | 407       | 2,412                             | 460       | 2,121                             |
| Onions .. ..                            | 5,134     | 21,745                            | 5,512     | 24,211                            | 6,863     | 27,032                            |
| Green Forage ..                         | 55,903    | ..                                | 73,641    | ..                                | 89,802    | ..                                |
| Grass and Clover Seeds ..               | 2,312     | 22,059                            | 2,152     | 15,443                            | 1,235     | 8,625                             |
| Hops .. ..                              | 64        | 838                               | 71        | 522                               | 72        | 691                               |
| Tobacco .. ..                           | 82        | 526                               | 167       | 1,825                             | 406       | †                                 |
| Vines—Grapes                            | 25,236    | 759,570                           | 26,072    | 1,019,379                         | 27,441    | 1,324,437                         |
| Flax .. ..                              | 419       | { 925 fibre }<br>{ 1,337 seed }   | 1,420     | { 3,800 fibre }<br>{ 5,200 seed } | 1,611     | { 1,653 tons }<br>{ of straw }    |
| Gardens and Orchards ..                 | 95,180    | ..                                | 96,724    | ..                                | 98,969    | ..                                |
| Minor Crops ..                          | 6,928     | ..                                | 7,936*    | ..                                | 6,843*    | ..                                |
| Land in Fallow                          | 1,672,729 | ..                                | 1,548,121 | ..                                | 1,357,536 | ..                                |
| Artificial Grasses                      | 1,268,310 | ..                                | 1,269,493 | ..                                | 1,062,244 | ..                                |

\* For details see page 506.

† Not available.

**Maize.** The area under maize for grain in 1919-20 was 23,474 acres, and the production was 878,922 bushels, which represented a yield of 37·44 bushels per acre, as compared with 31·55 bushels in the preceding season and 54·93 bushels in 1917-18. Of the total production for last season 84 per cent. was obtained from the Gippsland district. The area, total production, and produce per acre are given in the next table for each of the past fifteen seasons and for five-year periods prior thereto back to 1890 :—

MAIZE PRODUCTION, 1890 TO 1920.

| Period ended June. | Area under Maize for Grain (Annual Average). | Total Production (Annual Average). | Produce per Acre. |
|--------------------|--|------------------------------------|-------------------|
|                    | Acres.                                       | Bushels.                           | Bushels.          |
| 1890-5 .. .. .     | 7,483  | 376,844                            | 50·36             |
| 1895-1900 .. .. .  | 9,894  | 528,970                            | 53·46             |
| 1900-5 .. .. .     | 10,704                                       | 699,630                            | 65·36             |
| 1906 .. .. .       | 11,785                                       | 641,216                            | 54·41             |
| 1907 .. .. .       | 11,559                                       | 704,961                            | 60·99             |
| 1908 .. .. .       | 10,844                                       | 508,761                            | 46·92             |
| 1909 .. .. .       | 14,004                                       | 650,462                            | 46·45             |
| 1910 .. .. .       | 19,112                                       | 1,158,031                          | 60·59             |
| 1911 .. .. .       | 20,151                                       | 982,103                            | 48·74             |
| 1912 .. .. .       | 18,223                                       | 792,660                            | 43·50             |
| 1913 .. .. .       | 19,986                                       | 715,299                            | 35·79             |
| 1914 .. .. .       | 17,962                                       | 800,529                            | 44·57             |
| 1915 .. .. .       | 19,433                                       | 1,018,419                          | 52·41             |
| 1916 .. .. .       | 22,258                                       | 999,886                            | 44·92             |
| 1917 .. .. .       | 23,076                                       | 1,172,330                          | 50·80             |
| 1918 .. .. .       | 20,987                                       | 1,152,787                          | 54·93             |
| 1919 .. .. .       | 22,559                                       | 711,679                            | 31·55             |
| 1920 .. .. .       | 23,474                                       | 878,922                            | 37·44             |

On the average of the past five seasons the yield per acre was 43·8 bushels, as against 65·4 in 1900-5, and 53·5 in 1895-1900. The relatively light yield per acre for the latest five-year period was probably due to the cultivation of new areas which are less fertile than the rich river flats upon which this cereal was grown in earlier periods.

**Rye.** The area under rye in 1919-20 was 784 acres, from which 8,547 bushels of grain were obtained. The production was 7,428 bushels in the previous season, and 17,021 bushels in 1917-18. Rye was grown principally in the counties of Delatite, Bogong, Normanby, and Talbot last season. The area under this crop in the four counties mentioned was about 62 per cent. of the total for the whole State.

**Peas.** The area under peas in 1919-20 was 8,253 acres, and the return 120,636 bushels, the former being 2,768 acres less and the latter 22,199 bushels less than in the previous year. Last season peas were grown to some extent in all districts. The counties from which the largest returns were obtained were Grant 35,399 bushels, Mornington 20,828 bushels, Bourke 17,998 bushels, Buln Buln 10,756

bushels, and Tanjil 7,066 bushels. The production of peas in the five counties mentioned was equal to 76 per cent. of the total for the whole State.

In 1919-20 there were 547 acres under mangel-wurzel, as against 581 in the previous season, 690 in 1917-18, 860 in 1916-17, 1,091 in 1915-16, 893 in 1914-15, 952 in 1913-14, and 1,121 in 1912-13. The production last year was 6,388 tons, as compared with an average of 9,988 tons for the preceding five-year period. Mangolds are grown principally in the counties of Villiers, Tanjil, Heytesbury, Mornington, and Grenville. The production for last season in the counties mentioned represented 83 per cent. of the total for the State.

The cultivation of beet, carrots, parsnips, and turnips, exclusive of those grown in market gardens, showed an increase in area as compared with the previous season. In 1919-20 the extent of land sown was 460 acres, as against 407 in the preceding year, 500 in 1917-18, 524 in 1916-17, 758 in 1915-16, 563 in 1914-15, 470 in 1913-14, and 627 in 1912-13. The produce for last year was 2,121 tons, as compared with 2,412 tons in the previous season, and 2,809 tons in 1917-18.

Onions are grown in nearly every county south of the Dividing Range. The returns for last season show that in Buln Buln the yield was 5,252 tons from 1,127 acres; in Grenville, 5,135 tons from 1,615 acres; in Bourke, 4,983 tons from 977 acres; in Mornington, 3,238 tons from 731 acres; in Polwarth, 3,089 tons from 826 acres; in Villiers, 2,975 tons from 907 acres; and in Grant, 2,049 tons from 619 acres. The following is a statement showing the area and yield for the last twenty years:—

#### ONION CULTIVATION, 1900-1901 to 1919-20.

| Year.   | Area.  | Produce. | Year.   | Area.  | Produce. |
|---------|--------|----------|---------|--------|----------|
|         | Acres. | Tons.    |         | Acres. | Tons.    |
| 1900-1  | 2,815  | 12,766   | 1910-11 | 6,161  | 37,484   |
| 1901-2  | 4,151  | 20,859   | 1911-12 | 3,652  | 20,911   |
| 1902-3  | 5,565  | 27,467   | 1912-13 | 4,977  | 28,641   |
| 1903-4  | 4,176  | 25,218   | 1913-14 | 6,121  | 24,755   |
| 1904-5  | 2,862  | 12,969   | 1914-15 | 8,937  | 31,528   |
| 1905-6  | 4,889  | 25,597   | 1915-16 | 9,294  | 37,587   |
| 1906-7  | 4,705  | 28,000   | 1916-17 | 6,324  | 28,163   |
| 1907-8  | 4,249  | 22,649   | 1917-18 | 5,134  | 21,745   |
| 1908-9  | 5,340  | 24,384   | 1918-19 | 5,512  | 24,211   |
| 1909-10 | 6,434  | 31,715   | 1919-20 | 6,863  | 27,032   |

The value of onions grown was £274,375 in 1919-20, as compared with £236,451 in the previous season and £141,343 in 1917-18.

**Green forage.** The area devoted to green forage in 1919-20 was 89,802 acres, as compared with 73,641 in the previous season, 55,903 in 1917-18, 49,667 in 1916-17, 60,426 in 1915-16, 139,654 in 1914-15, 98,963 in 1913-14, and 84,460 in 1912-13.

**Ensilage.** The practice of preserving forage in a green state has existed in Victoria for many years, but only a small number of farmers have adopted it. The returns for the past ten seasons are given in the next table.

ENSILAGE RETURNS, 1911 TO 1920.

| Year ended March. | Number of Farms on which made. | Number of Silos (Pits and Stacks). | Weight of Materials used. |
|-------------------|--------------------------------|------------------------------------|---------------------------|
| 1911              | 460                            | 555                                | Tons.<br>25,969           |
| 1912              | 371                            | 450                                | 20,888                    |
| 1913              | 287                            | 385                                | 17,877                    |
| 1914              | 270                            | 362                                | 19,505                    |
| 1915              | 161                            | 221                                | 9,055                     |
| 1916              | 269                            | 353                                | 16,356                    |
| 1917              | 179                            | 223                                | 10,974                    |
| 1918              | 117                            | 158                                | 9,852                     |
| 1919              | 95                             | 157                                | 8,249                     |
| 1920              | 74                             | 117                                | 6,072                     |

**Grass and clover seed.** The area harvested for grass and clover seed last season was 1,235 acres, as compared with 2,152 in the previous year, 2,312 in 1917-18, 1,769 in 1916-17, 2,435 in 1915-16, 149 in 1914-15, and 1,452 in 1913-14. The production in 1919-20 was 8,625 bushels, as against 15,443 in the previous year, 22,059 in 1917-18, 13,174 in 1916-17, 24,087 in 1915-16, 1,100 in 1914-15, and 16,349 in 1913-14.

**Hops.** The hop-growing industry attained its maximum development in 1883-4, when 1,758 acres yielded 15,717 cwt. In 1919-20 the return from 72 acres was 691 cwt., the area cultivated being the third smallest since 1871-2. Delatite, Bogong, Polwarth, and Buln Buln were the only counties in which hops were grown last season.

**Flax.** The area sown to flax in 1919-20 was 1,611 acres as compared with 1,420 acres in the previous season, and 419 acres in 1917-18. The whole of the flax grown last season was purchased by the Commonwealth Flax Committee under a Government guarantee of £6 per ton for unthreshed flax of standard quality delivered at the nearest mill. The value of the fibre, linseed, and tow obtained

from the 1918-19 flax crop is estimated at £22,800. Particulars of the crop for the last ten years are given in the following statement:—

## FLAX: 1910-11 TO 1919-20.

| Year.         | No. of Growers. | Area under | Seed      | Fibre     | Straw               |
|---------------|-----------------|------------|-----------|-----------|---------------------|
|               |                 | Crop.      | Produced. | Produced. | awaiting Treatment. |
|               |                 | Acres.     | Cwt.      | Cwt.      | Tons.               |
| 1910-11 .. .. | 33              | 600        | 2,457     | 748       | 235                 |
| 1911-12 .. .. | 29              | 443        | 1,958     | 1,327     | 75                  |
| 1912-13 .. .. | 55              | 648        | 4,536     | 1,189     | 615                 |
| 1913-14 .. .. | 62              | 1,046      | 3,768     | 1,096     | 652                 |
| 1914-15 .. .. | 49              | 671        | 1,827     | 1,318     | 25                  |
| 1915-16 .. .. | 22              | 361        | 1,370     | 1,987     | ..                  |
| 1916-17 .. .. | 13              | 443        | 1,481     | 1,371     | ..                  |
| 1917-18 .. .. | ..              | 419        | 1,337     | 925       | ..                  |
| 1918-19 .. .. | ..              | 1,420      | 5,200     | 3,800*    | ..                  |
| 1919-20 .. .. | ..              | 1,611      | ..        | ..        | 1,653               |

\* Including 2,000 cwt. of tow.

<sup>a</sup> In 1919-20 imports into Victoria from countries outside Australia included linseed to the value of £1,847, linseed oil worth £47,675, and fibre worth £252,071.

Tobacco production reached its maximum in 1880-1, when 17,333 cwt. of dry leaf was produced. The subsequent sixteen years were marked by great variations in area and produce, and since 1896-7 the industry has fallen to small proportions. The area devoted to tobacco last year was 406 acres, of which 263 were in Delatite, and 107 in Bogong. Particulars relating to the cultivation of tobacco for the last twenty years are as follows:—

## CULTIVATION OF TOBACCO, 1900-1901 TO 1919-20.

| Year.         | Number of Growers. | Area.  | Produce.    |
|---------------|--------------------|--------|-------------|
|               |                    | Acres. | Cwt. (dry). |
| 1900-1 .. ..  | 16                 | 109    | 311         |
| 1901-2 .. ..  | 17                 | 103    | 345         |
| 1902-3 .. ..  | 24                 | 171    | 781         |
| 1903-4 .. ..  | 25                 | 129    | 848         |
| 1904-5 .. ..  | 20                 | 106    | 1,112       |
| 1905-6 .. ..  | 31                 | 169    | 1,405       |
| 1906-7 .. ..  | 30                 | 133    | 603         |
| 1907-8 .. ..  | 49                 | 345    | 2,764       |
| 1908-9 .. ..  | 60                 | 413    | 2,647       |
| 1909-10 .. .. | 50                 | 321    | 2,704       |
| 1910-11 .. .. | 57                 | 329    | 1,090       |
| 1911-12 .. .. | 58                 | 356    | 3,686       |
| 1912-13 .. .. | 54                 | 138    | 661         |
| 1913-14 .. .. | 67                 | 284    | 2,037       |
| 1914-15 .. .. | 46                 | 196    | 1,192       |
| 1915-16 .. .. | 39                 | 160    | 596         |
| 1916-17 .. .. | 26                 | 73     | 410         |
| 1917-18 .. .. | ..                 | 82     | 526         |
| 1918-19 .. .. | ..                 | 167    | 1,825       |
| 1919-20 .. .. | ..                 | 406    | ..          |

**Vines, wine, raisins, &c.** During the period 1904-1915 the area under vines decreased by 6,712 acres, or by nearly 24 per cent., and the number of growers decreased by 521, or by 23 per cent. Since 1915 there has been a fairly large increase in the area and the number of growers. Vineyards are distributed fairly well over the State, and there are certain districts where the principal industries are connected with vine-growing. The Shire of Mildura produced last season 1,068,626 cwt. of grapes; Rutherglen, 72,743 cwt.; Swan Hill, 50,470 cwt.; Rodney, 23,704 cwt.; Stawell, 12,240 cwt.; Ararat, 10,436 cwt.; Chiltern, 10,178 cwt.; Benalla, 10,125 cwt.; Tungamah, 8,810 cwt.; and Shepparton, 7,762 cwt. At Mildura the crop is principally dried for raisins and currants. The results of sixteen years' operations are given below:—

## VINE PRODUCTION, 1905 TO 1920.

| Year ended June. | Number of Growers. | Area.  | Produce.         |            |               |                |
|------------------|--------------------|--------|------------------|------------|---------------|----------------|
|                  |                    |        | Grapes gathered. | Wine made. | Raisins made. | Currants made. |
|                  |                    | Acres. | Cwt.             | Gallons.   | Cwt.          | Cwt.           |
| 1905 ..          | 2,253              | 28,016 | 452,433          | 1,832,386  | 30,295        | 5,974          |
| 1906 ..          | 2,009              | 26,402 | 498,590          | 1,726,444  | 42,975        | 6,403          |
| 1907 ..          | 1,860              | 25,855 | 752,826          | 2,044,833  | 98,127        | 11,730         |
| 1908 ..          | 1,967              | 26,465 | 535,804          | 1,365,600  | 68,617        | 10,440         |
| 1909 ..          | 1,637              | 24,430 | 561,679          | 1,437,106  | 69,536        | 11,929         |
| 1910 ..          | 1,606              | 22,768 | 548,828          | 991,941    | 81,044        | 27,408         |
| 1911 ..          | 1,652              | 23,412 | 592,438          | 1,362,420  | 79,318        | 26,394         |
| 1912 ..          | 1,650              | 24,193 | 683,250          | 983,423    | 102,924       | 46,789         |
| 1913 ..          | 1,808              | 24,579 | 733,579          | 1,206,111  | 109,677       | 48,337         |
| 1914 ..          | 1,776              | 22,435 | 836,493          | 1,121,491  | 120,303       | 62,098         |
| 1915 ..          | 1,739              | 21,801 | 620,876          | 605,633    | 111,006       | 28,527         |
| 1916 ..          | 1,700              | 22,353 | 1,084,766        | 1,380,367  | 180,104       | 70,556         |
| 1917 ..          | 1,751              | 23,264 | 1,013,197        | 1,302,660  | 142,970       | 66,449         |
| 1918 ..          | 1,843              | 25,236 | 759,570          | 800,068    | 104,911       | 53,799         |
| 1919 ..          | 1,826              | 26,072 | 1,019,379        | 1,349,309  | 135,060       | 68,234         |
| 1920 ..          | 1,919              | 27,441 | 1,324,437        | 1,634,680  | 211,307       | 55,661         |

Of the total quantity of grapes gathered in 1920, 253,118 cwt. was used for making wine, 1,001,277 cwt. for raisins and currants, and 70,042 cwt. for table consumption and export. Of the 211,307 cwt. of raisins made, 156,837 cwt. were sultanas, of which all but 9,287 cwt. were from Mildura.

Raisins are produced in Victoria upon a scale far in excess of the State's requirements. It is estimated that a year's consumption of raisins is about 20,000 cwt.; consequently, about 191,000 cwt. of the production in 1920 is available for interstate or oversea export. A year's consumption of currants is about 30,000 cwt., which would enable approximately 26,000 cwt. of last season's production to be exported to other States or oversea.

**Orchards.** The total number of persons in the State growing fruit for sale was 7,719 in 1919-20, as against 7,620 in the previous season, 7,314 in 1917-18, 7,309 in 1916-17, 7,319 in 1915-16, and 6,811 in 1914-15. The area under orchards in each of those years was 83,574, 82,151, 80,508, 79,247, 76,382, and 70,392 acres respectively.

The orchards are distributed fairly evenly over the whole State. The counties having the largest areas last season were as follows:—Evelyn, 15,219 acres; Bourke, 14,033 acres; Mornington, 14,052 acres; Rodney, 9,832 acres; Moira, 5,716 acres; Talbot, 3,722 acres; Bendigo, 3,257 acres; Karkaroc, 2,367 acres; Borung, 2,157 acres; Grant, 1,825 acres; Tatchera, 1,798 acres; Bogong, 1,356 acres; and Buln Buln, 1,087 acres.

In the following table will be found a statement of the number of bearing and non-bearing fruit trees and plants for the seasons 1916-17 and 1919-20:—

RETURN SHOWING THE NUMBER OF FRUIT TREES, PLANTS, ETC., IN ORCHARDS AND GARDENS WHERE FRUIT WAS GROWN FOR SALE, 1916-17 AND 1919-20.

| Fruit.                              | Number of Trees, Plants, &c. |                  |                  |                  |                  |                  |
|-------------------------------------|------------------------------|------------------|------------------|------------------|------------------|------------------|
|                                     | 1916-17.                     |                  |                  | 1919-20.         |                  |                  |
|                                     | Not Bearing.                 | Bearing.         | Total.           | Not Bearing.     | Bearing.         | Total.           |
| Apples ..                           | 1,060,675                    | 1,818,520        | 2,879,195        | 1,006,728        | 2,016,972        | 3,023,700        |
| Pears ..                            | 455,822                      | 530,476          | 1,036,298        | 416,608          | 660,913          | 1,077,521        |
| Quinces ..                          | 35,073                       | 72,147           | 107,220          | 53,639           | 76,377           | 130,016          |
| Plums ..                            | 162,335                      | 396,282          | 558,617          | 184,909          | 369,784          | 554,693          |
| Cherries ..                         | 62,439                       | 230,388          | 292,877          | 45,742           | 196,110          | 241,852          |
| Peaches ..                          | 446,638                      | 582,402          | 1,029,040        | 332,001          | 750,834          | 1,082,835        |
| Apricots ..                         | 154,413                      | 278,926          | 433,339          | 121,995          | 331,627          | 453,622          |
| Nectarines ..                       | 9,636                        | 11,198           | 20,834           | 3,023            | 15,698           | 18,721           |
| Oranges ..                          | 284,643                      | 101,493          | 386,136          | 147,105          | 240,297          | 387,402          |
| Lemons* ..                          | 84,363                       | 48,421           | 132,784          | 72,994           | 82,472           | 155,466          |
| Loquats ..                          | 2,031                        | 3,847            | 5,878            | 1,778            | 4,202            | 5,980            |
| Medlars ..                          | 37                           | 176              | 213              | 86               | 106              | 192              |
| Figs ..                             | 17,827                       | 28,837           | 46,664           | 14,663           | 29,067           | 44,330           |
| Passion-fruit ..                    | 9,301                        | 18,514           | 27,815           | 19,902           | 26,969           | 46,871           |
| Guavas ..                           | 44                           | 251              | 295              | 61               | 134              | 195              |
| Pomegranates ..                     | 47                           | 116              | 163              | 39               | 89               | 128              |
| Persimmons ..                       | 185                          | 460              | 645              | 319              | 403              | 722              |
| <b>Total Large Fruits ..</b>        | <b>2,785,559</b>             | <b>4,172,454</b> | <b>6,958,013</b> | <b>2,421,592</b> | <b>4,802,654</b> | <b>7,224,246</b> |
| Raspberries ..                      | ..                           | 636,749          | 636,749          | ..               | 316,498          | 316,498          |
| Loganberries ..                     | ..                           | ..               | ..               | ..               | 158,431          | 158,431          |
| Strawberries ..                     | ..                           | 3,894,479        | 3,894,479        | ..               | 2,148,044        | 2,148,044        |
| Gooseberries ..                     | ..                           | 230,244          | 230,244          | ..               | 323,037          | 323,037          |
| Mulberries ..                       | 342                          | 1,104            | 1,446            | 326              | 1,133            | 1,459            |
| Olives ..                           | 3,006                        | 6,351            | 9,357            | 310              | 2,372            | 2,682            |
| Currants (Red, White, and Black) .. | 7,507                        | 34,409           | 41,916           | 9,033            | 27,707           | 36,740           |
| Almonds ..                          | 11,115                       | 21,348           | 32,463           | 9,423            | 20,378           | 29,801           |
| Walnuts ..                          | 7,524                        | 5,909            | 13,433           | 7,812            | 4,819            | 12,631           |
| Hilberts ..                         | 835                          | 649              | 1,484            | 288              | 804              | 1,092            |
| Chestnuts ..                        | 570                          | 427              | 997              | 269              | 380              | 649              |
| <b>Total Nuts ..</b>                | <b>20,044</b>                | <b>28,333</b>    | <b>48,377</b>    | <b>17,792</b>    | <b>26,381</b>    | <b>44,173</b>    |

The area of orchards growing fruit for sale in 1919-20—83,574 acres is the largest recorded. The striking feature of the figures relating to the production of orchards in 1919-20, as compared with the previous year, is the increase in the quantities of all fruits and nuts gathered, except pears, cherries, lemons, and almonds. Details of the produce from orchards growing fruit for sale in each of the past ten years are as follows :—

ORCHARDS GROWING FRUIT FOR SALE, 1910-11  
TO 1919-20.

| Year ended March. | Number of Fruit-growers. | Area of Gardens and Orchards. | LARGE FRUITS GATHERED. |          |          |          |
|-------------------|--------------------------|-------------------------------|------------------------|----------|----------|----------|
|                   |                          |                               | Apples.                | Pears.   | Quinces. | Plums.   |
|                   |                          | Acres.                        | Bushels.               | Bushels. | Bushels. | Bushels. |
| 1911 ..           | 5,780                    | 53,325                        | 1,667,271              | 640,436  | 86,355   | 325,677  |
| 1912 ..           | 5,955                    | 55,769                        | 1,330,961              | 239,431  | 54,425   | 151,936  |
| 1913 ..           | 6,285                    | 59,119                        | 2,036,756              | 669,898  | 90,119   | 260,830  |
| 1914 ..           | 6,498                    | 63,058                        | 1,653,035              | 476,430  | 67,799   | 292,389  |
| 1915 ..           | 6,811                    | 70,392                        | 509,697                | 401,301  | 32,949   | 88,698   |
| 1916 ..           | 7,319                    | 76,382                        | 2,953,968              | 601,357  | 100,566  | 337,154  |
| 1917 ..           | 7,309                    | 79,247                        | 617,929                | 661,962  | 80,093   | 258,218  |
| 1918 ..           | 7,314                    | 80,508                        | 1,864,508              | 414,721  | 72,436   | 242,598  |
| 1919 ..           | 7,620                    | 82,151                        | 807,573                | 756,688  | 65,885   | 220,546  |
| 1920 ..           | 7,719                    | 83,574                        | 2,227,317              | 723,857  | 96,115   | 274,329  |

  

| Large Fruits Gathered—continued. |           |          |           |          |          |          |          |
|----------------------------------|-----------|----------|-----------|----------|----------|----------|----------|
|                                  | Cherries. | Peaches. | Apricots. | Oranges. | Lemons.  | Figs.    | Others.  |
|                                  | Bushels.  | Bushels. | Bushels.  | Bushels. | Bushels. | Bushels. | Bushels. |
| 1911 ..                          | 121,756   | 317,317  | 160,884   | 59,723   | 71,041   | 31,054   | 21,200   |
| 1912 ..                          | 96,663    | 260,258  | 281,460   | 48,982   | 65,833   | 17,891   | 10,259   |
| 1913 ..                          | 152,257   | 289,731  | 138,881   | 44,039   | 48,170   | 25,223   | 19,496   |
| 1914 ..                          | 151,262   | 361,414  | 308,307   | 63,542   | 57,562   | 23,764   | 15,639   |
| 1915 ..                          | 48,411    | 277,435  | 109,301   | 83,220   | 66,704   | 17,362   | 16,040   |
| 1916 ..                          | 98,382    | 303,992  | 256,229   | 63,434   | 56,569   | 21,433   | 16,546   |
| 1917 ..                          | 40,024    | 787,406  | 217,424   | 59,985   | 53,940   | 25,063   | 25,650   |
| 1918 ..                          | 69,743    | 430,770  | 238,420   | 75,315   | 76,296   | 26,885   | 30,521   |
| 1919 ..                          | 109,298   | 569,639  | 127,131   | 100,553  | 80,521   | 18,492   | 23,097   |
| 1920 ..                          | 89,604    | 960,773  | 301,009   | 137,184  | 74,427   | 19,255   | 44,225   |

ORCHARDS GROWING FRUIT FOR SALE, 1910-11 TO 1919-20—  
continued.

| Year ended March. | SMALL FRUITS GATHERED. |                |                |                                |         | NUTS GATHERED. |          |           |             |
|-------------------|------------------------|----------------|----------------|--------------------------------|---------|----------------|----------|-----------|-------------|
|                   | Rasp-berries.          | Straw-berries. | Goose-berries. | Currants, Red, Black, & White. | Others. | Almonds.       | Walnuts. | Filberts. | Chest-nuts. |
|                   | Cwt.                   | Cwt.           | Cwt.           | Cwt.                           | Cwt.    | lbs.           | lbs.     | lbs.      | lbs.        |
| 1911              | 9,231                  | 7,788          | 6,430          | 1,334                          | 2,607   | 126,877        | 24,242   | 3,209     | 8,546       |
| 1912              | 6,658                  | 6,103          | 4,173          | 1,429                          | 1,333   | 100,982        | 26,329   | 1,473     | 8,821       |
| 1913              | 5,207                  | 3,839          | 3,874          | 876                            | 1,179   | 90,317         | 22,127   | 1,220     | 8,305       |
| 1914              | 4,580                  | 4,351          | 4,912          | 802                            | 1,233   | 92,621         | 21,649   | 2,143     | 11,361      |
| 1915              | 6,011                  | 2,290          | 223            | 183                            | 1,072   | 70,139         | 26,026   | 2,664     | 9,316       |
| 1916              | 3,534                  | 3,347          | 5,061          | 491                            | 2,069   | 62,148         | 18,173   | 660       | 8,344       |
| 1917              | 4,996                  | 4,960          | 3,902          | 273                            | 1,822   | 53,590         | 7,895    | 2,339     | 11,384      |
| 1918              | 7,539                  | 5,175          | 5,052          | 443                            | 2,080   | 47,900         | 16,673   | 1,510     | 14,788      |
| 1919              | 3,272                  | 2,317          | 3,723          | 305                            | 3,876   | 84,313         | 36,976   | 1,098     | 12,164      |
| 1920              | 3,844                  | 2,724          | 6,958          | 439                            | 4,010   | 75,438         | 51,448   | 1,610     | 12,712      |

The following return shows the average produce per bearing tree for the seasons 1910-11, 1913-14, 1916-17, and 1919-20:—

PRODUCE OF FRUIT TREES, 1910-11, 1913-14, 1916-17, AND 1919-20.

| Fruit Trees.     | AVERAGE PER BEARING TREE. |           |           |           |
|------------------|---------------------------|-----------|-----------|-----------|
|                  | 1910-11.                  | 1913-14.  | 1916-17.  | 1919-20.  |
|                  | Bushels.                  | Bushels   | Bushels.  | Bushels.  |
| Apples ..        | 1·15                      | 1·03      | ·34       | 1·10      |
| Pears ..         | 1·76                      | 1·07      | 1·14      | 1·10      |
| Quinces ..       | 1·49                      | 1·03      | 1·11      | 1·26      |
| Plums ..         | ·92                       | ·83       | ·65       | ·74       |
| Cherries ..      | ·50                       | ·80       | ·17       | ·46       |
| Peaches ..       | 1·09                      | 1·02      | 1·35      | 1·28      |
| Apricots ..      | ·68                       | 1·21      | ·78       | ·91       |
| Nectarines ..    | 1·11                      | 1·18      | 1·41      | 1·53      |
| Oranges ..       | 1·49                      | 1·16      | ·59       | ·57       |
| Lemons ..        | 1·48                      | 1·49      | 1·11      | ·90       |
| Loquats ..       | 1·19                      | ·24       | ·29       | ·52       |
| Medlars ..       | ·14                       | ·29       | ·07       | ·28       |
| Figs ..          | ·88                       | ·85       | ·87       | ·65       |
| Passion Vines .. | ·98                       | ·75       | ·44       | ·65       |
| Guavas ..        | ·14                       | ·02       | ·42       | ·24       |
| Pomegranates ..  | 1·73                      | ·54       | ·32       | ·31       |
| Persimmons ..    | 1·50                      | ·68       | ·82       | ·69       |
| Almonds ..       | lbs. 6·03                 | lbs. 4·87 | lbs. 2·51 | lbs. 3·70 |
| Walnuts ..       | 5·43                      | 5·35      | 1·34      | 10·68     |
| Filberts ..      | ·88                       | ·56       | 3·60      | 2·00      |
| Chestnuts ..     | 6·65                      | 18·94     | 26·66     | 33·45     |

In addition to the fruits shown, large quantities of melons, rhubarb and tomatoes were produced in the orchards, the following being the quantities returned for 1919-20—Melons, 8,319 cwt.; rhubarb, 18,424

dozen bundles ; and tomatoes, 77,287 bushels. There were also 2,762 acres laid down in gardens growing fruit for private use, the value of the produce from which was estimated at about £13,810.

According to prices received by growers the value of fruit which reaches market was estimated to be £524,380 in 1910-11, £558,604 in 1911-12, £629,863 in 1912-13, £742,900 in 1913-14, £470,970 in 1914-15, £742,100 in 1915-16, £575,264 in 1916-17, £737,025 in 1917-18, £868,000 in 1918-19, and £1,248,500 in 1919-20. This, of course, does not represent the actual value of all the fruit grown, as large quantities are privately consumed in various ways. No very reliable estimate of the value of such fruit can be prepared, but it may be set down at about £40,000.

The area under market gardens for the year 1919-20 was 12,633 acres. As these gardens are generally situated near large centres of population, and the producers are consequently able to dispose of the bulk of their goods with a minimum loss from waste, &c., an average return of £35 per acre is regarded as a fair estimate. On this basis, the total value of the produce may be given as £442,155. This does not include crops of one acre and over of potatoes, onions, mangel-wurzel, beet, carrots, parsnips, and turnips grown in market gardens, such crops being tabulated under their respective heads in the returns relating to agriculture.

The quantity of dried fruit (weight after drying) was for the first time collected in 1895-6, when 179,460 lbs. were returned, and it increased to 636,294 lbs. in 1900-1, after which date the quantity, principally by reason of a reduction in apricots, declined to 306,603 lbs. in 1902-3. In 1909-10 the maximum production—811,935 lbs.—was recorded. In 1919-20 the production was 746,441 lbs. The details for the last ten seasons are as follows :—

DRIED FRUIT, 1910-11 TO 1919-20.

| Year ended June. | Apples. | Prunes. | Peaches. | Apricots. | Figs.  | Pears.  | Total.  |
|------------------|---------|---------|----------|-----------|--------|---------|---------|
|                  | lbs.    | lbs.    | lbs.     | lbs.      | lbs.   | lbs.    | lbs.    |
| 1911 ..          | 26,391  | 80,123  | 84,211   | 334,111   | 9,554  | 31,819  | 566,209 |
| 1912 ..          | 21,929  | 72,400  | 143,112  | 492,041   | 31,027 | 16,502  | 777,011 |
| 1913 ..          | 48,853  | 84,053  | 56,151   | 61,465    | 27,274 | 38,633  | 316,429 |
| 1914 ..          | 39,899  | 155,031 | 118,187  | 363,356   | 33,151 | 7,900   | 717,524 |
| 1915 ..          | 16,817  | 28,788  | 70,897   | 43,606    | 31,981 | 55,581  | 247,670 |
| 1916 ..          | 290,258 | 128,520 | 61,667   | 69,215    | 33,939 | 22,224  | 605,823 |
| 1917 ..          | 27,109  | 118,999 | 357,329  | 149,940   | 10,567 | 108,379 | 772,323 |
| 1918 ..          | 134,342 | 221,728 | 88,241   | 235,534   | 47,201 | 38,257  | 765,303 |
| 1919 ..          | 3,229   | 131,684 | 73,638   | 45,002    | 36,866 | 28,654  | 319,073 |
| 1920 ..          | 52,759  | 211,714 | 226,498  | 69,125    | 46,711 | 139,634 | 746,441 |

A striking feature of the returns for the season 1919-20 was the increase in peaches, pears, and prunes. In that year about 53 per cent. of the dried fruit came from Mildura, where, in addition to fruits included above, 22,377,000 lbs. of raisins were produced.

The following is a return of the minor crops for the last two seasons. The items do not in all cases represent the whole of the respective crops grown, but refer only to such as were taken cognisance of by the collectors. The return, therefore, indicates the nature of the crops rather than the full extent of their cultivation.

## MINOR CROPS, 1918-19 AND 1919-20.

| Crop.                               | 1918-19. |                  | 1919-20. |                   |
|-------------------------------------|----------|------------------|----------|-------------------|
|                                     | Area.    | Produce.         | Area.    | Produce.          |
|                                     | Acres.   |                  | Acres.   |                   |
| Beans .. ..                         | 1,377    | 17,584 bushels   | 1,402    | 8,003 bushels     |
| Chicory .. ..                       | 536      | 485 tons (dry)   | 295      | 148 tons (dry)    |
| Flowers .. ..                       | 147      | ..               | 185      | ..                |
| Garlic .. ..                        | 4        | 100 cwt.         | 16       | 560 cwt.          |
| Herbs .. ..                         | 56       | ..               | 4        | ..                |
| Millet—Broom .. ..                  | 1,876    | 4,794 cwt. fibre | 1,787    | 7,720 cwt. fibre  |
| "   Japanese .. ..                  |          | 2,037 cwt. seed  |          | 5,180 cwt. seed   |
| Mustard .. ..                       | 50       | 200 cwt. seed    | 63       | 980 cwt. seed     |
| Nursery .. ..                       | 345      | 279 cwt.         | 40       | 39 cwt.           |
| Opium poppies .. ..                 | 1,020    | ..               | 756      | ..                |
| Pumpkins .. ..                      | 1        | 3 lbs.           | 1        | $\frac{1}{2}$ lb. |
| Seeds—Agricultural and Garden .. .. | 1,161    | 6,405 tons       | 1,089    | 6,125 tons        |
| Sugar Beet .. ..                    | 296      | ..               | 76       | ..                |
| Sunflowers .. ..                    | 1,009    | 12,290 tons beet | 1,080    | 13,084 tons beet  |
|                                     | 58       | 489 cwt.         | 49       | 440 cwt.          |
| Total .. ..                         | 7,936    | ..               | 6,843    | ..                |

## Land in fallow.

While the fallowing of land in Victoria commenced in 1858, and increased in popularity in later years, it is only within the past fifteen years that this method of cultivation has become fairly general throughout the State. The area fallowed in 1919-20 was 1,357,536 acres, as compared with 853,829 acres in 1904-5, and 602,870 acres in 1900-01. The acreage so treated in each of the last twenty years was as follows:—

## LAND IN FALLOW.

| Year ended March. | Acres     | Year ended March. | Acres.    |
|-------------------|-----------|-------------------|-----------|
| 1901 .. ..        | 602,870   | 1911 .. ..        | 1,434,177 |
| 1902 .. ..        | 681,778   | 1912 .. ..        | 1,469,608 |
| 1903 .. ..        | 492,305   | 1913 .. ..        | 1,627,233 |
| 1904 .. ..        | 632,521   | 1914 .. ..        | 1,738,572 |
| 1905 .. ..        | 853,829   | 1915 .. ..        | 1,346,545 |
| 1906 .. ..        | 1,049,915 | 1916 .. ..        | 1,358,343 |
| 1907 .. ..        | 990,967   | 1917 .. ..        | 1,899,559 |
| 1908 .. ..        | 894,300   | 1918 .. ..        | 1,672,729 |
| 1909 .. ..        | 1,034,422 | 1919 .. ..        | 1,548,121 |
| 1910 .. ..        | 1,175,750 | 1920 .. ..        | 1,357,536 |

Nearly all of the fallowed area is devoted to wheat production. Of the 1,357,536 acres in fallow last season 568,679 were in the Wimmera, 289,175 in the Northern, and 333,159 in the Mallee District. The area for these three districts represented 88 per cent. of the total for the State.

The increase in the proportion of farmers using manure indicates the popularity and the value of this method of treating the soil. Last year the number of farmers who used manure was 32,114, as compared with 21,586 in 1905, and 7,318 in 1898. The following table shows the number of farmers using manure, and the quantity used in each of the last sixteen years:—

MANURE USED FOR FERTILIZATION, 1904 to 1919.

| Year. | Farmers using. | Area used on. | Manure used— |             |
|-------|----------------|---------------|--------------|-------------|
|       |                |               | Natural.     | Artificial. |
|       |                | Acres.        | Tons.        | Tons.       |
| 1904  | 20,167         | 1,521,946     | 190,903      | 45,940      |
| 1905  | 21,586         | 1,791,537     | 210,507      | 54,674      |
| 1906  | 23,072         | 1,985,148     | 205,906      | 60,871      |
| 1907  | 23,733         | 2,018,079     | 232,394      | 62,337      |
| 1908  | 24,437         | 2,053,987     | 235,492      | 64,715      |
| 1909  | 26,690         | 2,407,331     | 197,446      | 77,579      |
| 1910  | 27,845         | 2,714,854     | 203,884      | 86,316      |
| 1911  | 26,159         | 2,676,408     | 205,739      | 82,581      |
| 1912  | 29,524         | 3,029,418     | 222,253      | 94,010      |
| 1913  | 30,610         | 3,401,013     | 219,423      | 105,612     |
| 1914  | 31,874         | 3,728,279     | 209,534      | 117,935     |
| 1915  | 33,378         | 4,336,252     | 187,602      | 128,667     |
| 1916  | 33,165         | 3,870,742     | 181,268      | 117,812     |
| 1917  | 30,109         | 3,336,418     | 167,114      | 106,119     |
| 1918  | 32,589         | 3,222,822     | 162,165      | 104,993     |
| 1919  | 32,114         | 3,249,768     | 164,491      | 115,627     |

The area on which manure was used represented only 7 per cent. of that under crop in 1898, but since then the proportion manured has rapidly increased. In 1901, it was 19 per cent. ; in 1903, 36 per cent. ; in 1905, 56 per cent. ; in 1909, 66 per cent. ; in 1913, 77 per cent. ; and in 1919, 81 per cent. During 1919-20 the quantity of fertilizers imported into Victoria from oversea countries was 76,403 tons, valued at £238,338. This included 43,582 tons of rock phosphates, of which 15,383 tons, valued at £36,685, were obtained from Ocean Island, and 25,478 tons, valued at £54,719, from Nauru Island.

Characteristics  
of Victorian  
soils.

This subject is fully dealt with in the Year-Book for 1915-16, page 740.

Persons  
employed on  
Farming,  
Dairying, and  
Pastoral  
Holdings.

Information is obtained by the collectors of agricultural statistics each year as to the number of persons ordinarily employed upon the land occupied. For the last ten years the numbers were as follows :—

NUMBER OF PERSONS EMPLOYED UPON FARMING,  
DAIRYING, AND PASTORAL HOLDINGS. 1910 TO 1919.

| Year.      | Males.  | Females. | Total.  |
|------------|---------|----------|---------|
| 1910 .. .. | 99,948  | 54,083   | 154,031 |
| 1911 .. .. | 100,689 | 55,040   | 155,729 |
| 1912 .. .. | 100,665 | 52,868   | 153,533 |
| 1913 .. .. | 101,353 | 51,837   | 153,190 |
| 1914 .. .. | 98,354  | 49,242   | 147,596 |
| 1915 .. .. | 98,617  | 49,038   | 147,655 |
| 1916 .. .. | 95,535  | 50,964   | 146,499 |
| 1917 .. .. | 95,890  | 51,992   | 147,882 |
| 1918 .. .. | 95,584  | 52,548   | 148,132 |
| 1919 .. .. | 98,308  | 54,318   | 152,626 |

Persons absent from their farms for the greater portion of the year following other occupations, as well as temporary hands engaged in harvesting, &c., are not included in the above tabulation, neither are domestic servants nor cooks; but females partly engaged in outdoor duties in connexion with the holdings are included therein. It is estimated that the temporary labour employed on farms and pastoral holdings is equivalent to about 30,000 men employed continuously throughout the year.

In the next return will be found particulars of the rates of wages paid (with rations) upon farms and pastoral holdings during 1919-20. The information has been furnished by the occupiers of holdings :—

WAGES, AGRICULTURAL AND PASTORAL, 1919-20.

| Occupations.                    | Range.                     | Prevalling Rate.   |
|---------------------------------|----------------------------|--------------------|
| Ploughmen .. ..                 | 30s. to 60s. per week ..   | 40s. per week      |
| Farm labourers .. ..            | 30s. to 60s. per week ..   | 35s. per week      |
| Threshing machine hands .. ..   | 10d. to 15d. per hour ..   | 1s. per hour       |
| Harvest hands .. ..             | 8s. to 12s. per day ..     | 9s. per day        |
| Milkers .. ..                   | 25s. to 40s. per week ..   | 35s. per week      |
| Maize pickers (without rations) | 6d. to 10d. per bag ..     | 8d. per bag        |
| Hop pickers " "                 | 3d. to 6d. per bushel ..   | 4d. per bushel     |
| Married couples .. ..           | 50s. to 60s. per week ..   | 55s. per week      |
| Female servants .. ..           | 15s. to 30s. per week ..   | 20s. per week      |
| Men cooks .. ..                 | 40s. to 60s. per week ..   | 45s. per week      |
| Stockmen .. ..                  | £78 to £156 per annum ..   | £104 per annum     |
| Generally useful men .. ..      | 25s. to 40s. per week ..   | 30s. per week      |
| Shearers, hand* .. ..           | 25s. to 40s. per 100 sheep | 30s. per 100 sheep |
| " machine* .. ..                | 25s. to 40s. per 100 sheep | 30s. per 100 sheep |
| Gardeners, market .. ..         | 25s. to 60s. per week ..   | 35s. per week      |
| " orchard .. ..                 | 30s. to 60s. per week ..   | 37s. 6d. per week  |
| Vineyard hands .. ..            | 30s. to 60s. per week ..   | 37s. 6d. per week  |

\* It is believed that in the case of some of the highest rates rations are not found.

**PASTORAL AND DAIRYING INDUSTRIES.**

**Live Stock.** The pastoral and dairying industries have always been important sources of wealth to the State, and their increasing value in recent years, despite the larger areas devoted to cultivation, indicates that both pastures and stock are, on the whole, steadily improving. The progress of stock breeding for 59 years is shown in the next table, which gives the numbers of horses, dairy cows, other cattle, sheep and pigs, and their numbers per head of population and per square mile in each of the last six census years and 1920.

**LIVE STOCK IN VICTORIA, 1861 TO 1920.**

| Year.                          | Horses<br>(including<br>Foals). | Cattle—     |           | Sheep.     | Pigs.   |
|--------------------------------|---------------------------------|-------------|-----------|------------|---------|
|                                |                                 | Dairy Cows. | Other.    |            |         |
|                                | Number.                         | Number.     | Number.   | Number.    | Number. |
| 1861 .. ..                     | 76,536                          | 197,332     | 525,000   | 5,780,896  | 61,259  |
| 1871 .. ..                     | 209,025                         | 212,193     | 564,534   | 10,477,976 | 180,109 |
| 1881 .. ..                     | 275,516                         | 329,198     | 957,069   | 10,360,285 | 241,936 |
| 1891 .. ..                     | 436,469                         | 395,192     | 1,387,689 | 12,692,843 | 282,457 |
| 1901 .. ..                     | 392,237                         | 521,612     | 1,080,772 | 10,841,790 | 350,370 |
| 1911 .. ..                     | 472,080                         | 668,777     | 878,792   | 12,882,665 | 333,281 |
| 1920 .. ..                     | 513,500                         | 623,652     | 1,007,468 | 14,422,745 | 186,810 |
| <i>Per Head of Population.</i> |                                 |             |           |            |         |
| 1861 .. ..                     | ·14                             | ·37         | ·97       | 10·70      | ·11     |
| 1871 .. ..                     | ·29                             | ·29         | ·77       | 14·32      | ·25     |
| 1881 .. ..                     | ·32                             | ·38         | 1·11      | 12·01      | ·28     |
| 1891 .. ..                     | ·38                             | ·35         | 1·22      | 11·13      | ·25     |
| 1901 .. ..                     | ·33                             | ·43         | ·90       | 9·03       | ·29     |
| 1911 .. ..                     | ·36                             | ·51         | ·67       | 9·79       | ·25     |
| 1920 .. ..                     | ·34                             | ·42         | ·67       | 9·64       | ·12     |
| <i>Per Square Mile.</i>        |                                 |             |           |            |         |
| 1861 .. ..                     | ·87                             | 2·25        | 5·97      | 65·78      | ·70     |
| 1871 .. ..                     | 2·38                            | 2·41        | 6·42      | 119·22     | 2·05    |
| 1881 .. ..                     | 3·14                            | 3·75        | 10·89     | 117·88     | 2·75    |
| 1891 .. ..                     | 4·97                            | 4·50        | 15·79     | 144·43     | 3·21    |
| 1901 .. ..                     | 4·46                            | 5·94        | 12·30     | 123·36     | 4·00    |
| 1911 .. ..                     | 5·37                            | 7·61        | 10·00     | 146·59     | 3·79    |
| 1920 .. ..                     | 5·84                            | 7·10        | 11·46     | 164·11     | 2·13    |

By reducing horses and cattle to an equivalent in sheep on the assumption that one of the former will eat as much as ten, and one of

the latter as much as six sheep, interesting comparisons of the carrying capacity of the land at different periods may be instituted. Calculations made on this basis show that each square mile carried an equivalent of 334 sheep in 1920 as against 306 in 1911 and 237 in 1881--an increase of nearly 41 per cent. in the carrying capacity of the land in 39 years.

Information relating to land occupied and cultivation and live stock thereon was collected in March, 1919. The land privately owned was summarized according to different sized holdings, and in the instances where Crown lands were held in conjunction therewith these were, regardless of size, scheduled with the holdings to which they were attached. The particulars are given in the two succeeding tables: -

SIZE OF HOLDINGS SHOWING AREAS UNDER CULTIVATION AND PASTURE, MARCH, 1919.

| Privately-owned Land.         |                     | Crown Land held in conjunction with that privately owned. | Total Area Occupied. | Area under—  |              |           |            |
|-------------------------------|---------------------|---|----------------------|--------------|--------------|-----------|------------|
| Size of Holdings. (In Acres.) | Number of Holdings. |   |                      | Cultivation. | Pasture, &c. |           |            |
|                               |                     | acres.  | acres.               | acres.       | acres.       |           |            |
| 1 and under                   | 5                   | 3,645   | 9,127                | 26,672       | 35,799       | 1,853     | 33,946     |
| 5 "                           | 15                  | 6,618   | 58,825               | 28,782       | 87,607       | 16,716    | 70,891     |
| 15 "                          | 30                  | 5,943   | 123,324              | 86,192       | 209,516      | 36,879    | 172,637    |
| 30 "                          | 50                  | 4,660   | 179,150              | 41,240       | 220,390      | 48,479    | 171,911    |
| 50 "                          | 100                 | 8,036   | 572,349              | 164,491      | 736,840      | 137,867   | 598,973    |
| 100 "                         | 200                 | 10,733  | 1,524,805            | 315,181      | 1,839,986    | 299,057   | 1,540,929  |
| 200 "                         | 300                 | 6,215   | 1,504,190            | 344,984      | 1,849,174    | 287,625   | 1,561,549  |
| 300 "                         | 321                 | 2,982   | 938,382              | 170,951      | 1,118,333    | 220,752   | 897,581    |
| 321 "                         | 400                 | 2,965   | 1,059,459            | 332,657      | 1,392,116    | 205,218   | 1,187,898  |
| 400 "                         | 500                 | 3,351   | 1,490,282            | 280,234      | 1,779,516    | 337,983   | 1,441,533  |
| 500 "                         | 600                 | 2,631   | 1,432,024            | 166,267      | 1,598,291    | 338,607   | 1,259,684  |
| 600 "                         | 641                 | 2,834   | 1,808,430            | 691,249      | 2,499,709    | 608,663   | 1,891,041  |
| 641 "                         | 700                 | 1,263   | 844,243              | 99,873       | 944,116      | 222,118   | 721,998    |
| 700 "                         | 800                 | 1,904   | 1,412,875            | 399,628      | 1,812,503    | 362,574   | 1,449,929  |
| 800 "                         | 900                 | 1,330   | 1,119,313            | 315,059      | 1,434,372    | 249,316   | 1,185,061  |
| 900 "                         | 1,000               | 1,212   | 1,146,895            | 256,602      | 1,403,497    | 271,859   | 1,131,638  |
| 1,000 "                       | 1,500               | 3,162   | 3,810,699            | 1,053,247    | 4,863,946    | 839,395   | 4,024,551  |
| 1,500 "                       | 2,000               | 1,218   | 2,086,245            | 507,274      | 2,593,519    | 362,089   | 2,231,430  |
| 2,000 "                       | 2,500               | 630   | 1,394,731            | 739,944      | 2,134,675    | 177,763   | 1,956,912  |
| 2,500 "                       | 3,000               | 348   | 941,466              | 325,157      | 1,266,623    | 123,172   | 1,143,451  |
| 3,000 "                       | 4,000               | 360   | 1,230,241            | 315,317      | 1,545,558    | 109,493   | 1,436,063  |
| 4,000 "                       | 5,000               | 147   | 654,148              | 75,771       | 729,919      | 37,759    | 692,160    |
| 5,000 "                       | 7,500               | 197   | 1,189,200            | 322,225      | 1,511,425    | 63,445    | 1,447,980  |
| 7,500 "                       | 10,000              | 93  | 807,406              | 56,652       | 864,058      | 19,589    | 844,489    |
| 10,000 "                      | 15,000              | 77  | 928,195              | 25,732       | 953,927      | 21,185    | 932,742    |
| 15,000 "                      | 20,000              | 40  | 693,265              | 7,871        | 701,136      | 6,390     | 694,746    |
| 20,000 "                      | 30,000              | 23  | 561,053              | 88,381       | 649,436      | 7,109     | 642,327    |
| 30,000 "                      | 40,000              | 7   | 233,111              | 831          | 233,942      | 642       | 233,300    |
| 40,000 "                      | 50,000              | 5   | 222,681              | 1,230        | 223,911      | 653       | 223,258    |
| Total .. ..                   |                     | 72,679  | 29,976,151           | 7,258,894    | 37,234,845   | 5,414,237 | 31,820,608 |

Size of holdings and live stock thereon.

The last table shows the areas devoted to cultivation and grazing on different-sized holdings in March, 1919, whilst the next table gives the numbers of horses, cattle, sheep, and pigs on these holdings at the same date.

SIZE OF HOLDINGS AND LIVE STOCK THEREON,  
MARCH, 1919.

| Size of Holdings.<br>(In Acres.) |        |    | Live Stock on Land Occupied. |             |               |            |         |
|----------------------------------|--------|----|------------------------------|-------------|---------------|------------|---------|
|                                  |        |    | Horses.                      | Cattle.     |               | Sheep.     | Pigs.   |
|                                  |        |    |                              | Dairy Cows. | Other Cattle. |            |         |
| 1 and under                      | 5      | .. | 3,841                        | 3,698       | 3,559         | 2,364      | 1,571   |
| 5                                | 15     | .. | 9,610                        | 10,669      | 9,317         | 6,237      | 7,232   |
| 15                               | 30     | .. | 11,169                       | 13,655      | 12,656        | 15,197     | 8,885   |
| 30                               | 50     | .. | 11,717                       | 17,094      | 15,377        | 27,268     | 10,414  |
| 50                               | 100    | .. | 26,410                       | 52,643      | 50,827        | 94,046     | 29,153  |
| 100                              | 200    | .. | 48,937                       | 112,768     | 116,237       | 392,328    | 53,337  |
| 200                              | 300    | .. | 36,650                       | 75,952      | 92,007        | 505,332    | 32,026  |
| 300                              | 321    | .. | 20,962                       | 30,565      | 42,541        | 323,686    | 13,728  |
| 321                              | 400    | .. | 23,050                       | 38,070      | 51,344        | 445,406    | 16,465  |
| 400                              | 500    | .. | 28,738                       | 37,257      | 60,366        | 609,441    | 14,842  |
| 500                              | 600    | .. | 25,170                       | 28,679      | 48,825        | 612,436    | 12,224  |
| 600                              | 641    | .. | 28,956                       | 16,657      | 33,517        | 518,208    | 9,111   |
| 641                              | 700    | .. | 13,041                       | 9,073       | 18,548        | 321,299    | 3,992   |
| 700                              | 800    | .. | 20,695                       | 15,071      | 31,805        | 569,303    | 6,839   |
| 800                              | 900    | .. | 15,710                       | 12,997      | 32,260        | 549,443    | 5,552   |
| 900                              | 1,000  | .. | 16,262                       | 11,999      | 28,249        | 573,028    | 4,488   |
| 1,000                            | 1,500  | .. | 47,959                       | 28,439      | 87,024        | 2,104,287  | 11,018  |
| 1,500                            | 2,000  | .. | 21,672                       | 14,012      | 46,997        | 1,351,246  | 4,218   |
| 2,000                            | 2,500  | .. | 11,258                       | 8,063       | 28,145        | 998,875    | 2,906   |
| 2,500                            | 3,000  | .. | 6,855                        | 4,515       | 21,419        | 591,827    | 1,184   |
| 3,000                            | 4,000  | .. | 7,530                        | 4,964       | 28,666        | 882,403    | 1,451   |
| 4,000                            | 5,000  | .. | 3,134                        | 2,362       | 17,496        | 468,856    | 387     |
| 5,000                            | 7,500  | .. | 5,840                        | 2,825       | 32,833        | 954,084    | 689     |
| 7,500                            | 10,000 | .. | 2,802                        | 1,191       | 17,969        | 641,654    | 161     |
| 10,000                           | 15,000 | .. | 4,468                        | 1,216       | 18,737        | 823,402    | 297     |
| 15,000                           | 20,000 | .. | 1,963                        | 915         | 8,974         | 561,238    | 128     |
| 20,000                           | 30,000 | .. | 1,346                        | 468         | 6,639         | 455,373    | 299     |
| 30,000                           | 40,000 | .. | 540                          | 201         | 1,879         | 130,413    | 14      |
| 40,000                           | 50,000 | .. | 384                          | 86          | 642           | 135,742    | 6       |
| Total                            | ..     | .. | 456,669                      | 556,104     | 964,855       | 15,664,421 | 251,617 |

The figures in the last two tables are exclusive of live stock travelling and those in cities, towns, &c. ; also of 1,651 holdings containing 899,289 acres of Crown lands not held in conjunction with any private land, on which there were 76,783 acres of cultivation, 5,373 horses,

13,147 cattle, 76,775 sheep, and 3,629 pigs. The position disclosed was that 66,372 persons holding up to 1,000 acres each of private land occupied in the aggregate 15,223,708 acres of such land, as well as 3,739,062 acres of Crown land—a total of 18,962,770 acres, or 51 per cent. of the total area in occupation. These occupiers controlled 67 per cent. of the total cultivation and 48 per cent. of the pasture, and possessed 75 per cent. of the horses, 88 per cent. of the dairy cows, 67 per cent. of the other cattle, 91 per cent. of the pigs, and 36 per cent. of the sheep.

Particulars of the size of holdings and cultivation thereon are given in the following table for the years 1913 and 1919:—

### SIZE OF HOLDINGS AND CULTIVATION THEREON.

| Privately-owned Land.         |        |                     |                | Crown Land held in conjunction with that privately owned. | Total Area Occupied. | Area under—  |              |
|-------------------------------|--------|---------------------|----------------|---|----------------------|--------------|--------------|
| Size of Holdings. (In acres.) | Year.  | Number of Holdings. | Area Occupied. |   |                      | Cultivation. | Pasture, &c. |
|                               |        |                     | Acres.         | Acres.  | Acres.               | Acres.       | Acres.       |
| 1 and under 100               | { 1913 | 26,113              | 915,493        | 374,511   | 1,290,004            | 245,498      | 1,044,506    |
|                               | { 1919 | 28,902              | 942,775        | 347,377   | 1,290,152            | 241,794      | 1,048,358    |
| 100 "                         | { 1913 | 18,483              | 3,819,680      | 1,216,829   | 5,036,509            | 875,525      | 4,160,984    |
|                               | { 1919 | 19,930              | 3,967,377      | 840,116   | 4,807,493            | 807,434      | 4,000,059    |
| 321 "                         | { 1913 | 11,212              | 5,475,942      | 1,191,890   | 6,667,832            | 1,424,020    | 5,243,812    |
|                               | { 1919 | 11,831              | 5,790,225      | 1,480,407   | 7,270,632            | 1,490,478    | 5,780,156    |
| 641 "                         | { 1913 | 5,221               | 4,187,010      | 1,241,667   | 5,428,677            | 1,075,000    | 4,353,677    |
|                               | { 1919 | 5,709               | 4,523,331      | 1,071,162   | 5,594,493            | 1,105,867    | 4,488,626    |
| 1,000 "                       | { 1913 | 4,544               | 6,748,985      | 1,852,529   | 8,601,514            | 1,546,611    | 7,054,903    |
|                               | { 1919 | 5,010               | 7,291,675      | 2,300,465   | 9,592,140            | 1,379,247    | 8,212,892    |
| 2,500 "                       | { 1913 | 820                 | 2,803,419      | 1,085,769   | 3,889,188            | 352,258      | 3,536,930    |
|                               | { 1919 | 855                 | 2,825,855      | 716,245   | 3,542,100            | 270,426      | 3,271,674    |
| 5,000 "                       | { 1913 | 297                 | 1,825,862      | 342,843   | 2,168,710            | 111,910      | 2,056,800    |
|                               | { 1919 | 290                 | 1,996,606      | 378,877   | 2,375,483            | 83,014       | 2,292,469    |
| 10,000 and upwards            | { 1913 | 151                 | 2,652,966      | 404,710   | 3,057,676            | 39,606       | 3,018,070    |
|                               | { 1919 | 152                 | 2,638,307      | 124,045   | 2,762,352            | 35,979       | 2,726,373    |
| Total                         | { 1913 | 66,811              | 28,429,357     | 7,710,753   | 36,140,110           | 5,670,428    | 30,469,682   |
|                               | { 1919 | 72,679              | 29,976,151     | 7,258,694   | 37,234,845           | 5,414,237    | 31,820,608   |

The number of holdings of over 10,000 acres was 152 in 1919, as compared with 151 in 1913, 175 in 1910, and 195 in 1906, and the aggregate areas comprised therein in the corresponding years were 2,638,307 acres, 2,652,966 acres, 3,298,227 acres, and 4,134,067 acres. The reduction in the period of thirteen years between March, 1906, and March, 1919, was equivalent to 22 per cent. in the number and 36 per cent. in the acreage of such estates. In all other holdings of the sizes mentioned in the above table there were increases in both numbers and acreage in the thirteen years referred to.

To illustrate the uses to which the land was applied in 1913 and 1919, various percentages relating to holdings of different sizes are given for those years in the succeeding table, which also shows the live stock carried by the holdings, reduced to their equivalent in sheep:—

SIZE OF HOLDINGS AND HOW UTILIZED, 1913 AND 1919.

| Size of Holdings of Private Land. (In Acres.) | Year.  | Percentage in each Division to Total of— |                         |                            |                             | Live Stock Grazed reduced to equivalent in Sheep. |                                |      |
|---|--------|--|-------------------------|----------------------------|-----------------------------|---|--------------------------------|------|
|   |        | Area Occupied.                           | Area under Cultivation. | Area used for Pasture, &c. | Equivalent in Sheep Grazed. | Total.  | Per Acre used for Grazing, &c. |      |
| 1 and under                                   | 100    | 1913                                     | 3·57                    | 4·33                       | 3·43                        | 7·08  | 1,766,873                      | 1·69 |
|   |        | 1919                                     | 3·46                    | 4·47                       | 3·29                        | 6·50  | 1,909,552                      | 1·82 |
| 100 „   | 321    | 1913                                     | 13·94                   | 15·44                      | 13·66                       | 17·67   | 4,410,283                      | 1·06 |
|   |        | 1919                                     | 12·91                   | 14·91                      | 12·57                       | 17·40   | 5,107,256                      | 1·28 |
| 321 „   | 641    | 1913                                     | 18·45                   | 25·12                      | 17·21                       | 17·14   | 4,278,079                      | ·82  |
|   |        | 1919                                     | 19·53                   | 27·53                      | 18·17                       | 17·48   | 5,132,920                      | ·89  |
| 641 „   | 1,000  | 1913                                     | 15·02                   | 18·95                      | 14·29                       | 12·15   | 3,031,015                      | ·70  |
|   |        | 1919                                     | 15·03                   | 20·43                      | 14·11                       | 12·37   | 3,630,165                      | ·81  |
| 1,000 „                                       | 2,500  | 1913                                     | 23·80                   | 27·27                      | 23·15                       | 20·34   | 5,076,868                      | ·72  |
|   |        | 1919                                     | 25·76                   | 25·47                      | 25·81                       | 22·28   | 6,539,378                      | ·80  |
| 2,500 „                                       | 5,000  | 1913                                     | 10·76                   | 6·22                       | 11·61                       | 9·22  | 2,300,276                      | ·65  |
|   |        | 1919                                     | 9·51                    | 5·00                       | 10·28                       | 8·84  | 2,594,808                      | ·79  |
| 5,000 „                                       | 10,000 | 1913                                     | 6·00                    | 1·98                       | 6·75                        | 6·95  | 1,735,240                      | ·84  |
|   |        | 1919                                     | 6·38                    | 1·53                       | 7·20                        | 6·85  | 2,011,066                      | ·88  |
| 10,000 and upwards                            |        | 1913                                     | 8·46                    | ·69                        | 9·90                        | 9·45  | 2,358,478                      | ·78  |
|   |        | 1919                                     | 7·42                    | ·66                        | 8·57                        | 8·28  | 2,431,720                      | ·89  |
| Total ..                                      | ..     | 1913                                     | 100·00                  | 100·00                     | 100·00                      | 100·00  | 24,957,112                     | ·82  |
|   |        | 1919                                     | 100·00                  | 100·00                     | 100·00                      | 100·00  | 29,356,865                     | ·92  |

Horses and cattle have been reduced to an equivalent in sheep on the assumption that one head of the former will eat as much as ten, and one of the latter as much as six sheep. On this basis every 100 acres under pasture was carrying the equivalent of 92 sheep in 1919, as compared with 82 in 1913 and 78 in 1910. The carrying capacity of holdings of all sizes has increased during the past nine years. Dairying is carried on principally in the small holdings, and pigs are most numerous where dairying prevails. In 1919, 57 per cent. of the dairy cows and 62 per cent. of the pigs were on holdings of not more than 320 acres.

Land occupied  
in different  
districts.

The following tables show the land in occupation in March, 1920, in districts, and the uses to which the land was applied :—

### LAND IN OCCUPATION IN EACH DISTRICT OF VICTORIA— MARCH, 1920.

(Areas of 1 acre and upwards.)

| District.        | Number of Occupiers. | Acres Occupied.            |                                   |                  |                                  | Total.     |
|------------------|----------------------|----------------------------|-----------------------------------|------------------|----------------------------------|------------|
|                  |                      | For Agricultural Purposes. | For Pasture.                      |                  | Other Purposes and Unproductive. |            |
|                  |                      |                            | Sown Grasses, Clover, or Lucerne. | Natural Grasses. |                                  |            |
| Central ..       | 18,088               | 452,936                    | 166,917                           | 2,113,915        | 129,951                          | 2,863,719  |
| North-Central .. | 5,810                | 116,905                    | 57,743                            | 1,947,129        | 64,196                           | 2,185,973  |
| Western ..       | 11,969               | 339,787                    | 146,312                           | 6,096,596        | 252,807                          | 6,835,502  |
| Wimmera ..       | 6,607                | 1,428,087                  | 2,251                             | 4,322,506        | 196,117                          | 5,948,961  |
| Mallee ..        | 6,436                | 1,533,359                  | 4,770                             | 3,732,136        | 547,727                          | 5,817,992  |
| Northern ..      | 12,153               | 1,216,711                  | 54,708                            | 4,025,200        | 38,490                           | 5,335,109  |
| North-Eastern .. | 5,459                | 127,537                    | 9,169                             | 4,411,160        | 211,276                          | 4,759,142  |
| Gippsland ..     | 8,818                | 143,029                    | 620,374                           | 3,779,766        | 751,366                          | 5,294,535  |
| Total ..         | 75,340               | 5,358,351                  | 1,062,244                         | 30,428,408       | 2,191,930                        | 39,040,933 |

#### PERCENTAGE OF TOTAL OCCUPIED IN EACH DISTRICT.

|                  |    |       |       |       |       |        |
|------------------|----|-------|-------|-------|-------|--------|
| Central ..       | .. | 15·81 | 5·83  | 73·82 | 4·54  | 100·00 |
| North-Central .. | .. | 5·35  | 2·64  | 89·07 | 2·94  | 100·00 |
| Western ..       | .. | 4·97  | 2·14  | 89·19 | 3·70  | 100·00 |
| Wimmera ..       | .. | 24·01 | ·04   | 72·66 | 3·29  | 100·00 |
| Mallee ..        | .. | 26·36 | ·08   | 64·15 | 9·41  | 100·00 |
| Northern ..      | .. | 22·81 | 1·02  | 75·45 | ·72   | 100·00 |
| North-Eastern .. | .. | 2·68  | ·19   | 92·69 | 4·44  | 100·00 |
| Gippsland ..     | .. | 2·70  | 11·72 | 71·39 | 14·19 | 100·00 |
| Total ..         | .. | 13·73 | 2·72  | 77·94 | 5·61  | 100·00 |

#### PERCENTAGE IN EACH DISTRICT OF TOTAL IN STATE.

|                  |        |        |        |        |        |        |
|------------------|--------|--------|--------|--------|--------|--------|
| Central ..       | 24·01  | 8·45   | 15·71  | 6·95   | 5·93   | 7·34   |
| North-Central .. | 7·71   | 2·18   | 5·44   | 6·40   | 2·93   | 5·60   |
| Western ..       | 15·89  | 6·34   | 13·77  | 20·03  | 11·53  | 17·51  |
| Wimmera ..       | 8·77   | 26·65  | ·21    | 14·21  | 8·95   | 15·24  |
| Mallee ..        | 8·54   | 28·62  | ·45    | 12·26  | 24·99  | 14·90  |
| Northern ..      | 16·13  | 22·71  | 5·15   | 13·23  | 1·75   | 13·66  |
| North-Eastern .. | 7·25   | 2·38   | ·87    | 14·50  | 9·64   | 12·19  |
| Gippsland ..     | 11·70  | 2·67   | 58·40  | 12·42  | 34·28  | 13·56  |
| Total ..         | 100·00 | 100·00 | 100·00 | 100·00 | 100·00 | 100·00 |

It will be seen from these tables that the largest area under cultivation and the largest proportion of cultivation to land occupied are

found in the Northern, Wimmera, and Mallee districts. Of the occupied land, about 23 per cent. in the Northern, 26 per cent. in the Mallee, and 24 per cent. in the Wimmera districts are devoted to agriculture, and these divisions supply 78 per cent. of the cultivation in Victoria. In the North-Central, Western, and North-Eastern districts the land occupied is largely devoted to grazing; and in Gippsland considerable attention is given to the cultivation of grasses, 58 per cent. of all the sown grasses in the State being found in that district.

**Areas occupied and stock thereon, in districts.** The next table contains particulars of the distribution of horses, cattle, and sheep on agricultural and pastoral lands in March, 1920.

AREA OCCUPIED AND STOCK THEREON, 1920.

| District.           | Areas Occupied for— |            | Number of— |           |            |
|---------------------|---------------------|------------|------------|-----------|------------|
|                     | Agriculture.        | Pasture.   | Horses.    | Cattle.   | Sheep.     |
| Central .. ..       | 452,936             | 2,280,832  | 105,383    | 267,030   | 1,297,745  |
| North-Central .. .. | 116,905             | 2,004,872  | 27,156     | 100,369   | 1,277,484  |
| Western .. ..       | 339,787             | 6,242,908  | 68,025     | 362,331   | 4,638,390  |
| Wimmera .. ..       | 1,428,087           | 4,324,757  | 73,810     | 55,143    | 2,244,038  |
| Mallee .. ..        | 1,533,359           | 3,736,906  | 59,203     | 38,865    | 648,266    |
| Northern .. ..      | 1,216,711           | 4,079,908  | 97,344     | 209,810   | 1,955,475  |
| North-Eastern .. .. | 127,537             | 4,420,329  | 35,863     | 228,168   | 1,032,920  |
| Gippsland .. ..     | 143,029             | 4,400,140  | 46,716     | 369,404   | 1,328,427  |
| Total .. ..         | 5,358,351           | 31,490,652 | 513,500    | 1,631,120 | 14,422,745 |

The area occupied does not include 2,191,930 acres which are mostly in an unproductive state. Compared with 1919, cattle increased by 2 per cent., but sheep decreased by 8½ per cent., and horses by 2 per cent.

The following return shows the live stock in Victoria in each of the last five years. Tables showing the stock classified in conjunction with holdings and sheep classified in different-sized flocks in March, 1919, are given on pages 511 and 524 :—

LIVE STOCK IN VICTORIA, 1916 TO 1920.

| Live Stock.                    | 1916.      | 1917.      | 1918.      | 1919.      | 1920.      |
|--------------------------------|------------|------------|------------|------------|------------|
| Horses (including foals) .. .. | 493,779    | 514,403    | 514,061    | 523,788    | 513,500    |
| Cattle—                        |            |            |            |            |            |
| Dairy Cows .. ..               | 451,088    | 488,086    | 534,388    | 592,079    | 623,652    |
| Other (including calves) .. .. | 592,516    | 687,012    | 836,661    | 1,004,465  | 1,007,468  |
| Sheep .. ..                    | 10,545,632 | 12,576,587 | 14,760,013 | 15,773,902 | 14,422,745 |
| Pigs .. ..                     | 192,002    | 254,436    | 323,159    | 267,819    | 186,810    |

In the subjoined table will be found a statement of the average and the range of prices ruling in Melbourne during the years 1918-19 and 1919-20 for live stock. The information has been extracted from the *Melbourne Stock and Station Journal* :—

PRICES IN MELBOURNE OF LIVE STOCK, 1918-19 AND 1919-20.

| Stock.                          | Prices in 1918-19. |            |         | Prices in 1919-20. |            |         |
|---------------------------------|--------------------|------------|---------|--------------------|------------|---------|
|                                 | Average.           | Range.     |         | Average.           | Range.     |         |
|                                 | £ s. d.            | £ s. d.    | £ s. d. | £ s. d.            | £ s. d.    | £ s. d. |
| <i>Horses.</i>                  |                    |            |         |                    |            |         |
| Extra heavy draught             | 35 15 0            | 30 0 0 to  | 40 10 0 | 33 5 0             | 29 0 0 to  | 35 0 0  |
| Medium draught ..               | 27 15 0            | 24 0 0 to  | 32 10 0 | 22 5 0             | 20 0 0 to  | 23 0 0  |
| Delivery cart ..                | 20 0 0             | 18 10 0 to | 22 0 0  | 18 10 0            | 17 0 0 to  | 21 0 0  |
| Saddle and harness              | 9 0 0              | 7 0 0 to   | 10 0 0  | 8 15 0             | 8 0 0 to   | 9 10 0  |
| Ponies ..                       | 14 5 0             | 12 0 0 to  | 15 10 0 | 11 2 6             | 10 0 0 to  | 13 0 0  |
| <i>Fat Cattle.</i>              |                    |            |         |                    |            |         |
| <i>Bullocks—</i>                |                    |            |         |                    |            |         |
| Extra prime ..                  | 26 11 0            | 21 12 0 to | 30 10 0 | 30 15 0            | 25 15 0 to | 37 18 0 |
| Prime ..                        | 23 2 0             | 19 2 0 to  | 26 5 0  | 26 17 0            | 23 5 0 to  | 32 0 0  |
| Good ..                         | 19 10 0            | 15 15 0 to | 22 15 0 | 22 17 0            | 20 15 0 to | 27 0 0  |
| Good light and<br>handy weights | 16 16 0            | 13 0 0 to  | 20 7 0  | 19 4 0             | 16 10 0 to | 23 0 0  |
| Second ..                       | 14 8 0             | 9 10 0 to  | 18 17 0 | 15 9 0             | 12 5 0 to  | 18 10 0 |
| <i>Cows—</i>                    |                    |            |         |                    |            |         |
| Best ..                         | 17 0 0             | 13 17 0 to | 21 10 0 | 19 10 0            | 15 5 0 to  | 24 10 0 |
| Others ..                       | 12 11 0            | 9 7 0 to   | 16 10 0 | 13 7 0             | 9 11 0 to  | 17 5 0  |
| <i>Dairy Cattle.</i>            |                    |            |         |                    |            |         |
| Best milkers ..                 | 20 2 0             | 16 5 0 to  | 24 0 0  | 23 5 0             | 16 0 0 to  | 30 10 0 |
| Springers, best ..              | 15 10 0            | 12 17 0 to | 21 2 0  | 14 4 0             | 11 10 0 to | 17 0 0  |
| <i>Fat Sheep.</i>               |                    |            |         |                    |            |         |
| <i>Wethers (cross)—</i>         |                    |            |         |                    |            |         |
| Extra prime ..                  | 1 18 6             | 1 8 6 to   | 2 16 6  | 2 0 10             | 1 6 6 to   | 3 5 0   |
| Prime ..                        | 1 13 6             | 1 4 0 to   | 2 8 9   | 1 15 7             | 1 2 6 to   | 2 18 0  |
| Good ..                         | 1 9 0              | 1 0 6 to   | 2 1 6   | 1 10 1             | 0 17 6 to  | 2 8 6   |
| <i>Ewes (cross)—</i>            |                    |            |         |                    |            |         |
| Extra prime ..                  | 1 14 9             | 1 5 6 to   | 2 15 4  | 1 15 11            | 1 2 3 to   | 2 16 6  |
| Prime ..                        | 1 9 8              | 1 0 6 to   | 2 5 1   | 1 10 0             | 0 18 4 to  | 2 7 6   |
| Good ..                         | 1 4 4              | 0 16 3 to  | 1 16 10 | 1 3 10             | 0 14 0 to  | 1 13 6  |
| <i>Wethers (merino)—</i>        |                    |            |         |                    |            |         |
| Extra prime ..                  | 1 14 0             | 1 5 6 to   | 2 8 10  | 1 12 7             | 0 19 9 to  | 2 12 6  |
| Prime ..                        | 1 9 8              | 1 1 3 to   | 2 3 9   | 1 7 0              | 0 15 0 to  | 2 3 0   |
| Good ..                         | 1 4 9              | 0 17 6 to  | 1 18 6  | 1 0 3              | 0 10 6 to  | 1 10 6  |
| Ewes (merino) best              | 1 3 0              | 0 16 6 to  | 1 14 6  | 1 3 10             | 0 14 0 to  | 2 2 0   |
| <i>Fat Lambs.</i>               |                    |            |         |                    |            |         |
| Extra prime ..                  | 1 8 7              | 1 1 10 to  | 2 1 9   | 1 11 4             | 1 2 3 to   | 2 6 0   |
| Prime ..                        | 1 4 1              | 0 18 0 to  | 1 13 9  | 1 6 0              | 0 18 0 to  | 1 19 6  |
| Good ..                         | 0 19 6             | 0 13 9 to  | 1 8 6   | 1 0 10             | 0 12 6 to  | 1 13 0  |
| Second ..                       | 0 15 4             | 0 9 6 to   | 1 4 6   | 0 15 3             | 0 7 6 to   | 1 5 0   |
| <i>Pigs.</i>                    |                    |            |         |                    |            |         |
| <i>Back Fattens—</i>            |                    |            |         |                    |            |         |
| Extra heavy prime               | 6 9 0              | 5 0 0 to   | 8 15 0  | 11 15 0            | 7 15 0 to  | 14 12 0 |
| Extra prime and<br>weighty ..   | 4 11 0             | 4 0 0 to   | 5 10 0  | 9 5 0              | 5 0 0 to   | 12 2 0  |
| <i>Baconers—</i>                |                    |            |         |                    |            |         |
| Extra prime ..                  | 4 2 0              | 3 11 0 to  | 5 0 0   | 6 5 0              | 4 17 0 to  | 7 18 0  |
| Prime ..                        | 3 11 0             | 2 13 0 to  | 4 10 0  | 5 7 0              | 4 0 0 to   | 6 12 0  |
| Porkers ..                      | 2 6 0              | 1 15 0 to  | 2 16 0  | 3 5 0              | 2 11 0 to  | 4 0 0   |

The average prices of stock were generally higher in 1919-20 than in 1918-19.

*Production.*

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The following is a statement of the stock slaughtered on farms and stations, as well as in municipal abattoirs, during each of the last ten years :—

**STOCK SLAUGHTERED, 1910 TO 1919.**

| Year.      | Number Slaughtered. |         |         |
|------------|---------------------|---------|---------|
|            | Sheep and Lambs.    | Cattle. | Pigs.   |
| 1910 .. .. | 4,245,881           | 319,665 | 257,287 |
| 1911 .. .. | 4,348,363           | 347,926 | 345,547 |
| 1912 .. .. | 4,153,269           | 368,512 | 331,364 |
| 1913 .. .. | 4,742,231           | 410,694 | 286,931 |
| 1914 .. .. | 4,550,272           | 470,011 | 260,017 |
| 1915 .. .. | 2,973,803           | 356,174 | 216,003 |
| 1916 .. .. | 2,647,200           | 247,781 | 214,228 |
| 1917 .. .. | 2,499,002           | 217,480 | 298,073 |
| 1918 .. .. | 3,581,460           | 223,340 | 377,390 |
| 1919 .. .. | 6,324,490           | 362,475 | 329,190 |

The purposes for which the slaughtered animals were used were as follows :—

**PURPOSES FOR WHICH STOCK WERE SLAUGHTERED, 1910 TO 1919.**

| Year. | For Butcher and Private Use. |         |         | For Freezing. |         |       | For Preserving and Salting. |         |         | For Boiling Down. |         |       |
|-------|------------------------------|---------|---------|---------------|---------|-------|-----------------------------|---------|---------|-------------------|---------|-------|
|       | Sheep.                       | Cattle. | Pigs.   | Sheep.        | Cattle. | Pigs. | Sheep.                      | Cattle. | Pigs.   | Sheep.            | Cattle. | Pigs. |
| 1910  | 2,592,514                    | 302,282 | 91,850  | 1,573,516     | 13,009  | 1,557 | 41,420                      | 3,624   | 163,844 | 38,431            | 750     | 36    |
| 1911  | 2,678,517                    | 321,251 | 134,546 | 1,578,132     | 17,354  | 1,609 | 69,486                      | 7,640   | 209,177 | 22,228            | 1,681   | 215   |
| 1912  | 2,610,665                    | 344,706 | 148,394 | 1,409,243     | 10,793  | 3,120 | 104,472                     | 10,129  | 179,717 | 28,889            | 2,884   | 133   |
| 1913  | 2,587,895                    | 355,868 | 107,089 | 2,107,180     | 36,692  | ..    | 41,034                      | 15,383  | 179,710 | 6,122             | 2,751   | 132   |
| 1914  | 2,783,802                    | 385,548 | 76,464  | 1,710,152     | 64,838  | 1,713 | 34,141                      | 15,276  | 181,756 | 22,177            | 4,349   | 84    |
| 1915  | 2,910,848                    | 338,475 | 86,580  | 47,546        | 175     | ..    | 9,762                       | 12,082  | 129,259 | 5,647             | 5,442   | 164   |
| 1916  | 2,206,952                    | 233,910 | 46,922  | 418,418       | 8,243   | 156   | 20,925                      | 4,850   | 167,003 | 905               | 778     | 147   |
| 1917  | 2,168,582                    | 209,909 | 99,053  | 196,267       | 1,124   | 971   | 133,140                     | 5,540   | 197,880 | 1,013             | 907     | 169   |
| 1918  | 2,353,153                    | 195,328 | 174,689 | 668,970       | 3,520   | 615   | 553,090                     | 23,580  | 201,900 | 6,247             | 912     | 186   |
| 1919  | 1,988,618                    | 281,636 | 126,509 | 4,001,500     | 44,437  | 1,000 | 283,966                     | 32,580  | 201,480 | 50,406            | 3,822   | 201   |

The increase in the number of sheep and lambs slaughtered for freezing which took place prior to 1915, and which, though checked by a drought in 1914, is now again apparent, shows the growing importance of the frozen meat trade of the State. Of the 6,324,490 sheep and lambs slaughtered in Victoria in 1919, 4,001,500, or 63 per cent., were frozen, as compared with 651,914; or 23 per cent., in 1906. In 1919-20 the oversea exports included 169,180,974 lbs. of mutton and lamb, valued at £3,757,882.

The soil and climate of Victoria are well suited to the economical production of both mutton and lamb, and, as there is practically no limit to the demand for these products in Europe, the possibilities for those engaged in raising sheep for export are very great, especially as the number of sheep in the world is not keeping pace with the increase in population. The importance of this

**Mutton and Lamb frozen for Export.**

export trade to Victorian sheep owners is evidenced by the figures in the appended statement showing the numbers of carcasses frozen for export in 1894, a few years after the inception of the trade, and in each of the past nine years. The quantity frozen for export in 1919 was much greater than in any previous year, but in the four years 1915 to 1918 it was small in comparison with earlier years. The chief reasons for this were, in 1915, the drought of the preceding year, and in 1916, 1917, and 1918, the scarcity of shipping.

## MUTTON AND LAMB FROZEN FOR EXPORT.

| Year.      | Number of Carcasses frozen for Export. |           |           |
|------------|--|-----------|-----------|
|            | Mutton.                                | Lamb.     | Total.    |
| 1894 .. .. | 250,000                                | ..        | 250,000   |
| 1911 .. .. | 624,940                                | 953,192   | 1,578,132 |
| 1912 .. .. | 566,541                                | 842,702   | 1,409,243 |
| 1913 .. .. | 948,162                                | 1,159,018 | 2,107,180 |
| 1914 .. .. | 653,329                                | 1,056,823 | 1,710,152 |
| 1915 .. .. | ..                                     | 47,546    | 47,546    |
| 1916 .. .. | 52,724                                 | 365,694   | 418,418   |
| 1917 .. .. | 66,730                                 | 129,537   | 196,267   |
| 1918 .. .. | 401,382                                | 267,588   | 668,970   |
| 1919 .. .. | 2,468,090                              | 1,533,410 | 4,001,500 |

**Dairying.** The dairying industry is one of the principal sources of the wealth of the community. The value of dairy produce in 1919 was £9,262,710, as compared with £8,521,590 in the previous year, £7,213,950 in 1917, £6,898,630 in 1916, £4,952,846 in 1915, £4,937,610 in 1914, and £5,163,416 in 1913. The following table shows the numbers of cowkeepers and cows, and the total production of butter and cheese, in each of the last ten years:—

## DAIRYING, 1910 TO 1919.

| Year.      | Number of Cow-keepers. | Number of Dairy Cows at end of Year. | Butter made. | Cheese made. |
|------------|------------------------|--------------------------------------|--------------|--------------|
|            |                        |                                      | lbs.         | lbs.         |
| 1910 .. .. | 52,610                 | 668,777                              | 70,603,787   | 4,530,893    |
| 1911 .. .. | 53,319                 | 699,555                              | 86,500,474   | 4,549,843    |
| 1912 .. .. | 54,447                 | 655,939                              | 67,655,834   | 4,176,778    |
| 1913 .. .. | 55,423                 | 656,080                              | 73,381,567   | 4,856,321    |
| 1914 .. .. | 55,553                 | 610,517                              | 62,421,288   | 4,395,502    |
| 1915 .. .. | 53,381                 | 451,088                              | 42,345,113   | 3,497,278    |
| 1916 .. .. | 53,940                 | 488,086                              | 59,568,771   | 5,869,562    |
| 1917 .. .. | 54,348                 | 534,388                              | 64,405,711   | 5,285,003    |
| 1918 .. .. | 58,766                 | 592,079                              | 66,240,403   | 6,055,964    |
| 1919 .. .. | 56,659                 | 623,652                              | 60,218,945   | 7,735,023    |

The reduction in the figures for 1915 was due to a severe drought which occurred in the preceding year.

Butter and cheese made on farms.

The next table shows the quantities of butter and cheese made on farms in each of the past ten years :—

**BUTTER AND CHEESE MADE ON FARMS.**

| Year. |    |    |    | Butter.   | Cheese.   |
|-------|----|----|----|-----------|-----------|
|       |    |    |    | lbs.      | lbs.      |
| 1910  | .. | .. | .. | 5,540,271 | 1,823,263 |
| 1911  | .. | .. | .. | 5,233,355 | 1,502,582 |
| 1912  | .. | .. | .. | 5,428,690 | 2,004,865 |
| 1913  | .. | .. | .. | 5,679,670 | 2,008,370 |
| 1914  | .. | .. | .. | 4,845,529 | 1,722,506 |
| 1915  | .. | .. | .. | 4,750,866 | 1,367,243 |
| 1916  | .. | .. | .. | 5,080,408 | 1,680,929 |
| 1917  | .. | .. | .. | 4,704,151 | 1,311,893 |
| 1918  | .. | .. | .. | 5,116,733 | 1,031,514 |
| 1919  | .. | .. | .. | 4,743,906 | 937,030   |

Butter and cheese made in factories.

The quantities of butter, cheese, and concentrated, condensed, and powdered milk made, and of cream sold, in factories during each of the last ten years were as follows :—

**BUTTER, CHEESE, ETC., MADE IN FACTORIES, 1910 TO 1919-20.**

| Year.   |    |    |    | Butter made. | Cream sold. | Cheese made. | Concentrated, Condensed and Powdered Milk made. |
|---------|----|----|----|--------------|-------------|--------------|---|
|         |    |    |    | lbs.         | gallons.    | lbs.         | lbs.  |
| 1910    | .. | .. | .. | 65,063,516   | 29,910      | 2,707,630    | 3,004,842                                       |
| 1911    | .. | .. | .. | 81,267,119   | 34,028      | 3,047,261    | 13,697,691                                      |
| 1912    | .. | .. | .. | 62,227,144   | 41,952      | 2,171,913    | 18,456,094                                      |
| 1913    | .. | .. | .. | 67,701,897   | 45,762      | 2,847,951    | 21,479,263                                      |
| 1914    | .. | .. | .. | 57,575,759   | 54,388      | 2,672,996    | 19,093,750                                      |
| 1915    | .. | .. | .. | 37,594,247   | 27,934      | 2,130,035    | 16,690,426                                      |
| 1916-17 | .. | .. | .. | 54,488,363   | 68,842      | 4,188,633    | 33,280,635                                      |
| 1917-18 | .. | .. | .. | 59,701,560   | 60,890      | 3,973,110    | 37,805,070                                      |
| 1918-19 | .. | .. | .. | 61,123,670   | 77,830      | 5,024,450    | 48,581,340                                      |
| 1919-20 | .. | .. | .. | 55,475,039   | 147,736     | 6,797,993    | 44,219,389                                      |

NOTE.—In addition, 965,360 lbs. of casein were made in 1919-20.

The quantities of milk in gallons received at factories and creameries were 149,490,103 in 1910, 191,128,362 in 1911, 150,079,730 in 1912, 166,339,178 in 1913, 144,317,040 in 1914, 93,846,750 in 1915, 138,746,860 in 1916-17, 151,615,600 in 1917-18, 157,814,940 in 1918-19, and 147,455,930 in 1919-20.

Exports of butter and cheese.

In 1919-20 there were exported from Victoria to countries outside Australia 24,170,187 lbs. of butter, valued at £2,089,296, all of which was Australian produce. The quantity sent to the United Kingdom was 16,122,280 lbs., valued at

£1,255,184. The quantity of cheese exported to oversea countries was 3,762,131 lbs., and the value thereof £184,107.

**Wool production.** Information relating to the wool clip is obtained direct from the growers, and an allowance is made for the wool on Victorian skins, both stripped and exported. On this basis the production of wool in 1919-20 and earlier seasons was as follows :—

**VICTORIAN WOOL CLIP AND ESTIMATED TOTAL PRODUCTION FOR THE SEASON, 1919-20.**

| Districts.  | Wool Clip, 1919-20. |             |             |             |
|---|---------------------|-------------|-------------|-------------|
|   | Sheep.              | Lambs.      | Total.      |             |
|   | lbs.                | lbs.        | lbs.        |             |
| Central .. ..   | 7,161,215           | 568,806     | 7,730,021   |             |
| North-Central .. ..   | 7,289,633           | 635,241     | 7,924,874   |             |
| Western .. ..   | 30,822,487          | 2,157,713   | 32,980,200  |             |
| Wimmera .. ..   | 15,888,551          | 1,163,632   | 17,052,183  |             |
| Mallee .. ..  | 5,219,749           | 363,205     | 5,582,954   |             |
| Northern .. ..  | 13,324,443          | 1,128,874   | 14,453,317  |             |
| North-Eastern .. ..   | 5,393,250           | 506,926     | 5,900,176   |             |
| Gippsland .. ..   | 6,183,285           | 572,579     | 6,755,864   |             |
| Total Clip  | 1919-20             | 91,282,613  | 7,096,976   | 98,379,589  |
|   | 1918-19             | 92,094,437  | 8,891,994   | 100,986,431 |
|   | 1917-18             | 80,379,680  | 9,426,152   | 89,805,832  |
|   | 1916-17             | 70,647,862  | 8,199,062   | 78,846,924  |
|   | 1915-16             | 55,801,193  | 3,725,255   | 59,526,448  |
|   | 1914-15             | 65,005,305  | 5,085,597   | 70,090,902  |
|   | 1913-14             | 74,157,932  | 5,868,688   | 80,026,620  |
|   | 1912-13             | 65,666,190  | 4,170,780   | 69,836,970  |
| 1911-12   | 81,902,229          | 6,504,990   | 88,407,219  |             |
| 1910-11   | 73,959,226          | 6,115,044   | 80,074,270  |             |
|   | 1916-17.            | 1917-18.    | 1918-19.    | 1919-20.    |
|   | lbs.                | lbs.        | lbs.        | lbs.        |
| Wool clip .. ..   | 78,846,924          | 89,805,832  | 100,986,431 | 98,379,589  |
| Wool stripped from Victorian skins and on Victorian skins exported (estimated) .. | 15,998,100          | 15,618,850  | 25,660,630  | 34,467,578  |
| Total production ..   | 94,845,024          | 105,424,682 | 126,647,061 | 132,847,167 |
| Total value ..  | £5,927,814          | £6,410,077  | £7,621,413  | £7,908,007  |

The wool produced last season was 5 per cent. more than in the previous season. In 1919 there were 12,275,005 sheep and 3,141,655

lambs shorn, as compared with 12,425,095 sheep and 3,843,701 lambs in 1918, and 10,615,505 sheep and 3,897,752 lambs in 1917.

Weight of a fleece.

The next table shows the production of wool per sheep and per lamb shorn for each of the last ten years :—

WEIGHT OF A FLEECE, 1910 TO 1919.

| Year.        | Weight of a Fleece. |        |                           |
|--------------|---------------------|--------|---------------------------|
|              | Sheep.              | Lambs. | Sheep and Lambs combined. |
|              | lbs.                | lbs.   | lbs.                      |
| 1910 .. .. . | 6·99                | 2·50   | 6·15                      |
| 1911 .. .. . | 7·28                | 2·33   | 6·29                      |
| 1912 .. .. . | 6·31                | 2·20   | 5·68                      |
| 1913 .. .. . | 7·50                | 2·35   | 6·46                      |
| 1914 .. .. . | 6·37                | 2·16   | 5·58                      |
| 1915 .. .. . | 6·44                | 2·31   | 5·79                      |
| 1916 .. .. . | 7·53                | 2·55   | 6·26                      |
| 1917 .. .. . | 7·57                | 2·42   | 6·19                      |
| 1918 .. .. . | 7·41                | 2·31   | 6·21                      |
| 1919 .. .. . | 7·44                | 2·26   | 6·38                      |

The production of wool in Victoria, the quantity and value of that used locally for manufacturing purposes and the balance available for export in each of the last ten years were as follows :—

WOOL PRODUCTION : HOME CONSUMPTION AND EXPORTABLE BALANCE, 1910 TO 1919.

| Year.   | Production. |           | Used in Manufactures. |         | Available for Export. |           |
|---------|-------------|-----------|-----------------------|---------|-----------------------|-----------|
|         | Quantity.   | Value.    | Quantity.             | Value.  | Quantity.             | Value.    |
|         | lbs.        | £         | lbs.                  | £       | lbs.                  | £         |
| 1910 .. | 101,803,644 | 4,318,100 | 5,309,730             | 186,648 | 96,493,914            | 4,131,452 |
| 1911 .. | 110,463,041 | 4,142,747 | 5,774,870             | 228,920 | 104,688,171           | 3,913,827 |
| 1912 .. | 88,762,612  | 3,751,083 | 5,535,483             | 247,943 | 83,227,129            | 3,503,140 |
| 1913 .. | 106,833,690 | 4,032,954 | 5,917,410             | 240,395 | 100,916,280           | 3,792,559 |
| 1914 .. | 95,406,867  | 3,410,913 | 6,118,450             | 254,935 | 89,288,417            | 3,155,978 |
| 1915 .. | 82,330,198  | 4,066,003 | 11,052,250            | 460,510 | 71,277,948            | 3,605,493 |
| 1916 .. | 94,845,024  | 5,927,814 | 8,669,460             | 433,473 | 86,175,564            | 5,494,341 |
| 1917 .. | 105,424,682 | 6,410,077 | 7,344,030             | 397,800 | 98,080,652            | 6,012,277 |
| 1918 .. | 126,647,061 | 7,621,413 | 7,823,050             | 423,748 | 118,824,011           | 7,197,665 |
| 1919 .. | 132,847,167 | 7,908,007 | 11,300,400            | 612,105 | 121,546,767           | 7,295,902 |

Prices  
wool.

The following information as to the average prices of wool per lb. which have prevailed during the past three seasons has been obtained from Melbourne wool brokers :—

## PRICES OF WOOL, 1917-18 to 1919-20.

| Class of Wool.                       | Average Price per lb. in— |               |               |
|--------------------------------------|---------------------------|---------------|---------------|
|                                      | 1917-18.                  | 1918-19.      | 1919-20.      |
| <b>GREASY MERINO.</b>                |                           |               |               |
| Extra Super (Western District)       | 28d. to 31½d.             | 28d. to 31½d. | 28d. to 31½d. |
| Super .. .. .                        | 24d. to 27d.              | 24d. to 27d.  | 24d. to 27d.  |
| Good .. .. .                         | 18d. to 23d.              | 18d. to 23d.  | 18d. to 23d.  |
| Average .. .. .                      | 15d. to 17d.              | 15d. to 17d.  | 15d. to 17d.  |
| Wasty and Inferior ..                | 10d. to 12d.              | 10d. to 12d.  | 10d. to 12d.  |
| Extra Super Lambs ..                 | 23d. to 26½d.             | 24d. to 27½d. | 23d. to 26½d. |
| Super Lambs .. .. .                  | 18d. to 22d.              | 19d. to 23d.  | 18d. to 22d.  |
| Good Lambs .. .. .                   | 15d. to 17d.              | 15d. to 18d.  | 15d. to 17d.  |
| Average Lambs .. .. .                | 11d. to 14d.              | 11d. to 14d.  | 11d. to 14d.  |
| Inferior Lambs .. .. .               | 6d. to 9d.                | 6d. to 9d.    | 6d. to 9d.    |
| <b>GREASY CROSSBRED.</b>             |                           |               |               |
| Extra Super Comebacks ..             | 26d. to 29½d.             | 27d. to 30½d. | 26d. to 29d.  |
| Super Comebacks .. ..                | 23d. to 27d.              | 23d. to 27d.  | 23d. to 27d.  |
| Fine Crossbred .. .. .               | 20d. to 24d.              | 20d. to 24d.  | 20d. to 24d.  |
| Medium Crossbred .. ..               | 15d. to 19d.              | 15d. to 19d.  | 15d. to 19d.  |
| Coarse Crossbred and Lincoln         | 13d. to 15d.              | 13d. to 15d.  | 13d. to 15d.  |
| Super Fine Crossbred Lambs ..        | 16d. to 20d.              | 16d. to 20d.  | 16d. to 20d.  |
| Good Crossbred Lambs .. ..           | 12d. to 15d.              | 12d. to 15d.  | 12d. to 15d.  |
| Coarse and Lincoln Lambs ..          | 10d. to 12d.              | 10d. to 12d.  | 10d. to 12d.  |
| <b>SCOURED.</b>                      |                           |               |               |
| Extra Super Fleece .. ..             | 42d. to 47½d.             | 42d. to 48d.  | 42d. to 48d.  |
| Super Fleece .. .. .                 | 38d. to 41d.              | 38d. to 41d.  | 38d. to 41d.  |
| Good Fleece .. .. .                  | 34d. to 37d.              | 34d. to 37d.  | 34d. to 37d.  |
| Average Fleece .. .. .               | 28d. to 33d.              | 28d. to 33d.  | 28d. to 33d.  |
| <b>RECORD PRICES FOR THE SEASON.</b> |                           |               |               |
| Greasy Merino Fleece .. ..           | 31½d.                     | 31½d.         | 31½d.         |
| „ Comeback Fleece .. ..              | 29½d.                     | 30½d.         | 29d.          |
| „ Merino Lambs .. .. .               | 26½d.                     | 27½d.         | 26½d.         |
| „ Comeback Lambs .. .. .             | 24½d.                     | 23½d.         | 22½d.         |
| Scoured Fleece .. .. .               | 47½d.                     | 48d.          | 48d.          |

**Flocks of sheep in districts.** Returns which were collected in March, 1919, give full information in regard to the flocks of sheep in Victoria. The numbers of flocks and of sheep at that time in the different districts were as follows :—

## NUMBERS OF FLOCKS AND OF SHEEP IN DISTRICTS, 1919.

| District.           | Number of— |            | Average Number of Sheep to a Flock. | Percentage of— |        |
|---------------------|------------|------------|-------------------------------------|----------------|--------|
|                     | Flocks.    | Sheep.     |                                     | Flocks.        | Sheep. |
| Central .. ..       | 3,384      | 1,377,304  | 407                                 | 11·94          | 8·75   |
| North-Central .. .. | 2,434      | 1,371,189  | 563                                 | 8·59           | 8·71   |
| Western .. ..       | 6,080      | 4,848,391  | 797                                 | 21·46          | 30·80  |
| Wimmera .. ..       | 4,282      | 2,440,595  | 570                                 | 15·11          | 15·50  |
| Mallee .. ..        | 1,514      | 840,734    | 555                                 | 5·34           | 5·34   |
| Northern .. ..      | 5,286      | 2,499,582  | 473                                 | 18·65          | 15·88  |
| North-Eastern .. .. | 2,449      | 1,038,230  | 424                                 | 8·64           | 6·60   |
| Gippsland .. ..     | 2,909      | 1,325,171  | 455                                 | 10·27          | 8·42   |
| Total .. ..         | 28,338     | 15,741,196 | 555                                 | 100·00         | 100·00 |

The figures do not include 32,706 sheep which were travelling on roads or were located in cities and towns. Flocks were more numerous in all districts, and their average size was greater in every district, except the Central, in 1919 than in 1913. In the six years referred to the number of flocks increased by 895 in the Central, 357 in the North-Central, 506 in the Western, 251 in the Wimmera, 156 in the Mallee, 562 in the Northern, 301 in the North-Eastern, and 476 in the Gippsland districts, the total increase for the State being 3,504, or 14 per cent. The average number of sheep to a flock showed a very marked increase in the North-Central, Wimmera, Mallee, Northern, and North-Eastern districts, and a slight increase in the Western and Gippsland districts, while there was a small reduction in the Central district. The average number of sheep in a flock was 555 in 1919, as

compared with 477 in 1917, 478 in 1913, 531 in 1910, 642 in 1908, and 706 in 1906. The number of sheep in the State increased from 11,892,224 in 1913 to 15,773,902 in 1919. All divisions of the State showed substantial increases during the six years under review.

Excluding sheep travelling and those in cities and towns, the following table contains a classification for the whole State of sheep according to sizes of flocks :—

Sizes of  
Flocks.

### SHEEP ACCORDING TO SIZES OF FLOCKS, 1919.

| Size of Flocks.       | Number of— |            | Percentage of— |        |
|-----------------------|------------|------------|----------------|--------|
|                       | Flocks.    | Sheep.     | Flocks.        | Sheep. |
| Under 500 .. ..       | 20,430     | 3,185,381  | 72·10          | 20·24  |
| 500 to 1,000 .. ..    | 4,339      | 2,972,551  | 15·31          | 18·88  |
| 1,000 „ 2,000 .. ..   | 2,233      | 3,005,850  | 7·88           | 19·10  |
| 2,000 „ 5,000 .. ..   | 955        | 2,733,598  | 3·37           | 17·35  |
| 5,000 „ 10,000 .. ..  | 247        | 1,691,768  | ·87            | 10·75  |
| 10,000 „ 20,000 .. .. | 111        | 1,516,830  | ·39            | 9·64   |
| Over 20,000 .. ..     | 23         | 635,218    | ·08            | 4·04   |
| Total .. ..           | 28,338     | 15,741,196 | 100·00         | 100·00 |

A comparison of the above figures with those for 1913 shows that flocks of less than 500 sheep had increased by 848, those of 500 to 1,000 by 1,323, 1,000 to 2,000 by 931, 2,000 to 5,000 by 327, 5,000 to 10,000 by 56, and those of 10,000 to 20,000 by 21. Flocks of 20,000 and over had decreased by 2. During the six years under review the number of sheep in flocks of from 1,000 to 2,000 increased from 1,844,901 to 3,005,850, or by 63 per cent. The increase in the number of sheep in the whole State in the same period was 33 per cent. Twenty-one of the 23 largest and 70 of the 111 second largest flocks in 1919 were in the Western District.

Areas of holdings and numbers and sizes of flocks of sheep.

The numbers and sizes of flocks of sheep on holdings of various areas in March, 1919, are given in the next table. The striking feature of this return is the large number of flocks which were depastured on farms of from 100 to 500 acres. The flocks on these farms numbered 12,093, or 43 per cent. of the total for the State.

AREAS OF HOLDINGS AND NUMBERS AND SIZES OF FLOCKS THEREON, 1919.

| Area of Holdings.<br>(Acres.) | Number and Size of Flocks. |                  |                   |                  |                   |                  |                   |                  |                   |                  |                   |                  |                   |                  |                   |                  |
|-------------------------------|----------------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|
|                               | Under 500.                 |                  | 500 to 1,000.     |                  | 1,000 to 2,000.   |                  | 2,000 to 5,000.   |                  | 5,000 to 10,000.  |                  | 10,000 to 20,000. |                  | Over 20,000.      |                  | Total.            |                  |
|                               | Number of Flocks.          | Number of Sheep. | Number of Flocks. | Number of Sheep. | Number of Flocks. | Number of Sheep. | Number of Flocks. | Number of Sheep. | Number of Flocks. | Number of Sheep. | Number of Flocks. | Number of Sheep. | Number of Flocks. | Number of Sheep. | Number of Flocks. | Number of Sheep. |
| 1 and under 50                | 1,470                      | 48,405           | 6                 | 4,075            | ..                | ..               | ..                | ..               | ..                | ..               | ..                | ..               | ..                | ..               | 1,476             | 52,480           |
| 50 ,, 100                     | 1,504                      | 86,145           | 7                 | 4,120            | 2                 | 2,370            | 1                 | 2,140            | ..                | ..               | ..                | ..               | ..                | ..               | 1,514             | 94,775           |
| 100 ,, 500                    | 11,133                     | 1,577,198        | 853               | 543,918          | 95                | 116,890          | 9                 | 25,001           | 2                 | 14,300           | 1                 | 10,800           | ..                | ..               | 12,093            | 2,288,107        |
| 500 ,, 1,000                  | 4,939                      | 1,112,085        | 1,914             | 1,306,431        | 515               | 635,267          | 37                | 90,921           | 2                 | 14,672           | ..                | ..               | ..                | ..               | 7,407             | 3,159,376        |
| 1,000 ,, 5,000                | 1,376                      | 359,730          | 1,552             | 1,109,341        | 1,593             | 2,210,053        | 813               | 2,278,234        | 63                | 381,850          | 4                 | 53,679           | 1                 | 38,753           | 5,402             | 6,431,840        |
| 5,000 ,, 10,000               | 3                          | 935              | 6                 | 4,130            | 26                | 38,830           | 91                | 325,992          | 142               | 967,385          | 23                | 269,407          | ..                | ..               | 291               | 1,606,679        |
| 10,000 ,, 20,000              | 3                          | 703              | 1                 | 536              | 1                 | 1,340            | 3                 | 9,260            | 37                | 305,961          | 68                | 951,823          | 5                 | 115,808          | 118               | 1,385,431        |
| 20,000 ,, 50,000              | 2                          | 180              | ..                | ..               | ..                | ..               | 1                 | 2,050            | 1                 | 7,600            | 15                | 231,121          | 17                | 480,657          | 36                | 721,608          |
| 50,000 ,, 100,000             | ..                         | ..               | ..                | ..               | 1                 | 1,100            | ..                | ..               | ..                | ..               | ..                | ..               | ..                | ..               | 1                 | 1,100            |
| Total ..                      | 20,430                     | 3,185,381        | 4,339             | 2,972,551        | 2,233             | 3,005,850        | 955               | 2,733,598        | 247               | 1,691,768        | 111               | 1,516,830        | 23                | 635,218          | 28,338            | 15,741,196       |

Production.

Live Stock  
in Australia  
and  
New Zealand.

In the following statement are given the numbers of horses, cattle, sheep and pigs in the various Australian States and New Zealand, according to returns dated March, 1920, for Victoria and Tasmania; December, 1919, for Queensland, Western Australia and The Northern Territory; June, 1919, for New South Wales, and June, 1920, for South Australia. The returns for New Zealand relate to April, 1920, in the case of sheep, and to January, 1920, in the case of other stock.

### LIVE STOCK IN AUSTRALASIA.

| State, &c.                | Horses. | Cattle.     |           | Sheep.     | Pigs.   |
|---------------------------|---------|-------------|-----------|------------|---------|
|                           |         | Dairy Cows. | Other.    |            |         |
| Victoria .. ..            | 513,500 | 623,652     | 1,007,468 | 14,422,745 | 186,810 |
| New South Wales ..        | 722,723 | 797,347     | 2,483,329 | 37,381,874 | 294,648 |
| Queensland .. ..          | 731,705 | 373,146     | 5,567,287 | 17,379,332 | 99,593  |
| South Australia ..        | 264,901 | 106,982     | 242,580   | 6,014,565  | 60,295  |
| The Northern Territory .. | 35,539  | ..          | 598,534*  | 58,811     | 1,675   |
| Western Australia ..      | 174,919 | 42,993      | 837,651   | 6,697,951  | 58,155  |
| Tasmania .. ..            | 39,452  | 64,073      | 150,369   | 1,781,425  | 35,530  |
| New Zealand .. ..         | 344,218 | 882,854     | 2,176,591 | 23,914,506 | 259,647 |

\* Including dairy cows.

**Bee-keeping.** The returns for 1919-20 show that there were in that year 3,914 bee-keepers, who owned 33,729 frame and 7,241 box hives, producing 1,310,773 lbs. and 85,931 lbs. of honey respectively, and 24,735 lbs. of beeswax. The number of bee-keepers owning 20 hives and upwards was 465, as compared with 553 in the previous season. The quantity of honey produced in the Wimmera, the chief producing district, was 686,883 lbs. in 1919-20, as compared with 806,754 lbs. in the previous season, 1,631,171 lbs. in 1917-18, 800,505 lbs. in 1916-17, 390,494 lbs. in 1915-16, 345,747 lbs. in 1914-15, and 691,263 lbs. in 1913-14. The more important particulars of the industry for the past ten years are given below:—

### BEE-KEEPING, 1910-11 to 1919-20.

| Season ended May. | Number of Bee-keepers. | Number of Hives. | Honey produced. | Beeswax produced. |
|-------------------|------------------------|------------------|-----------------|-------------------|
|                   |                        |                  | lbs.            | lbs.              |
| 1911 .. ..        | 4,043                  | 52,762           | 2,308,405       | 34,695            |
| 1912 .. ..        | 3,787                  | 53,711           | 1,635,260       | 28,405            |
| 1913 .. ..        | 4,796                  | 52,723           | 3,277,590       | 45,354            |
| 1914 .. ..        | 5,643                  | 55,565           | 1,961,746       | 37,323            |
| 1915 .. ..        | 2,639                  | 35,051           | 700,672         | 20,017            |
| 1916 .. ..        | 3,633                  | 31,233           | 933,933         | 18,707            |
| 1917 .. ..        | 3,661                  | 36,561           | 1,547,023       | 22,131            |
| 1918 .. ..        | 4,427                  | 58,146           | 4,974,888       | 64,980            |
| 1919 .. ..        | 4,374                  | 52,782           | 1,644,447       | 25,286            |
| 1920 .. ..        | 3,914                  | 40,970           | 1,396,704       | 24,735            |

The poor results for the seasons 1914-15 and 1915-16 were due to the prolonged drought of 1914.

Poultry  
Farming.

The following table shows the numbers of poultry and poultry-owners as ascertained in each of the last four census years:—

POULTRY AND POULTRY-OWNERS: 1881, 1891, 1901,  
AND 1911.

| Census.    | Poultry-owners. | Fowls.    | Ducks.  | Geese. | Turkeys. |
|------------|-----------------|-----------|---------|--------|----------|
| 1881 .. .. | 97,152          | 2,332,529 | 181,698 | 92,654 | 153,078  |
| 1891 .. .. | 142,797         | 3,487,989 | 303,520 | 89,145 | 216,440  |
| 1901 .. .. | 132,419         | 3,619,938 | 257,204 | 76,853 | 209,823  |
| 1911 .. .. | 144,162         | 3,855,538 | 288,413 | 59,851 | 190,077  |

Taking the figures for 1911 as a basis, it is estimated that the gross value of poultry and egg production for the year 1919-20 was £3,579,230.

Active operations for the destruction of rabbits, &c., on Crown lands were first undertaken by the Government in 1880, and from that date to 30th June, 1919, sums amounting to £805,371 had been expended in connexion therewith, including subsidies to Shire Councils for the destruction of wild animals. The following are the amounts spent since 1879:—

EXPENDITURE ON DESTRUCTION OF RABBITS, ETC.

|                        | £       |               | £      |
|------------------------|---------|---------------|--------|
| 1879-80 to 1888-9 ..   | 142,963 | 1913-14 .. .. | 29,596 |
| 1889-90 to 1898-9 ..   | 208,638 | 1914-15 .. .. | 32,211 |
| 1899-1900 to 1908-9 .. | 170,050 | 1915-16 .. .. | 24,257 |
| 1909-10 .. ..          | 23,005  | 1916-17 .. .. | 24,388 |
| 1910-11 .. ..          | 23,123  | 1917-18 .. .. | 30,847 |
| 1911-12 .. ..          | 29,524  | 1918-19 .. .. | 39,460 |
| 1912-13 .. ..          | 27,309  |               |        |

In addition to the expenditure of £805,371 referred to above, a loan of £150,000 for the purchase of wire-netting to be advanced to land-holders was allocated to shires in 1890, and one of £50,000 in 1896, both of which have been repaid. Further sums amounting to £45,850 in 1908-9, £10,734 in 1909-10, £43,648 in 1910-11, £21,116 in 1911-12, £54,061 in 1912-13, £62,428 in 1913-14, £19,731 in 1914-15, £3,078 in 1915-16, £3,203 in 1916-17, £9,472 in 1917-18, and £3,766 in 1918-19 were advanced from loans for the purchase of wire-netting for supply to municipalities and land-owners. A complete system, administered by an officer called the Chief Inspector under the Vermin Destruction Act, exists for effectually keeping the rabbits under control.

Rabbits,  
&c., sold at  
Melbourne  
Fish Market.

The quantity of rabbits, hares, and wild-fowl sold at the Melbourne Fish Market during each of the past ten years was as shown in the following statement:—

RABBITS, HARES, AND WILD-FOWL SOLD AT THE  
MELBOURNE FISH MARKET, 1910 TO 1919-20.

| Year.         | Rabbits. | Hares. | Wild-fowl. |
|---------------|----------|--------|------------|
|               | pairs.   | brace. | brace.     |
| 1910 .. ..    | 245,208  | 130    | 34,180     |
| 1911 .. ..    | 320,292  | 222    | 24,420     |
| 1912 .. ..    | 480,192  | 363    | 29,562     |
| 1913 .. ..    | 605,724  | 93     | 23,598     |
| 1914 .. ..    | 732,444  | 488    | 19,614     |
| 1915 .. ..    | 508,324  | 51     | 6,934      |
| 1916-17 .. .. | 580,368  | 132    | 17,448     |
| 1917-18 .. .. | 746,160  | 256    | 28,062     |
| 1918-19 .. .. | 622,896  | 50     | 19,224     |
| 1919-20 .. .. | 444,456  | ..     | 20,022     |

Frozen  
rabbits, &c.,  
exported.

Large quantities of frozen rabbits and hares and of rabbit and hare skins have been exported to the United Kingdom' and other oversea countries, the numbers and values for the last ten years being as follows:—

RABBITS AND HARES AND RABBIT AND HARE SKINS  
EXPORTED OVERSEA.

| Year.         | Frozen Rabbits and Hares. |         | Rabbit and Hare Skins. |         |
|---------------|---------------------------|---------|------------------------|---------|
|               | Quantity.                 | Value.  | Quantity.              | Value.  |
|               | pairs.                    | £       | lbs.                   | £       |
| 1910 .. ..    | 1,372,087                 | 68,469  | 3,395,363              | 199,562 |
| 1911 .. ..    | 1,373,501                 | 69,426  | 3,435,928              | 156,877 |
| 1912 .. ..    | 1,111,902                 | 57,233  | 3,904,379              | 221,614 |
| 1913 .. ..    | 2,044,501                 | 107,818 | 4,182,044              | 271,463 |
| 1914-15 .. .. | 2,478,273                 | 127,721 | 1,827,557              | 68,777  |
| 1915-16 .. .. | 1,420,182                 | 90,588  | 1,195,455              | 44,325  |
| 1916-17 .. .. | 1,426,888                 | 111,632 | 493,137                | 35,361  |
| 1917-18 .. .. | 3,701,662                 | 280,422 | 938,874                | 108,765 |
| 1918-19 .. .. | 1,176,106                 | 87,333  | 1,932,217              | 134,900 |
| 1919-20 .. .. | 2,725,692                 | 224,737 | 3,266,621              | 780,038 |

The quantity of rabbit and hare skins exported oversea in 1919-20 was the largest since 1913, and their value was considerably in excess of that for any previous year.

## FISHERIES.

The numbers of men and boats engaged in the fishing industry at the different fishing stations throughout the State are given in the following table for the year 1919-20:—

## VICTORIAN FISHERIES—MEN AND BOATS EMPLOYED, 1919-20.

| Fishing Stations.  | Number of Men. | Boats.  |        | Value of Nets and other Plant. |
|--|----------------|---------|--------|--------------------------------|
|  |                | Number. | Value. |                                |
| Anderson's Inlet .. .. .   | 7              | 5       | £ 153  | £ 105                          |
| Barwon Heads and Ocean Grove ..  | 15             | 9       | 942    | 130                            |
| Brighton .. .. .   | 11             | 6       | 116    | 113                            |
| Corner Inlet, Welshpool, and Toora ..  | 78             | 60      | 6,613  | 3,038                          |
| Dromana .. .. .  | 27             | 22      | 910    | 219                            |
| Frankston .. .. .  | 31             | 24      | 718    | 293                            |
| Geelong .. .. .  | 73             | 36      | 2,411  | 999                            |
| Gippsland Lakes .. .. .  | 229            | 197     | 13,688 | 7,798                          |
| Kerang .. .. .   | 15             | 15      | 103    | 300                            |
| Lorne .. .. .  | 5              | 4       | 102    | 92                             |
| Mallacoota .. .. .   | 6              | 4       | 954    | 300                            |
| Mentone .. .. .  | 4              | 4       | 56     | 68                             |
| Mordialloc .. .. .   | 19             | 15      | 663    | 163                            |
| Mornington .. .. .   | 40             | 31      | 1,269  | 643                            |
| Portarlington and St. Leonards ..  | 68             | 51      | 2,580  | 1,146                          |
| Portland .. .. .   | 45             | 31      | 3,117  | 691                            |
| Port Albert .. .. .  | 57             | 33      | 2,753  | 1,614                          |
| Port Fairy .. .. .   | 57             | 38      | 4,159  | 548                            |
| Port Melbourne .. .. .   | 74             | 42      | 2,698  | 1,094                          |
| Queenscliff .. .. .  | 95             | 63      | 8,262  | 875                            |
| Sandringham .. .. .  | 27             | 21      | 1,145  | 243                            |
| Sorrento, Portsea, and Rye .. .. .   | 35             | 26      | 1,469  | 424                            |
| St. Kilda .. .. .  | 17             | 9       | 318    | 231                            |
| Warrnambool .. .. .  | 17             | 11      | 771    | 336                            |
| Werribee .. .. .   | 18             | 9       | 356    | 225                            |
| Western Port (Coves, Hastings, Grantville, Flinders, San Remo, and Tooradin) | 141            | 99      | 8,268  | 2,263                          |
| Williamstown .. .. .   | 29             | 18      | 849    | 318                            |
| Total .. .. .  | 1,240          | 883     | 65,443 | 24,269                         |

The quantities and values of fish sold in the Melbourne Fish Market during each of the years 1918-19 and 1919-20 were as shown in the next table:—

**FISH SOLD IN THE MELBOURNE FISH MARKET,  
1918-19 AND 1919-20.**

|   | 1918-19.   |                | 1919-20.   |                |
|---|------------|----------------|------------|----------------|
|   | Quantity.  | Value.         | Quantity.  | Value.         |
| Fresh Fish (Victorian) lbs.             | 10,458,460 | £ 142,061      | 10,305,790 | £ 143,210      |
| Crayfish .. doz.                        | 27,943     | 25,288         | 33,620     | 36,140         |
| Imported Fish (fresh or frozen) .. lbs. | 1,340,610  | 26,533         | 1,746,500  | 36,385         |
| Oysters .. bags                         | 15,406     | 28,765         | 10,323     | 26,000         |
| <b>Total .. ..</b>                      | <b>..</b>  | <b>222,647</b> | <b>..</b>  | <b>241,735</b> |

In addition to the above, 5,297 cwt. of smoked fish, and 386 baskets of prawns were sold in this market in 1919-20.

**Victorian fish sold.** The quantity and value of fish caught in Victorian waters and sold in the Melbourne and Ballarat markets and elsewhere in 1919-20 were as follows:—

**VICTORIAN FISH SOLD IN 1919-20.**

| Markets.           | Quantity.         |               | Value.         |               |
|--------------------|-------------------|---------------|----------------|---------------|
|                    | Fish.             | Crayfish.     | Fish.          | Crayfish.     |
|                    | lbs.              | doz.          | £              | £             |
| Melbourne .. ..    | 10,305,790        | 16,010        | 143,210        | 17,210        |
| Ballarat .. ..     | 627,000           | 1,719         | 9,090          | 925           |
| Other .. ..        | 165,450           | 858           | 2,300          | 925           |
| <b>Total .. ..</b> | <b>11,098,240</b> | <b>18,587</b> | <b>154,600</b> | <b>19,060</b> |

**Fish imported.** In connexion with this subject, the quantities and values of the different classes of fish imported are of interest. The available figures for 1909 and 1919-20 are appended:—

**FISH IMPORTED, 1909 AND 1919-20.**

|                                | 1909.—Interstate. |               | 1909.—Oversea. |                | 1919-20.—Oversea, |                |
|--------------------------------|-------------------|---------------|----------------|----------------|-------------------|----------------|
|                                | Quantity.         | Value.        | Quantity.      | Value.         | Quantity.         | Value.         |
| <b>Fish—</b>                   |                   | £             |                | £              |                   | £              |
| Fresh or Frozen lbs.           | 1,772,999         | 22,720        | 758,545        | 11,076         | 598,833           | 21,204         |
| Smoked ..                      | 127,016           | 662           | 99,793         | 3,322          | 33,023            | 2,893          |
| Fresh Oysters cwt.             | 16,941            | 8,529         | 7,935          | 4,145          | 520               | 762            |
| Potted, &c. ..                 | ..                | 41            | ..             | 4,559          | ..                | 17,854         |
| Preserved in tins, &c. .. lbs. | 117,177           | 3,266         | 4,823,366      | 116,931        | 3,029,226         | 190,498        |
| N.E.I. .. cwt.                 | 214               | 356           | 5,815          | 9,434          | 712               | 4,239          |
| <b>Total .. ..</b>             | <b>..</b>         | <b>35,574</b> | <b>..</b>      | <b>149,467</b> | <b>..</b>         | <b>237,450</b> |

The most important item in this table is fish preserved in tins and other air-tight vessels, of which 1,690,220 lbs. came from the United Kingdom and Canada in 1919-20

Imports by  
United  
Kingdom  
of staple  
articles  
produced  
in Victoria.

In Victoria the natural conditions are eminently suitable for agricultural and pastoral pursuits, and there is room for considerable expansion in these avenues of production. There is little need to fear over-production, as the United Kingdom offers an almost unlimited market for many articles which could be supplied from this State. This is readily seen from the figures in the subjoined table, which show the average annual values of certain articles imported into the United Kingdom from Australia, other British Possessions, and Foreign Countries for the pre-war period 1907 to 1913, and for the four years 1915 to 1918—years representing war conditions:—

**AVERAGE ANNUAL IMPORTS OF CERTAIN ARTICLES INTO UNITED KINGDOM FROM AUSTRALIA, OTHER BRITISH POSSESSIONS, AND FOREIGN COUNTRIES, 1907-13, 1915-17, AND 1918.**

| Articles.                                 | Period. | Annual Value of Imports into United Kingdom from— |                            |                    |                |
|---|---------|---|----------------------------|--------------------|----------------|
|   |         | Australia.  | Other British Possessions. | Foreign Countries. | All Countries. |
|   |         | £   | £                          | £                  | £              |
| Butter .. .. .                            | 1907-13 | 3,131,811   | 1,762,922                  | 18,884,656         | 23,779,389     |
|   | 1915-17 | 3,001,491   | 3,458,409                  | 15,167,585         | 21,627,485     |
|   | 1918    | 6,722,621   | 5,790,375                  | 7,256,742          | 19,769,738     |
| Cheese .. .. .                            | 1907-13 | 13,102  | 5,704,495                  | 1,256,492          | 6,974,089      |
|   | 1915-17 | 191,353   | 11,540,475                 | 2,773,257          | 14,505,085     |
|   | 1918    | 285,525   | 11,556,609                 | 4,063,724          | 15,905,858     |
| Wheat .. .. .                             | 1907-13 | 4,497,088   | 14,371,951                 | 23,170,834         | 42,039,873     |
|   | 1915-17 | 3,924,848   | 20,237,080                 | 47,113,420         | 71,275,348     |
|   | 1918    | 1,895,057   | 15,171,590                 | 36,031,306         | 53,097,953     |
| Wheatmeal and Flour                       | 1907-13 | 216,477   | 1,512,672                  | 4,384,282          | 6,113,431      |
|   | 1915-17 | 970,890   | 3,891,044                  | 6,920,987          | 11,782,921     |
|   | 1918    | 2,366,294   | 7,773,693                  | 25,542,710         | 35,682,697     |
| Meat .. .. .                              | 1907-13 | 4,108,980   | 6,651,731                  | 34,457,389         | 45,218,100     |
|   | 1915-17 | 7,324,870   | 19,114,539                 | 67,277,641         | 93,717,050     |
|   | 1918    | 4,536,476   | 26,683,033                 | 142,167,278        | 173,386,787    |
| Fruit—Fresh, Dried, and Preserved .. .. . | 1907-13 | 395,110   | 1,409,440                  | 12,933,186         | 14,737,736     |
|   | 1915-17 | 532,761   | 1,591,593                  | 13,712,508         | 15,836,862     |
|   | 1918    | 104,265   | 1,359,422                  | 15,800,239         | 17,263,926     |
| Wine .. .. .                              | 1907-13 | 127,388   | 29,076                     | 3,848,344          | 4,004,808      |
|   | 1915-17 | 91,426  | 39,609                     | 2,813,691          | 2,944,186      |
|   | 1918    | 53,471  | 29,413                     | 7,167,308          | 7,250,192      |
| Wool .. .. .                              | 1907-13 | 13,621,012  | 13,085,172                 | 5,697,694          | 32,403,878     |
|   | 1915-17 | 21,442,126  | 18,078,919                 | 3,509,577          | 43,030,622     |
|   | 1918    | 20,104,417  | 14,541,733                 | 1,693,326          | 36,339,476     |
| Skins, Furs, and Hides                    | 1907-13 | 1,928,626   | 4,105,504                  | 7,937,906          | 13,972,036     |
|   | 1915-17 | 1,564,269   | 6,408,838                  | 8,022,717          | 15,995,824     |
|   | 1918    | 1,563,958   | 6,706,520                  | 10,981,848         | 19,252,326     |
| Tallow and Stearine ..                    | 1907-13 | 1,352,280   | 725,532                    | 1,464,682          | 3,542,494      |
|   | 1915-17 | 934,827   | 782,234                    | 747,380            | 2,464,441      |
|   | 1918    | 415,489   | 163,515                    | 1,118,898          | 1,697,902      |
| Leather .. .. .                           | 1907-13 | 409,128   | 3,034,535                  | 6,498,824          | 9,942,487      |
|   | 1915-17 | 782,178   | 5,008,776                  | 8,023,793          | 13,814,747     |
|   | 1918    | 237,139   | 4,414,541                  | 5,073,384          | 9,725,064      |
| Total—Eleven Articles                     | 1907-13 | 29,801,002  | 52,393,030                 | 120,534,289        | 202,728,321    |
|   | 1915-17 | 40,761,039  | 90,150,976                 | 176,082,556        | 306,994,571    |
|   | 1918    | 38,284,712  | 94,190,444                 | 256,896,763        | 389,371,919    |

The value of the above-mentioned articles imported into the United Kingdom from Australia amounted to £38,284,712 in 1918 as compared

with £56,850,293 in 1917, £28,296,038 in 1916, £37,136,787 in 1915, and £29,801,002 on the average of the years 1907 to 1913.

The figures relating to agriculture and live stock in Victoria and Great Britain in 1919 are for comparative purposes placed side by side in the table which follows :—

### AGRICULTURE AND LIVE STOCK IN VICTORIA AND GREAT BRITAIN, 1919.

|                    |    |    |            | Victoria.  | Great Britain. |
|--------------------|----|----|------------|------------|----------------|
| Area               | .. | .. | .. acres   | 56,245,760 | 56,208,959     |
| Wheat              | .. | .. | .. bushels | 14,858,380 | 66,872,000     |
| Oats               | .. | .. | .. "       | 6,603,067  | 133,776,000    |
| Barley             | .. | .. | .. "       | 1,528,654  | 49,904,000     |
| Peas               | .. | .. | .. "       | 120,636    | 3,533,040      |
| Potatoes           | .. | .. | .. tons    | 145,888    | 3,565,000      |
| Turnips and swedes | .. | .. | .. "       | 2,121*     | 18,305,000     |
| Mangolds           | .. | .. | .. "       | 6,388      | 6,337,000      |
| Hay                | .. | .. | .. "       | 1,242,489  | 5,898,000      |
| Horses             | .. | .. | .. No.     | 513,500    | 1,338,379      |
| Cattle             | .. | .. | .. "       | 1,631,120  | 7,424,176      |
| Sheep              | .. | .. | .. "       | 14,422,745 | 21,534,352     |
| Pigs               | .. | .. | .. "       | 186,810    | 1,936,373      |

\* Includes beet, carrots, and parsnips.

### MINING.

The supervision of mining and the inspection of mines are regulated by Act of Parliament. Authority for all mining operations, whether on Crown or private lands, must be obtained in the prescribed manner, and mining leases giving the right to enter on private land for mining purposes may be issued to another than the owner.

**Miners' Rights.** The taking out of a "miner's right" entitles the holder to prospect for gold on Crown lands. The right may be had on payment of a sum of 2s. 6d. per annum and remains in force for any number of years not exceeding fifteen. It confers the privilege to take possession for mining purposes of a defined parcel of Crown lands, which is called a "claim." The revenue in 1918-19 from miners' rights was £2,230.

**Mining Leases.** Leases for the purpose of mining for gold are granted for a term not exceeding fifteen years at a yearly rental of 2s. 6d. per acre. For mining leases of land to be worked by means of dredging or hydraulic sluicing the yearly rent is 5s. per acre. Other mineral and coal mining leases are also issued at varying rates. The revenue from these sources in 1918-19 was £4,194.

The area of Crown and private lands under occupation for mining purposes on 31st December, 1919, was 69,165 acres. The subjoined table shows the area being worked for different minerals :—

AREA UNDER OCCUPATION FOR MINING PURPOSES,  
31ST DECEMBER, 1919 (CROWN LANDS AND PRIVATE LAND).

| Nature of Mineral, &c.                           | Area.   |
|--|---------|
|  | acres.  |
| Gold .. .. .                                     | 153,564 |
| Coal (ordinary) .. .. .                          | 3,527   |
| Coal (brown) .. .. .                             | 804     |
| Antimony .. .. .                                 | *       |
| Barytes .. .. .                                  | 29      |
| Bluestone .. .. .                                | 22      |
| Clay Slum .. .. .                                | 59      |
| Copper .. .. .                                   | 115     |
| Copper and Silver .. .. .                        | 71      |
| Dolomite .. .. .                                 | 1       |
| Felspar .. .. .                                  | 8       |
| Granite .. .. .                                  | 6       |
| Gypsum .. .. .                                   | 540     |
| Infusorial Earth .. .. .                         | 59      |
| Iron .. .. .                                     | 1,373   |
| Kaolin .. .. .                                   | 132     |
| Limestone .. .. .                                | 62      |
| Magnesite .. .. .                                | 130     |
| Manganese .. .. .                                | 2,175   |
| Marble .. .. .                                   | 127     |
| Molybdenite .. .. .                              | 547     |
| Molybdenite, Copper, and Silver .. .. .          | 29      |
| Phosphate of Lime .. .. .                        | 15      |
| Pigments and Clay .. .. .                        | 21      |
| Pigments and Limestone .. .. .                   | 65      |
| Pigments and Oil .. .. .                         | 133     |
| Porphyry .. .. .                                 | 12      |
| Quicksilver .. .. .                              | 55      |
| Salt .. .. .                                     | 199     |
| Silicate of Alumina .. .. .                      | 51      |
| Silver, Bismuth, Wolfram, and Phosphates .. .. . | 48      |
| Silver and Gold .. .. .                          | 30      |
| Silver and Lead .. .. .                          | 187     |
| Slate .. .. .                                    | 53      |
| Sulphates and Oil .. .. .                        | 224     |
| Tin .. .. .                                      | 3,290   |
| Wolfram .. .. .                                  | 169     |
| Wolfram and Tin .. .. .                          | 139     |
| Wolfram, Molybdenite, and Bismuth .. .. .        | 45      |
| Wolfram, Molybdenite, and Scheelite .. .. .      | 32      |
| Wolfram, Molybdenite, and Silver .. .. .         | 96      |
| Water-right Licences .. .. .                     | 831     |
| Total .. .. .                                    | 69,165  |

\* Included in certain gold mining leases.

**Mining development.** The mining industry has been well fostered by the Government, not only in the way of financial assistance but also by means of geological surveys and boring. Apart from the annual expenditure of the Mining Department from consolidated revenue, of which a statement is appended, loan moneys amounting to £510,695 (including £239,637 expended on the State Coal Mine), and portions of surplus revenues of past years amounting to £85,000, have been expended or advanced for developmental purposes since 1st July, 1899.

## STATE EXPENDITURE ON MINING: 1914-15 TO 1918-19.

|  | 1914-15. | 1915-16. | 1916-17. | 1917-18. | 1918-19. |
|--|----------|----------|----------|----------|----------|
| Expenditure from Consolidated Revenue.                                       |          |          |          |          |          |
|  | £        | £        | £        | £        | £        |
| Mining Department .. ..  | 26,922   | 26,550   | 24,154   | 22,453   | 22,030   |
| State Coal Mine .. ..  | 211,415  | 202,953  | 238,213  | 263,730  | 266,244  |
| Coal Mines Regulation—Sinking Fund and Depreciation Fund                     | 55,204   | 41,468   | 2,951    | 29,068   | 17,107   |
| Victorian Coal—Allowance to Railway Department on carriage of .. ..          | 9,063    | 7,621    | 6,994    | 2,368    | 1,871    |
| Diamond drills for prospecting ..  | 16,945   | 9,901    | 8,816    | 8,889    | 11,728   |
| Testing plants .. ..   | 6,457    | 10,081   | 4,639    | 3,553    | 3,813    |
| Geological and underground surveys of mines .. ..                            | 5,422    | 2,579    | 2,348    | 2,010    | 2,186    |
| Mining Development—Advances to companies, &c., boring for gold, coal, &c. .. | 26,010   | 31,460   | 29,868   | 74,173   | 52,387   |
| Miscellaneous .. ..  | 2,606    | 2,148    | 4,816    | 3,258    | 2,190    |
|  | 360,044  | 334,761  | 322,799  | 409,502  | 379,556  |
| Expenditure from Surplus Revenue.  |          |          |          |          |          |
| Mining Development—Advances to companies, &c., boring for gold, coal, &c. .. | 1,195    | 793      | 36       | ..       | ..       |
| Expenditure from Loan Moneys.  |          |          |          |          |          |
| State Coal Mine .. ..  | 20,492   | ..       | ..       | ..       | ..       |
| Total .. ..  | 381,731  | 335,554  | 322,835  | 409,502  | 379,556  |

Yearly grants are also made to Schools of Mines, particulars of which will be found on page 344 of this work. Since 1st July, 1899, £510,695 has been apportioned from loan receipts and expended on mining development, details of which expenditure appear in the next statement:—

LOAN MONEY EXPENDED ON MINING DEVELOPMENT.

|  |         |
|--|---------|
|  | £       |
| Advances to companies—Development of mining ..       | 62,740  |
| "    "    Boring for gold and coal, &c. ..           | 62,532  |
| Construction of roads and tracks for mining ..       | 57,579  |
| Plant for testing metalliferous material ..          | 12,357  |
| Construction of races and dams ..                    | 8,260   |
| Advances to miners for prospecting ..                | 27,839  |
| Purchase of cyanide process patent rights ..         | 20,000  |
| Equipping Schools of Mines with mining appliances .. | 9,975   |
| State Coal Mine ..                                   | 239,637 |
| Miscellaneous ..                                     | 9,740   |
| Total ..   | 510,659 |

The advances from loan moneys and revenue to mining companies to 30th June, 1919, for the development of mining totalled £231,284, of which sum £25,548 had up to that date been repaid, £38,825 realized, and £111,545 written off, leaving £55,366 outstanding. Interest received during 1918-19 amounted to £724, and interest outstanding on 30th June, 1919, to £2,349.

The mineral production of the State is summarized in the subjoined statement, which contains particulars of the recorded production of all metals and minerals up to the end of the year 1919.

TOTAL MINERAL PRODUCTION TO 31st DECEMBER, 1919.

| Metals and Minerals.                   | Recorded prior to 1919. |               | Recorded during 1919. |           | Total Recorded to end of 1919. |               |
|--|-------------------------|---------------|-----------------------|-----------|--------------------------------|---------------|
|  | Quantity.               | Value.        | Quantity.             | Value.    | Quantity.                      | Value.        |
| Gold ..                                | Fine ozs. 70,467,528    | £ 299,326,306 | Fine ozs. 135,427     | £ 575,260 | Fine ozs. 70,602,955           | £ 299,901,566 |
| Silver..                               | 1,424,299               | 215,123       | 6,121                 | 1,607     | 1,430,420*                     | 216,730       |
| Platinum                               | 30,577                  | 7,880         | ..                    | ..        | 30,577                         | 7,880         |
|  | 311                     | 1,671         | ..                    | ..        | 311                            | 1,671         |
| Coal, black ..                         | 7,789,582               | 4,174,940     | 423,946               | 372,075   | 8,213,528                      | 4,547,015     |
| " brown ..                             | 190,007                 | 57,178        | 111,628               | 34,542    | 301,635                        | 91,720        |
| Ore—copper ..                          | 18,730                  | 218,590       | ..                    | ..        | 18,730                         | 218,590       |
| " tin ..                               | 16,317                  | 861,186       | 113                   | 17,561    | 16,430                         | 878,747       |
| " antimony ..                          | 90,157                  | 510,767       | 4,322                 | 24,160    | 94,479                         | 534,927       |
| " silver-lead ..                       | 793                     | 5,760         | ..                    | ..        | 793                            | 5,760         |
| " iron ..                              | 5,434                   | 12,540        | ..                    | ..        | 5,434                          | 12,540        |
| " manganese ..                         | 247                     | 919           | ..                    | ..        | 247                            | 919           |
| Wolfram ..                             | 108‡                    | 11,030        | 2‡                    | 400       | 110‡                           | 11,430        |
| Diamonds ..                            | ..                      | 128           | ..                    | ..        | ..                             | 128           |
| Sapphires, &c. ..                      | ..                      | 630           | ..                    | ..        | ..                             | 630           |
| Gypsum ..                              | 28,412                  | 22,003        | 820                   | 482       | 29,232                         | 22,485        |
| Magnesite ..                           | 1,028                   | 3,132         | 77                    | 231       | 1,105                          | 3,363         |
| Kaolin ..                              | 13,897                  | 20,762        | 2,049                 | 2,255     | 15,946                         | 23,017        |
| Diatomaceous earth                     | 7,057                   | 28,137        | ..                    | ..        | 7,057                          | 28,137        |
| Pigment clays ..                       | 490                     | 912           | 185                   | 433       | 675                            | 1,345         |
| Phosphate rock ..                      | 5,309                   | 6,059         | ..                    | ..        | 5,309                          | 6,059         |
| Molybdenite ..                         | 56                      | 680           | ..                    | ..        | 56                             | 680           |
| Fluorspar ..                           | 100                     | 200           | 314                   | 1,020     | 414                            | 1,220         |
| Bluestone, freestone, granite, &c.† .. | ..                      | 5,331,507     | ..                    | 300,100   | ..                             | 5,631,607     |
| Limestone, &c.‡ ..                     | ..                      | ..            | ..                    | ..        | ..                             | ..            |
| Total ..                               | ..                      | 310,818,040   | ..                    | 1,330,126 | ..                             | 312,148,166   |

\* Extracted from gold at the Melbourne Mint. † From 1866 only. ‡ Record from 1900.

Gold was first found in Victoria in 1849 in the Pyrenees Ranges, but it was not until 1851 that the first discovery of any importance took place. In the latter part of that year the Clunes, Anderson's Creek, Ballarat, and Bendigo fields were successively discovered and over 200,000 ounces of gold were produced. Next year the gold rush took place, and it is estimated that, in 1852, 40,000 men were camped at Ballarat, 25,000 at Castlemaine and 40,000 at Bendigo. The production of gold in 1852 amounted to 2,286,535 ounces, and in the ten years 1852-1861 it totalled over 25,000,000 ounces. The largest quantity produced in any one year was 3,053,744 ounces in 1856. The annual value of the output for the ten years 1852-1861 averaged over £10,000,000 sterling. The estimated value of gold produced from 1851 to 1919, as shown in the preceding statement, is £299,901,566. This sum is based on the average value of Victorian gold received at the Melbourne Mint.

The quantities of gold raised in Victoria in different periods are shown in the next table:—

| Period.         | Quantities<br>(Fine Ozs.). | Period.    | Quantities<br>(Fine Ozs.). |
|-----------------|----------------------------|------------|----------------------------|
| 1851-60 .. ..   | 23,334,263*                | 1908 .. .. | 671,208                    |
| 1861-70 .. ..   | 16,276,566*                | 1909 .. .. | 654,222                    |
| 1871-80 .. ..   | 10,156,297*                | 1910 .. .. | 570,383                    |
| 1881-90 .. ..   | 7,103,448*                 | 1911 .. .. | 504,000                    |
| 1891-1900 .. .. | 7,476,038*                 | 1912 .. .. | 480,131                    |
| 1901 .. ..      | 730,453                    | 1913 .. .. | 434,932                    |
| 1902 .. ..      | 720,866                    | 1914 .. .. | 413,218                    |
| 1903 .. ..      | 767,297                    | 1915 .. .. | 329,068                    |
| 1904 .. ..      | 765,600                    | 1916 .. .. | 256,643                    |
| 1905 .. ..      | 747,166                    | 1917 .. .. | 201,872                    |
| 1906 .. ..      | 772,290                    | 1918 .. .. | 158,827                    |
| 1907 .. ..      | 695,576                    | 1919 .. .. | 135,427                    |

\* Gross ozs.

The yield has been on the down grade since 1906, the return for 1919 being the lowest for the State since 1851. The quantities raised in the other principal gold-producing States in 1919 were 734,066 ounces in Western Australia, 121,030 ounces in Queensland, and 65,839 ounces in New South Wales. The total production of gold in the world in 1918 was 18,563,293 ozs.

The yield of gold for the past two years in each mining district of the State, as estimated by the mining registrars, is shown in the following table. The quantities represented by the aggregate figures, which are given in gross

Mining  
district  
gold yields.

ounces, fall short of the total output of 1919 by 5,952 ounces, but exceed that of 1918 by 13,865 ounces.

DISTRICT YIELDS OF GOLD, ALLUVIAL AND QUARTZ,  
1918 AND 1919.

| Mining District.      | 1918.     |         |         | 1919.     |         |         |
|-----------------------|-----------|---------|---------|-----------|---------|---------|
|                       | Alluvial. | Quartz. | Total.  | Alluvial. | Quartz. | Total.  |
|                       | ozs.      | ozs.    | ozs.    | ozs.      | ozs.    | ozs.    |
| Ararat and Stawell .. | 3,503     | 2,140   | 5,643   | 3,864     | 5,174   | 9,038   |
| Ballarat ..           | 4,654     | 6,327   | 10,981  | 4,356     | 3,583   | 7,939   |
| Beechworth ..         | 30,037    | 13,017  | 43,054  | 22,983    | 7,962   | 30,945  |
| Bendigo ..            | 705       | 80,931  | 81,636  | 826       | 63,823  | 64,649  |
| Castlemaine ..        | 7,728     | 17,227  | 24,955  | 6,543     | 9,857   | 16,400  |
| Gippsland ..          | 3,133     | 3,117   | 6,250   | 3,126     | 3,364   | 6,490   |
| Maryborough ..        | 11,090    | 1,526   | 12,616  | 4,964     | 604     | 5,568   |
| Total ..              | 60,850    | 124,285 | 185,135 | 46,662    | 94,367  | 141,029 |

The amount of the dividends declared in each of the last five years by gold-mining companies operating in each mining district of the State was as follows:—

Gold-mining dividends.

DIVIDENDS PAID BY GOLD MINING COMPANIES IN EACH  
MINING DISTRICT, 1915 TO 1919.

| Mining District.      | Amount Distributed. |        |        |        |        |
|-----------------------|---------------------|--------|--------|--------|--------|
|                       | 1915.               | 1916.  | 1917.  | 1918.  | 1919.  |
|                       | £                   | £      | £      | £      | £      |
| Ararat and Stawell .. | 30,950              | 27,500 | 14,583 | ..     | ..     |
| Ballarat ..           | 5,000               | 4,200  | ..     | ..     | ..     |
| Beechworth ..         | 44,910              | 30,165 | 32,874 | 34,050 | 19,220 |
| Bendigo ..            | 61,911              | 8,875  | 8,288  | ..     | ..     |
| Castlemaine ..        | 39,300              | 19,760 | 28,225 | 17,100 | 5,800  |
| Gippsland ..          | 1,350               | 450    | 675    | 525    | 160    |
| Maryborough ..        | 10,000              | 7,600  | 2,500  | 1,250  | ..     |
| Total ..              | 193,421             | 98,550 | 87,145 | 52,925 | 25,180 |

By comparison with 1918 the amount of the dividends declared in 1919 shows a decrease of 52 per cent.

The average number of men employed in mining is estimated annually by the Mines Department. The figures for the last ten years are given below :—

NUMBER OF MEN EMPLOYED IN GOLD MINING, 1910 TO 1919.

| Year. |    |    |    | Alluvial Miners. | Quartz Miners. | Total. |
|-------|----|----|----|------------------|----------------|--------|
| 1910  | .. | .. | .. | 6,638            | 9,915          | 16,553 |
| 1911  | .. | .. | .. | 5,144            | 8,871          | 14,015 |
| 1912  | .. | .. | .. | 4,156            | 7,700          | 11,856 |
| 1913  | .. | .. | .. | 4,222            | 7,709          | 11,931 |
| 1914  | .. | .. | .. | 3,637            | 6,761          | 10,398 |
| 1915  | .. | .. | .. | 2,867            | 5,888          | 8,755  |
| 1916  | .. | .. | .. | 2,587            | 3,815          | 6,402  |
| 1917  | .. | .. | .. | ..               | ..             | 6,069  |
| 1918  | .. | .. | .. | ..               | ..             | 3,547  |
| 1919  | .. | .. | .. | 1,155            | 1,910          | 3,065  |

The number of men employed in each mining district in 1919 was as follows :—Ararat and Stawell, 223 ; Ballarat, 174 ; Bendigo, 1,038 ; Beechworth, 820 ; Castlemaine, 417 ; Gippsland, 122 ; and Maryborough, 271.

The value of the mining plants employed in alluvial and quartz mining during each of the last six years was as shown hereunder :—

Value of  
machinery on  
gold-fields.

VALUE OF MACHINERY ON GOLD-FIELDS, 1914 TO 1919.

| Year. |    |    |    | Approximate Value of Machinery Employed in— |                |           |
|-------|----|----|----|---|----------------|-----------|
|       |    |    |    | Alluvial Mining.                            | Quartz Mining. | Total.    |
|       |    |    |    | £   | £              | £         |
| 1914  | .. | .. | .. | 448,742                                     | 1,051,689      | 1,500,431 |
| 1915  | .. | .. | .. | 479,004                                     | 1,011,300      | 1,490,304 |
| 1916  | .. | .. | .. | 498,729                                     | 974,378        | 1,473,107 |
| 1917  | .. | .. | .. | ..  | ..             | 825,450   |
| 1918  | .. | .. | .. | ..  | ..             | 650,600   |
| 1919  | .. | .. | .. | 198,490                                     | 425,110        | 623,600   |

A feature of alluvial mining in Victoria for the past eighteen years has been the treatment in bulk of low-grade auriferous alluvial deposits and their overburden by bucket dredges and pump hydraulic sluicing plants on barges. In 1919 the

Dredging  
and sluicing.

number of bucket dredges at work was 16, and the number of pump hydraulic sluices 7, in addition to which 27 jet elevators and 6 gravitation plants were operating. Particulars relating to these dredging and sluicing plants for the past six years are as follows:—

## DREDGING AND SLUICING.

| Year. | Number of Plants. | Area Worked. | Quantity of Material Treated. | Gold Obtained. |       | Tin Obtained. |       |
|-------|-------------------|--------------|-------------------------------|----------------|-------|---------------|-------|
|       |                   |              |                               | Oz.            | Tons. | Tons.         | Tons. |
| 1914  | 85                | Acres. 459   | Cub. yds. 13,979,696          | 56,796         | 45    |               |       |
| 1915  | 73                | 366          | 11,788,247                    | 50,152         | 87    |               |       |
| 1916  | 73                | 344          | 10,235,000                    | 48,724         | 105   |               |       |
| 1917  | 73                | 306          | 10,038,688                    | 44,756         | 120   |               |       |
| 1918  | 67                | 230          | 7,626,581                     | 33,983         | 124   |               |       |
| 1919  | 56                | 161          | 5,517,159                     | 24,540         | 107   |               |       |

These plants employed 530 men in 1919. The yield of gold in that year per cubic yard of material was 2.1 grains, which was the same as in 1918. Since the inception of dredge mining 1,818,552 ounces of gold and 1,193 tons of tin have been won by this system.

**Cyanidation.** The quantity of tailings treated at old lode and alluvial mines by the cyanide process and the yield of gold therefrom are shown in the subjoined table for the past six years:—

## CYANIDATION.

| Year. | Number of Plants. | Quantity of Tailings Treated. | Yield of Gold. |           | Value of Yield. |
|-------|-------------------|-------------------------------|----------------|-----------|-----------------|
|       |                   |                               | Tons.          | Oz.       |                 |
| 1914  | 194               | 607,260                       | 39,920         | £ 144,969 |                 |
| 1915  | 140               | 317,636                       | 21,511         | 79,160    |                 |
| 1916  | 105               | 203,016                       | 14,635         | 49,332    |                 |
| 1917  | 66                | 127,012                       | 8,930          | 34,369    |                 |
| 1918  | 34                | 45,600                        | 4,420          | 18,250    |                 |
| 1919  | 33                | 44,581                        | 4,361          | 16,484    |                 |

Records show that the total amount of tailings which have been treated by the cyanide and other processes is 15,845,091 tons, and that the gold that has been won thereby amounts to 1,259,892 ounces, which is equal to an average yield of 1 dwt. 14 grs. per ton.

A Sludge Abatement Board, appointed by the Government, is intrusted with the duty of regulating the disposal of mining sludge, and preventing the silting of streams and injury to lands by battery sand and infertile *débris*.

**Government batteries.** Batteries for testing small quantities of ore for prospectors have been erected by the Government in various mining districts. The number of these plants and their operations in the last five years were as follows :—

#### GOVERNMENT BATTERIES.

| Year.        | Number of Batteries. | Quantity of Ore Treated. | Yield of Gold. |
|--------------|----------------------|--------------------------|----------------|
|              |                      | tons.                    | oz.            |
| 1915 .. .. . | 28                   | 4,761                    | 3,012          |
| 1916 .. .. . | 30                   | 4,511                    | 2,450          |
| 1917 .. .. . | 33                   | 3,278                    | 2,102          |
| 1918 .. .. . | 33                   | 4,092                    | 2,905          |
| 1919 .. .. . | 34                   | 2,941                    | 3,778          |

Since 1897, the year in which the first battery was erected, 66,492 tons of ore have been crushed for 44,510 ounces.

**Coal mining.** Bituminous coal is found in three main areas in the southern portion of the State, viz., the Wannon, the Otway, and South Gippsland. The Wannon area is comparatively unprospected, owing to almost the whole of the land having been sold. In the Otway area bores have been sunk without disclosing seams of payable thickness. The South Gippsland area occupies about 2,000 square miles, and coal mining is being carried on at Wonthaggi, Kilcunda, Outtrim, Jumbunna, and Korumburra.

**Brown coal.** The brown coal beds of Victoria have an approximate area of 1,200 square miles, and are reputed to be the thickest known. At Morwell, 780 feet of coal were passed through in a bore 1,010 feet deep. It is estimated that the average thickness of the coal in the deposits at Morwell, Alberton, and Altona is 50 feet, and that the total deposits in the State amount to 30,000,000,000 tons. These deposits are practically untouched, as the total output of brown coal for all years has been only 301,635 tons, of which 111,628 tons were obtained in 1919. The quantity taken from the State Brown Coal Mine at Morwell in 1919 was 110,183 tons, valued at £34,253.

**The State coal-field.** There is a State coal mine at Wonthaggi, on the Powlett River Coal-field, the development of which was undertaken in November, 1909. In June, 1911, the control of the mine was transferred to the Railways Commissioners. The

area reserved for mining is about 17 square miles. Boring has proved that about 28,000,000 tons of coal existed in the central area of 5 square miles. The output of coal for the year ended 31st December, 1919, was 361,872 tons, valued at £307,591. The total output up to the end of 1919 was 4,242,294 tons, valued at £2,255,954. The average number of men employed at the mine throughout the year ended 30th June, 1919, was 1,432, and comprised 526 coal miners, 536 others below ground, and 370 surface men. The mine was worked 250 days during the year.

The quantity of coal, exclusive of brown coal, raised in Victoria up to the end of 1919 was 8,213,528 tons, valued at £4,547,015. The total production prior to 1892, and the annual production for the years 1892 to 1919, together with the value per ton at the pit's mouth, are given in the following table:—

#### COAL PRODUCTION AND VALUE PER TON.

| Period.       | Production. | Value per ton at pit's mouth. | Period. | Production. | Value per ton at pit's mouth. |
|---------------|-------------|-------------------------------|---------|-------------|-------------------------------|
|               | tons.       | <i>s. d.</i>                  |         | tons.       | <i>s. d.</i>                  |
| Prior to 1892 | 77,914      | 18 8                          | 1906    | 160,631     | 10 0                          |
| 1892 ..       | 23,363      | 17 2                          | 1907 .. | 138,585     | 11 6                          |
| 1893 ..       | 91,726      | 10 9                          | 1908 .. | 113,462     | 11 5                          |
| 1894 ..       | 171,660     | 11 1                          | 1909 .. | 128,173     | 12 0                          |
| 1895 ..       | 194,226     | 12 2                          | 1910 .. | 369,059     | 10 3                          |
| 1896 ..       | 226,562     | 10 0                          | 1911 .. | 653,864     | 9 2                           |
| 1897 ..       | 236,277     | 9 2                           | 1912 .. | 589,143     | 8 9                           |
| 1898 ..       | 242,859     | 8 6                           | 1913 .. | 593,913     | 9 3                           |
| 1899 ..       | 262,380     | 8 8                           | 1914 .. | 617,536     | 9 4                           |
| 1900 ..       | 211,596     | 9 7                           | 1915 .. | 588,104     | 9 4                           |
| 1901 ..       | 209,329     | 14 1                          | 1916 .. | 417,183     | 10 4                          |
| 1902 ..       | 225,164     | 13 11                         | 1917 .. | 466,220     | 14 5                          |
| 1903 ..       | 64,200      | 12 9                          | 1918 .. | 439,575     | 15 11                         |
| 1904 ..       | 121,742     | 11 6                          | 1919 .. | 423,946     | 17 7                          |
| 1905 ..       | 155,136     | 10 2                          |         |             |                               |

In addition to the above there were raised, up to the end of 1919, 301,635 tons of brown coal, valued at £91,720. The output in 1919 was 111,628 tons, valued at £34,542.

The quantities of coal produced in the other States in 1919 were as follows:—New South Wales 8,631,554 tons, Queensland 931,631 tons, Western Australia 401,713 tons, and Tasmania 66,853 tons.

**Mining accidents.** The numbers of fatal and non-fatal accidents in gold and coal mines during the last ten years are shown below. Only those non-fatal accidents have been recorded which rendered the injured unfit for work for a period of at least fourteen days.

## MINING ACCIDENTS.

| Year.      | Gold Mines.      |                 |                  | Coal Mines.      |                 |                  |
|------------|------------------|-----------------|------------------|------------------|-----------------|------------------|
|            | Miners Employed. | Persons Killed. | Persons Injured. | Miners Employed. | Persons Killed. | Persons Injured. |
| 1910 .. .. | 16,553           | 12              | 66               | 1,532            | 3               | 22               |
| 1911 .. .. | 14,051           | 19              | 65               | 1,754            | ..              | 23               |
| 1912 .. .. | 11,856           | 16              | 76               | 1,486            | 2               | 19               |
| 1913 .. .. | 11,931           | 9               | 61               | 1,377            | 4               | 24               |
| 1914 .. .. | 10,398           | 15              | 45               | 1,405            | 2               | 21               |
| 1915 .. .. | 8,755            | 10              | 34               | 1,312            | 3               | 20               |
| 1916 .. .. | 6,402            | 6               | 19               | 1,282            | ..              | 18               |
| 1917 .. .. | 6,069            | 5               | 17               | 1,885            | 3               | 24               |
| 1918 .. .. | 3,547            | 5               | 12               | 1,584            | 4               | 6                |
| 1919 .. .. | 3,065            | 4               | 9                | 2,192            | 5               | 13               |

As a result of gold mining accidents during the past ten years 101 persons were killed and 404 were injured and rendered unfit for work for a period of at least fourteen days. These numbers were equivalent to annual rates of 1.09 and 4.36 respectively per 1,000 employed. Coal mining accidents during the same period accounted for 26 deaths and 190 injuries resulting in disablement for at least fourteen days, these being equal to yearly rates of 1.64 and 12.02 respectively per 1,000 employees.

**Boring for gold and coal.** The record of boring operations conducted by the Mines Department during the past six years is as follows :—

## GOVERNMENT BORING OPERATIONS.

| Year.      | Drills worked by— |              | Bores put down for— |       |        | Total Depth Bored. |
|------------|-------------------|--------------|---------------------|-------|--------|--------------------|
|            | Steam.            | Other Power. | Gold.               | Coal. | Total. |                    |
| 1914 .. .. | 3                 | 7            | 84                  | 21    | 105    | feet.<br>29,038    |
| 1915 .. .. | 1                 | 15           | 153                 | 2     | 155    | 28,780             |
| 1916 .. .. | 1                 | 11           | 119                 | 8     | 127    | 19,627             |
| 1917 .. .. | 1                 | 14           | 21                  | 115   | 136    | 25,400             |
| 1918 .. .. | 2                 | 10           | ..                  | 214   | 214    | 41,080             |
| 1919 .. .. | 2                 | 10           | 6                   | 216   | 222    | 38,340             |

The most striking feature of the figures for 1918 and 1919 is the large increase in the number of bores put down for coal.

**Antimony.** Up to the end of 1919 the quantity of antimony ore produced in Victoria was 94,479 tons valued at £534,927. Nearly the whole of it was obtained at Costerfield. The production for 1919 was 4,322 tons of ore, which yielded 1,208 tons of concentrates valued at £24,160. For the previous year the production was 2,960 tons of ore, which yielded 1,201 tons of concentrates of the value of £24,020.

**Tin.** The production of tin ore in the State up to the end of 1919 was 16,430 tons, valued at £878,747. In the year 1919 the quantity produced was 113 tons, as against 135 tons in the preceding year, and 139 tons in 1917. Of the tin won during the past five years nearly the whole was obtained in the Beechworth district.

**Gypsum.** The quantity of gypsum produced in the State in 1919 was 820 tons, nearly all of which was obtained at Lake Boga. The output for the previous year was 731 tons, which was obtained at Boort. Up to the end of 1919, the quantity raised in Victoria was 29,232 tons, valued at £22,485.

**Kaolin.** The quantity of kaolin produced in 1919 was 2,049 tons, and in the previous year 3,251 tons. Up to the end of last year the total output was 15,946 tons, valued at £23,017.

**Quarries.** The quantity and value of stone raised from Victorian quarries during the last six years are set forth in the following table:—

QUARRIES: 1914 to 1919-20.

| Year.      | Number of Quarries. | Quantity of Stone Operated on— |             |          |            | Approximate Total Value of Stone Raised. |
|------------|---------------------|--------------------------------|-------------|----------|------------|--|
|            |                     | Bluestone.                     | Free-stone. | Granite. | Limestone. |  |
|            |                     | c. yds.                        | c. yds.     | c. yds.  | c. yds.    | £  |
| 1914 ..    | 93                  | 914,310                        | 2,886       | 953      | 57,733     | 183,376                                  |
| 1915 ..    | 102                 | 1,157,280                      | 1,384       | 1,392    | 49,121     | 209,539                                  |
| 1916-17 .. | 103                 | 628,155                        | 22,796      | 1,365    | 43,998     | 125,106                                  |
| 1917-18 .. | 103                 | 744,630                        | 24,190      | 2,250    | 44,450     | 171,992                                  |
| 1918-19 .. | 99                  | 837,080                        | 1,282       | 1,760    | 47,854     | 189,770                                  |
| 1919-20 .. | 91                  | 785,847                        | 2,824       | 1,490    | 56,446     | 219,413                                  |

In 1919-20 the number of persons employed in quarries was 1,278, and the wages paid amounted to £183,368. These figures include the employees and wages connected with stone-breaking and tar-paving works, most of which are carried on in conjunction with quarries and cannot be separated therefrom.

**MANUFACTURING INDUSTRIES.****Industrial  
progress.**

The earliest year for which there are statistical records of the factories of the State is 1850, at which date the number of manufacturing establishments is shown to have been 68. Subsequently fair and regular progress was made in the industry until in 1900, the year before Federation, there were 3,097 factories working. The years immediately following Federation were marked by increased industrial activity, which has been well maintained in the last ten years, during which period nearly all existing lines of manufacture have shown a notable expansion, and many industries new to the State have been firmly established. Since 1904 the number of factories has increased by 43 per cent., the number of persons employed by 79 per cent., the amount of salaries and wages paid by 269 per cent., the value of output by 339 per cent., the value of machinery and plant and premises by 126 per cent., and the engine power of factories by 308 per cent. The difference between the cost of materials used and the value of the output was equivalent to an added value of £263 1s. 2d. per person employed in 1919-20, as compared with £128 in 1904. This favorable economic result coincides with a larger proportion of establishments using mechanical power in 1919-20, when 78 per cent. were so equipped, as against 60 per cent. in 1904, and with the increased aggregate engine power of factories previously referred to. The increase in the added value relatively to employees, the larger proportion of factories using power, and the higher aggregate power of establishments as a whole are indications of increasing industrial efficiency. The proportion of child labour in factories was practically the same in 1920 as in 1910.

An interesting feature of manufacturing activities is the great increase in the strength of the largest sized factories. Since 1904 the number of factories employing over 100 hands has increased by 99 per cent., and the number of hands employed therein by 131 per cent., as against increases of 42 per cent. in the number of, and 52 per cent. in the hands engaged in factories employing less than 100. The figures relating to distinct industries show that steady progress has been maintained in almost every class during recent years. This is most noticeable in industries associated with the manufacture of

clothing and textile fabrics (including boots) and with the preparation of food, &c.

The appended table summarizes the position of the industries at various stages since 1871, but except for the period 1904 to 1919-20 the information for different years is not strictly comparable, for the reason that it has not been compiled upon the same basis throughout.

### GROWTH IN THE MANUFACTURING INDUSTRIES.

| Year.      | Number of Factories. | Number of Persons employed. | Amount of Salaries and Wages paid. | Value of Plant, Machinery, Land and Buildings. | Value of Output. |
|------------|----------------------|-----------------------------|------------------------------------|--|------------------|
| 1871 ..    | 1,740                | 19,468                      | £ *                                | £ 4,725,125                                    | £ *              |
| 1881 ..    | 2,488                | 43,209                      | *                                  | 8,044,296                                      | †13,370,836      |
| 1891 ..    | 3,141                | 52,225                      | *                                  | 16,472,859                                     | ‡22,390,251      |
| 1901 ..    | 3,249                | 66,529                      | *                                  | 12,298,500                                     | §19,478,780      |
| 1904 ..    | 4,208                | 76,287                      | 4,794,365                          | 13,668,185                                     | 23,126,180       |
| 1912 ..    | 5,263                | 116,108                     | 10,102,244                         | 19,457,795                                     | 45,410,773       |
| 1913 ..    | 5,613                | 118,744                     | 10,714,336                         | 20,775,738                                     | 47,936,647       |
| 1914 ..    | 5,650                | 118,399                     | 11,099,940                         | 21,975,646                                     | 49,439,985       |
| 1915 ..    | 5,413                | 113,834                     | 11,036,345                         | 22,529,072                                     | 51,466,093       |
| 1916-17 .. | 5,445                | 116,970                     | 11,833,517                         | 23,784,289                                     | 60,047,284       |
| 1917-18 .. | 5,627                | 118,241                     | 12,502,601                         | 25,460,282                                     | 67,066,715       |
| 1918-19 .. | 5,720                | 122,349                     | 14,080,403                         | 27,318,735                                     | 80,195,677       |
| 1919-20 .. | 6,038                | 136,522                     | 17,702,173                         | 30,804,520                                     | 101,475,363      |

\* Particulars not available. † 1880. ‡ 1890. § 1900.

The first Factories Act in Victoria was passed in 1873, and since that year many other Acts dealing with the subject have been placed upon the statute-book. The *Factories and Shops Act* 1915 (No. 2650) consolidated all Acts passed prior to that date. The general provisions of factory legislation, including "Wages Boards," are fully dealt with in Part "Social Condition" of this work.

In the year 1902 the classification of industries for statistical purposes, as shown in the next table, was adopted by the Statisticians of Australia. A factory was defined as an establishment employing on the average four persons or more, or an establishment employing less than four persons where machinery is worked by other than manual power, whether the business carried on is that of making or repairing for the trade (wholesale or retail), or for export. The following table shows for the year 1919-20 the number of factories in each industry, the power used, the number

**Factories and Wages Board Legislation.**

**Production of different industries, 1919-20.**

FACTORIES—POWER, WORKERS, WAGES, ETC., AND PRODUCTION, 1919-20.

| Nature of Industry.   | Number of Manufactories. | Actual Horse-power of Engines used. | Average Number of Persons Employed. |              |                      |            | Value of—   |                      |                  |                                 |
|---|--------------------------|-------------------------------------|-------------------------------------|--------------|----------------------|------------|---|----------------------|------------------|---------------------------------|
|   |                          |                                     | Males.                              |              | Females.             |            | Wages paid exclusive of Amounts drawn by Working Proprietors. | Fuel and Light used. | Materials Used.  | Articles Produced or Work Done. |
|   |                          |                                     | Working Proprietors.                | Employees.   | Working Proprietors. | Employees. |   |                      |                  |                                 |
| <i>Class I.—Treating Raw Material the product of Pastoral Pursuits, or Vegetable Products, not otherwise classed.</i> |                          |                                     |                                     |              |                      |            |   |                      |                  |                                 |
| Boiling down .. .. .  | 17                       | 167                                 | 9                                   | 150          | ..                   | 1          | £ 27,563  | £ 8,564              | £ 279,147        | £ 368,961                       |
| Bone milling .. .. .  | 15                       | 684                                 | 19                                  | 127          | ..                   | 2          | 22,792  | 15,552               | 134,468          | 198,566                         |
| Tanning .. .. .   | 48                       | 3,081                               | 50                                  | 2,100        | ..                   | 11         | 420,848   | 35,469               | 3,111,015        | 4,150,873                       |
| Fellmongering .. .. .   | 38                       | 1,550                               | 35                                  | 1,185        | ..                   | 3          | 211,072   | 38,265               | 4,089,342        | 4,745,218                       |
| Chaffcutting and grain crushing ..  | 180                      | 2,236                               | 169                                 | 632          | ..                   | 6          | 64,792  | 10,150               | 1,155,490        | 1,349,729                       |
| Other .. .. .   | 7                        | 48                                  | 1                                   | 257          | ..                   | 2          | 50,074  | 1,359                | 113,386          | 212,690                         |
| <b>Total .. .. .</b>  | <b>305</b>               | <b>7,766</b>                        | <b>283</b>                          | <b>4,451</b> | <b>..</b>            | <b>25</b>  | <b>797,141</b>  | <b>109,359</b>       | <b>8,882,848</b> | <b>11,026,037</b>               |
| <i>Class II.—Oils and Fats, Animal and Vegetable.</i>   |                          |                                     |                                     |              |                      |            |   |                      |                  |                                 |
| Oil, grease, glue .. .. .   | 10                       | 153                                 | 5                                   | 119          | ..                   | 16         | 23,721  | 7,435                | 204,348          | 291,402                         |
| Soap and candle .. .. .   | 16                       | 498                                 | 13                                  | 577          | ..                   | 148        | 103,333   | 35,091               | 911,310          | 1,321,112                       |
| <b>Total .. .. .</b>  | <b>26</b>                | <b>651</b>                          | <b>18</b>                           | <b>696</b>   | <b>..</b>            | <b>164</b> | <b>127,054</b>  | <b>42,526</b>        | <b>1,115,658</b> | <b>1,612,514</b>                |

of persons employed, the wages paid, the values of materials and fuel and light used, and the value of articles produced or work done:—

*Class III.—Processes relating to  
Stone, Clay, Glass, &c.*

|                                   |            |              |            |              |           |            |                |                |                |                  |
|-----------------------------------|------------|--------------|------------|--------------|-----------|------------|----------------|----------------|----------------|------------------|
| Brick, pottery, &c. ..            | 93         | 5,545        | 65         | 2,414        | ..        | 90         | 336,295        | 107,817        | 70,121         | 674,774          |
| Cement, including cement pipes .. | 10         | 1,807        | 4          | 350          | ..        | 2          | 61,213         | 31,041         | 66,855         | 238,342          |
| Glass, including bottles ..       | 7          | 309          | 10         | 945          | ..        | 14         | 152,597        | 51,963         | 101,197        | 383,337          |
| Glass bevelling ..                | 23         | 89           | 18         | 183          | ..        | 4          | 28,745         | 858            | 73,614         | 129,732          |
| Marble and stone dressing ..      | 37         | 276          | 45         | 292          | ..        | 5          | 48,019         | 1,769          | 43,543         | 127,290          |
| Modelling ..                      | 9          | 54           | 7          | 136          | ..        | 2          | 20,162         | 274            | 22,958         | 54,470           |
| Other ..                          | 17         | 169          | 16         | 226          | ..        | ..         | 34,156         | 13,162         | 12,213         | 82,694           |
| <b>Total ..</b>                   | <b>196</b> | <b>8,249</b> | <b>165</b> | <b>4,546</b> | <b>..</b> | <b>117</b> | <b>681,187</b> | <b>206,884</b> | <b>390,501</b> | <b>1,690,639</b> |

*Class IV.—Working in Wood.*

|                               |            |               |            |              |          |            |                  |               |                  |                  |
|-------------------------------|------------|---------------|------------|--------------|----------|------------|------------------|---------------|------------------|------------------|
| Cooperage ..                  | 7          | 195           | 5          | 148          | ..       | ..         | 33,773           | 2,036         | 44,516           | 101,376          |
| Saw-milling (forest) ..       | 203        | 4,456         | 257        | 2,619        | ..       | 8          | 405,335          | 1,428         | 15,970           | 813,551          |
| Saw-milling, moulding, &c. .. | 260        | 8,191         | 231        | 4,690        | 1        | 57         | 748,401          | 23,239        | 1,666,286        | 2,817,902        |
| Mantelpiece ..                | 7          | 57            | 9          | 208          | 1        | 5          | 31,269           | 393           | 34,634           | 77,661           |
| Wood carving, turning ..      | 26         | 442           | 26         | 299          | ..       | 8          | 45,885           | 2,216         | 64,301           | 135,568          |
| Other ..                      | 9          | 128           | 4          | 166          | ..       | 60         | 29,433           | 1,127         | 58,622           | 116,715          |
| <b>Total ..</b>               | <b>512</b> | <b>13,469</b> | <b>532</b> | <b>8,130</b> | <b>2</b> | <b>138</b> | <b>1,294,096</b> | <b>30,439</b> | <b>1,884,329</b> | <b>4,062,773</b> |

*Class V.—Metal Works, Machinery, &c.*

|                                   |            |               |            |               |          |            |                  |                |                  |                  |
|-----------------------------------|------------|---------------|------------|---------------|----------|------------|------------------|----------------|------------------|------------------|
| Agricultural implement ..         | 61         | 1,178         | 70         | 1,675         | ..       | 26         | 272,262          | 20,001         | 349,555          | 757,062          |
| Engineering, iron foundry, &c. .. | 441        | 10,795        | 478        | 8,418         | ..       | 146        | 1,395,379        | 128,435        | 1,917,877        | 4,220,094        |
| Railway workshop ..               | 19         | 2,312         | ..         | 4,366         | ..       | 7          | 791,753          | 26,152         | 804,061          | 1,784,163        |
| Nail ..                           | 11         | 728           | 8          | 184           | ..       | 7          | 33,594           | 3,383          | 155,701          | 237,200          |
| Sheet-iron, tin, &c. ..           | 79         | 464           | 66         | 1,374         | ..       | 197        | 203,801          | 8,479          | 604,333          | 993,904          |
| Brass, copper smithing ..         | 72         | 666           | 88         | 965           | ..       | 47         | 141,443          | 12,533         | 201,064          | 431,078          |
| Wireworking ..                    | 16         | 221           | 16         | 207           | ..       | 8          | 30,765           | 1,531          | 107,304          | 185,900          |
| Metallurgical, &c., cyanide ..    | 14         | 318           | 9          | 134           | ..       | ..         | 21,098           | 4,615          | 104,896          | 159,790          |
| Oven, range ..                    | 17         | 96            | 20         | 112           | ..       | ..         | 17,863           | 967            | 32,537           | 66,557           |
| Other ..                          | 44         | 620           | 48         | 397           | 2        | 4          | 63,406           | 5,896          | 122,968          | 243,862          |
| <b>Total ..</b>                   | <b>774</b> | <b>17,398</b> | <b>803</b> | <b>17,832</b> | <b>2</b> | <b>442</b> | <b>2,971,364</b> | <b>211,992</b> | <b>4,400,296</b> | <b>9,079,610</b> |

Production.

## FACTORIES—POWER, WORKERS, WAGES, ETC., AND PRODUCTION, 1919-20—continued.

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Victorian Year-Book, 1919-20.

| Nature of Industry.  | Number of Manufactories. | Actual Horse-power of Engines used. | Average Number of Persons Employed. |            |                      |            | Value of—   |                      |                 |                                 |
|--|--------------------------|-------------------------------------|-------------------------------------|------------|----------------------|------------|---|----------------------|-----------------|---------------------------------|
|  |                          |                                     | Males.                              |            | Females.             |            | Wages paid exclusive of Amounts drawn by Working Proprietors. | Fuel and Light used. | Materials Used. | Articles Produced or Work Done. |
|  |                          |                                     | Working Proprietors.                | Employees. | Working Proprietors. | Employees. |   |                      |                 |                                 |
| <i>Class VI.—Connected with Food and Drink or the preparation thereof.</i> |                          |                                     |                                     |            |                      |            |   |                      |                 |                                 |
| Bacon curing .. .. .   | 21                       | 1,188                               | 20                                  | 506.       | ..                   | 23         | £ 99,736  | £ 12,122             | £ 1,138,511     | £ 1,384,351                     |
| Butter, cheese, butterine .. ..  | 187                      | 3,484                               | 32                                  | 1,892      | ..                   | 223        | 356,657   | 87,010               | 5,868,734       | 6,755,140                       |
| Meat freezing, preserving .. ..  | 18                       | 6,144                               | 4                                   | 2,408      | ..                   | 63         | 505,046   | 74,800               | 4,325,886       | 5,241,088                       |
| Biscuit .. .. .  | 7                        | 399                                 | 5                                   | 921        | ..                   | 681        | 173,787   | 21,299               | 682,532         | 1,034,460                       |
| Flourmilling .. .. .   | 51                       | 4,924                               | 36                                  | 1,019      | ..                   | 9          | 189,224   | 50,778               | 5,318,773       | 6,082,741                       |
| Jam, sauce, &c. .. .. .  | 42                       | 813                                 | 30                                  | 1,662      | 4                    | 1,421      | 324,438   | 23,256               | 1,530,155       | 2,258,454                       |
| Oatmeal, starch, &c. .. .. .   | 37                       | 1,904                               | 22                                  | 377        | ..                   | 330        | 88,132  | 11,313               | 781,941         | 1,002,165                       |
| Sugar, confectionery, &c. .. ..  | 78                       | 4,633                               | 64                                  | 1,777      | 13                   | 1,750      | 389,824   | 76,525               | 3,169,196       | 4,200,738                       |
| Aerated water, cordial, &c. ..   | 115                      | 432                                 | 109                                 | 771        | 7                    | 123        | 127,716   | 5,557                | 301,898         | 600,924                         |
| Malt .. .. .   | 23                       | 410                                 | 9                                   | 303        | ..                   | ..         | 59,450  | 15,225               | 699,206         | 850,828                         |
| Brewing .. .. .  | 17                       | 3,869                               | 8                                   | 1,004      | ..                   | 4          | 240,407   | 53,831               | 878,324         | 1,830,548                       |
| Distilling .. .. .   | 11                       | 387                                 | ..                                  | 188        | ..                   | 5          | 35,654  | 8,066                | 122,732         | 219,341                         |
| Condiments, coffee, cocoa, &c. ..  | 21                       | 852                                 | 9                                   | 290        | ..                   | 136        | 56,144  | 7,342                | 562,958         | 731,925                         |
| Tobacco, &c. .. .. .   | 14                       | 440                                 | 17                                  | 1,140      | 1                    | 785        | 289,027   | 5,263                | 1,577,085       | 2,579,323                       |
| Other .. .. .  | 34                       | 1,418                               | 18                                  | 300        | 1                    | 25         | 50,652  | 16,665               | 70,566          | 191,249                         |
| Total .. .. .  | 676                      | 31,297                              | 383                                 | 14,558     | 26                   | 5,578      | 2,985,894   | 469,052              | 27,028,497      | 34,963,275                      |

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*Class VII.—Clothing and Textile  
Fabrics, and Fibrous Material.*

|                                 |     |       |     |       |     |       |           |        |           |           |
|---------------------------------|-----|-------|-----|-------|-----|-------|-----------|--------|-----------|-----------|
| Woollen mill .. ..              | 14  | 4,674 | 10  | 1,363 | ..  | 1,491 | 324,690   | 52,429 | 1,131,765 | 1,976,428 |
| Clothing, tailoring, &c. ..     | 453 | 415   | 446 | 1,653 | 34  | 7,189 | 896,906   | 16,945 | 2,072,694 | 3,662,152 |
| Dressmaking and millinery ..    | 459 | 354   | 94  | 227   | 282 | 8,514 | 657,004   | 9,679  | 1,579,464 | 2,863,889 |
| Underclothing, shirt .. ..      | 171 | 702   | 104 | 255   | 85  | 5,575 | 427,035   | 18,735 | 1,505,671 | 2,374,591 |
| Hat, cap .. ..                  | 42  | 533   | 38  | 692   | 5   | 868   | 203,092   | 13,998 | 507,932   | 908,764   |
| Hosiery .. ..                   | 79  | 989   | 43  | 254   | 43  | 2,103 | 200,770   | 7,930  | 728,112   | 1,149,272 |
| Oilskin, waterproof clothing .. | 3   | 24    | 2   | 45    | ..  | 153   | 26,681    | 661    | 71,286    | 123,151   |
| Boot, shoe .. ..                | 264 | 2,258 | 318 | 5,776 | 7   | 4,256 | 1,252,004 | 24,880 | 3,909,570 | 5,996,639 |
| Fur .. ..                       | 27  | 17    | 22  | 88    | 10  | 250   | 30,664    | 534    | 109,083   | 192,049   |
| Rope, twine, &c. .. ..          | 9   | 1,407 | 7   | 536   | ..  | 349   | 101,494   | 9,840  | 357,436   | 501,639   |
| Sail, tent, &c. .. ..           | 17  | 30    | 16  | 82    | 1   | 80    | 18,779    | 335    | 144,264   | 209,590   |
| Other .. ..                     | 35  | 187   | 28  | 297   | 6   | 548   | 86,007    | 5,433  | 432,061   | 596,979   |

Total .. .. 1,573 11,590 1,128 11,268 473 31,376 4,225,126 161,399 12,549,338 20,655,143

*Class VIII.—Books, Paper, Printing,  
Engraving, &c.*

|                                  |     |       |     |       |    |       |         |        |           |           |
|----------------------------------|-----|-------|-----|-------|----|-------|---------|--------|-----------|-----------|
| Printing .. ..                   | 369 | 3,637 | 428 | 4,823 | 8  | 1,340 | 985,236 | 30,390 | 1,588,937 | 3,438,247 |
| Account-book, stationery, &c. .. | 27  | 492   | 25  | 529   | 1  | 492   | 114,125 | 3,786  | 312,201   | 533,093   |
| Fancy box .. ..                  | 29  | 221   | 20  | 194   | 8  | 712   | 81,056  | 1,870  | 229,359   | 408,044   |
| Die sinking, engraving, &c. ..   | 20  | 115   | 24  | 234   | .. | 11    | 36,091  | 953    | 32,239    | 100,939   |
| Other .. ..                      | 20  | 2,057 | 17  | 556   | .. | 65    | 92,881  | 28,876 | 167,546   | 429,794   |

Total .. .. 465 6,522 514 6,336 17 2,620 1,309,389 65,875 2,330,282 4,910,117

*Class IX.—Musical Instruments* ..

|  |    |     |   |     |    |    |        |     |        |         |
|--|----|-----|---|-----|----|----|--------|-----|--------|---------|
|  | 12 | 169 | 8 | 261 | .. | 16 | 46,034 | 909 | 41,947 | 111,987 |
|--|----|-----|---|-----|----|----|--------|-----|--------|---------|

*Class X.—Arms and Explosives* ..

|  |    |     |   |     |    |     |        |       |         |         |
|--|----|-----|---|-----|----|-----|--------|-------|---------|---------|
|  | 10 | 614 | 1 | 446 | .. | 392 | 95,237 | 9,653 | 380,886 | 521,731 |
|--|----|-----|---|-----|----|-----|--------|-------|---------|---------|

Production.

FACTORIES—POWER, WORKERS, WAGES, ETC., AND PRODUCTION, 1919-20—continued.

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Victorian Year-Book, 1919-20.

| Nature of Industry.  | Number of Manufactories. | Actual Horse-power of Engines used. | Average Number of Persons Employed. |              |                      |            | Value of—   |                      |                 |                                 |
|--|--------------------------|-------------------------------------|-------------------------------------|--------------|----------------------|------------|---|----------------------|-----------------|---------------------------------|
|  |                          |                                     | Males.                              |              | Females.             |            | Wages paid exclusive of Amounts drawn by Working Proprietors. | Fuel and Light used. | Materials Used. | Articles Produced or Work Done. |
|  |                          |                                     | Working Proprietors.                | Employees.   | Working Proprietors. | Employees. |   |                      |                 |                                 |
| <i>Class XI.—Vehicles and Fittings, Saddlery, Harness, &amp;c.</i> |                          |                                     |                                     |              |                      | £          | £   | £                    | £               |                                 |
| Coachbuilding .. .. .  | 293                      | 769                                 | 350                                 | 2,160        | ..                   | 25         | 301,419   | 10,812               | 398,341         | 881,520                         |
| Bicycle, &c. .. .. .   | 255                      | 867                                 | 300                                 | 2,062        | ..                   | 77         | 296,471   | 9,211                | 284,938         | 736,658                         |
| Saddle, harness .. .. .  | 49                       | 41                                  | 60                                  | 393          | ..                   | 76         | 64,708  | 582                  | 138,427         | 237,558                         |
| Other .. .. .  | 15                       | 64                                  | 14                                  | 179          | ..                   | 11         | 26,692  | 400                  | 44,774          | 89,276                          |
| <b>Total .. .. .</b>   | <b>612</b>               | <b>1,741</b>                        | <b>724</b>                          | <b>4,794</b> | <b>..</b>            | <b>189</b> | <b>689,290</b>  | <b>21,005</b>        | <b>866,480</b>  | <b>1,945,012</b>                |
| <i>Class XII.—Shipbuilding, Fitting, &amp;c.</i>                   | 12                       | 1,410                               | 10                                  | 923          | ..                   | 5          | 181,513   | 7,342                | 192,725         | 448,858                         |
| <i>Class XIII.—Furniture, Bedding, &amp;c.</i>                     |                          |                                     |                                     |              |                      |            |   |                      |                 |                                 |
| Upholstery, bedding, &c. ..  | 47                       | 389                                 | 27                                  | 395          | 3                    | 194        | 78,158  | 2,492                | 268,878         | 420,930                         |
| Cabinet, including billiard table ..                               | 256                      | 1,592                               | 328                                 | 2,288        | 3                    | 91         | 329,519   | 7,939                | 548,710         | 1,080,862                       |
| Picture frame .. .. .  | 21                       | 44                                  | 23                                  | 116          | ..                   | 17         | 15,274  | 376                  | 33,638          | 69,275                          |
| Other .. .. .  | 8                        | 102                                 | 5                                   | 156          | ..                   | 12         | 25,263  | 1,602                | 74,310          | 126,504                         |
| <b>Total .. .. .</b>   | <b>332</b>               | <b>2,128</b>                        | <b>383</b>                          | <b>2,955</b> | <b>5</b>             | <b>314</b> | <b>448,214</b>  | <b>12,409</b>        | <b>926,536</b>  | <b>1,687,571</b>                |

*Class XIV.—Drugs, Chemicals, and  
By-products.*

|                             |            |              |            |              |          |            |                |               |                  |                  |
|-----------------------------|------------|--------------|------------|--------------|----------|------------|----------------|---------------|------------------|------------------|
| Blacking, blue, &c. .. ..   | 23         | 223          | 14         | 191          | ..       | 237        | 45,860         | 2,627         | 303,126          | 473,702          |
| Chemicals, drugs, &c. .. .. | 39         | 809          | 27         | 533          | 2        | 420        | 130,237        | 13,564        | 363,732          | 664,111          |
| Fertilizers .. ..           | 6          | 2,233        | ..         | 639          | ..       | 5          | 121,196        | 17,431        | 709,636          | 1,007,189        |
| Other .. ..                 | 56         | 330          | 74         | 285          | 2        | 18         | 36,820         | 1,426         | 128,488          | 222,121          |
| <b>Total .. ..</b>          | <b>124</b> | <b>3,595</b> | <b>115</b> | <b>1,648</b> | <b>4</b> | <b>680</b> | <b>334,113</b> | <b>35,048</b> | <b>1,504,982</b> | <b>2,367,123</b> |

*Class XV.—Surgical and Scientific  
Appliances .. ..*

|                  |    |    |    |     |    |    |        |     |        |        |
|------------------|----|----|----|-----|----|----|--------|-----|--------|--------|
| Appliances .. .. | 33 | 40 | 28 | 132 | .. | 14 | 19,302 | 568 | 21,528 | 55,594 |
|------------------|----|----|----|-----|----|----|--------|-----|--------|--------|

*Class XVI.—Timepieces, Jewellery,  
and Platedware.. ..*

|  |    |     |     |       |   |     |         |       |         |         |
|--|----|-----|-----|-------|---|-----|---------|-------|---------|---------|
| Timepieces, Jewellery, and Platedware.. .. | 99 | 323 | 106 | 1,070 | 2 | 169 | 178,209 | 5,437 | 361,863 | 689,423 |
|--|----|-----|-----|-------|---|-----|---------|-------|---------|---------|

*Class XVII.—Heat, Light, and  
Energy.*

|                          |            |               |           |              |           |            |                |                |                |                  |
|--------------------------|------------|---------------|-----------|--------------|-----------|------------|----------------|----------------|----------------|------------------|
| Electric apparatus .. .. | 40         | 340           | 38        | 419          | ..        | 17         | 56,004         | 1,829          | 71,451         | 175,396          |
| Electric light .. ..     | 78         | 49,241        | 2         | 1,175        | ..        | 38         | 217,995        | 266,244        | 2,730          | 953,039          |
| Gas, coke .. ..          | 45         | 1,865         | 4         | 2,192        | ..        | 71         | 472,855        | 5,369          | 623,232        | 1,447,702        |
| Other .. ..              | 7          | 1,204         | 2         | 151          | ..        | 357        | 47,985         | 6,352          | 166,942        | 267,333          |
| <b>Total .. ..</b>       | <b>170</b> | <b>52,650</b> | <b>46</b> | <b>3,937</b> | <b>..</b> | <b>483</b> | <b>794,839</b> | <b>279,794</b> | <b>864,355</b> | <b>2,843,470</b> |

FACTORIES—POWER, WORKERS, WAGES, ETC., AND PRODUCTION, 1919-20—continued.

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| Nature of Industry.   | Number of Manufactories. | Actual Horse-power of Engines used. | Average Number of Persons Employed. |            |                      |            | Value of—   |                      |                 |                                 |
|---|--------------------------|-------------------------------------|-------------------------------------|------------|----------------------|------------|---|----------------------|-----------------|---------------------------------|
|   |                          |                                     | Males.                              |            | Females.             |            | Wages paid exclusive of Amounts drawn by Working Proprietors. | Fuel and Light used. | Materials Used. | Articles Produced or Work Done. |
|   |                          |                                     | Working Proprietors.                | Employees. | Working Proprietors. | Employees. |   |                      |                 |                                 |
| <i>Class XVIII.—Leatherware (except Saddlery and Harness) .. ..</i> | 45                       | 360                                 | 53                                  | 566        | 2                    | 424        | £<br>111,055  | £<br>3,215           | £<br>568,854    | £<br>825,371                    |
| <i>Class XIX.—Wares, not elsewhere included.</i>                    |                          |                                     |                                     |            |                      |            |   |                      |                 |                                 |
| Umbrella .. ..  | 8                        | 13                                  | 6                                   | 41         | ..                   | 77         | 10,886  | 252                  | 54,448          | 77,628                          |
| Rubber goods .. ..  | 14                       | 6,716                               | 11                                  | 1,706      | ..                   | 581        | 335,798   | 48,995               | 1,066,726       | 1,632,488                       |
| Brush, broom .. ..  | 18                       | 99                                  | 20                                  | 282        | 1                    | 82         | 48,545  | 982                  | 110,259         | 204,342                         |
| Basket, wickerware .. ..  | 22                       | 3                                   | 27                                  | 159        | ..                   | 1          | 17,887  | 85                   | 19,766          | 45,085                          |
| Total .. ..   | 62                       | 6,831                               | 64                                  | 2,188      | 1                    | 741        | 413,116   | 50,314               | 1,251,199       | 1,959,543                       |
| Grand Total .. ..   | 6,038                    | 166,803                             | 5,364                               | 86,737     | 534                  | 43,887     | 17,702,173  | 1,723,220            | 65,563,104      | 101,475,363                     |

Victorian Year-Book, 1919-20.

Increase in value of output of each industry, 1914 and 1919-20.

Nearly every manufacturing industry in the State has shown a substantial increase in the value of output during the past five years. The output for the years 1914 and 1919-20 is shown in the following table, the industries being arranged in order of increase in value:—

### OUTPUT OF INDUSTRIES, 1914 AND 1919-20.

| Industry.                              | Value of Output. |           | Increase in Five Years. |           |
|--|------------------|-----------|-------------------------|-----------|
|  | 1914.            | 1919-20.  | Value.                  | Per cent. |
|  | £                | £         | £                       |           |
| Fellmongering .. ..                    | 547,784          | 4,745,218 | 4,197,434               | 766·3     |
| Boot, shoe .. ..                       | 2,160,500        | 5,996,639 | 3,836,139               | 177·6     |
| Meat freezing, preserving ..           | 1,720,614        | 5,241,088 | 3,520,474               | 204·6     |
| Butter, cheese, and butterine, &c.     | 3,307,997        | 6,755,140 | 3,447,143               | 104·2     |
| Flour mills .. ..                      | 2,726,878        | 6,082,741 | 3,355,863               | 123·1     |
| Tanning .. ..                          | 1,585,151        | 4,150,873 | 2,565,722               | 161·9     |
| Sugar, confectionery .. ..             | 2,091,852        | 4,200,738 | 2,108,886               | 10·8      |
| Dressmaking and millinery ..           | 1,385,952        | 2,863,889 | 1,477,937               | 106·6     |
| Clothing, tailoring, &c. ..            | 2,201,353        | 3,662,152 | 1,460,799               | 66·4      |
| Jam, sauce, &c. .. ..                  | 835,807          | 2,258,454 | 1,422,647               | 170·2     |
| Tobacco, &c. .. ..                     | 1,158,067        | 2,579,323 | 1,421,256               | 122·7     |
| Woollen mills .. ..                    | 577,434          | 1,976,428 | 1,398,994               | 242·3     |
| Sawmills, moulding, &c. ..             | 2,257,550        | 3,631,453 | 1,373,903               | 60·9      |
| Underclothing, shirt, &c. ..           | 1,083,483        | 2,374,591 | 1,291,108               | 119·2     |
| Engineering, iron foundry, &c.         | 2,961,187        | 4,220,094 | 1,258,907               | 42·5      |
| Printing .. ..                         | 2,348,367        | 3,438,247 | 1,089,880               | 46·4      |
| Rubber goods .. ..                     | 695,738          | 1,632,488 | 936,750                 | 134·6     |
| Hosiery .. ..                          | 270,718          | 1,149,272 | 878,554                 | 325·4     |
| Soap, candle .. ..                     | 641,104          | 1,321,112 | 680,008                 | 106·1     |
| Coach, motor, and cycle building .. .. | 972,072          | 1,618,178 | 646,106                 | 66·5      |
| Brewing .. ..                          | 1,196,306        | 1,830,548 | 634,242                 | 53·0      |
| Bacon curing .. ..                     | 772,318          | 1,384,351 | 612,033                 | 79·3      |
| Oatmeal, starch, &c. ..                | 435,272          | 1,002,165 | 566,893                 | 130·2     |
| Cabinet, including billiard table      | 520,299          | 1,080,862 | 560,563                 | 107·7     |
| Leatherware, except saddlery ..        | 271,487          | 825,371   | 553,884                 | 204·1     |
| Chaffcutting and grain crushing        | 797,962          | 1,349,729 | 551,767                 | 69·2      |
| Sheet iron, tin, &c. .. ..             | 443,915          | 993,904   | 549,989                 | 123·9     |
| Malt .. ..                             | 322,466          | 850,828   | 528,362                 | 163·9     |
| Hat, cap .. ..                         | 413,436          | 908,764   | 495,328                 | 119·8     |
| Electric light .. ..                   | 473,918          | 953,039   | 479,121                 | 101·1     |
| Gas, coke .. ..                        | 979,229          | 1,447,902 | 468,473                 | 47·8      |
| Biscuit .. ..                          | 574,133          | 1,034,460 | 460,327                 | 80·2      |
| Condiments, coffee, cocoa, &c.         | 295,459          | 731,925   | 436,466                 | 147·7     |
| Chemicals .. ..                        | 265,785          | 664,111   | 398,326                 | 149·9     |
| Fertilisers .. ..                      | 672,985          | 1,007,189 | 334,204                 | 49·7      |
| Timepiece, jewellery, &c. ..           | 356,188          | 689,423   | 333,235                 | 93·6      |
| Ship, boat, dock, &c. ..               | 163,970          | 448,858   | 284,888                 | 173·8     |
| Rope, twine, &c. .. ..                 | 318,664          | 601,639   | 282,975                 | 88·8      |

## OUTPUT OF INDUSTRIES, 1914 AND 1919-20—continued.

| Industry.                     | Value of Output. |             | Increase in Five Years. |           |
|-------------------------------|------------------|-------------|-------------------------|-----------|
|                               | 1914.            | 1919-20.    | Value.                  | Per cent. |
|                               | £                | £           | £                       |           |
| Fancy cardboard box ..        | 134,061          | 408,044     | 273,983                 | 204·4     |
| Blacking blue, &c. ...        | 204,843          | 473,702     | 268,859                 | 131·3     |
| Account book, &c. ...         | 295,266          | 533,093     | 237,827                 | 80·5      |
| Glass bottles ..              | 156,475          | 383,337     | 226,862                 | 145·0     |
| Upholstering, bedding, &c. .. | 207,158          | 420,930     | 213,772                 | 103·2     |
| Brass, copper ..              | 255,958          | 431,078     | 175,120                 | 68·4      |
| Boiling down ..               | 196,506          | 368,961     | 172,455                 | 87·7      |
| Brick, pottery, &c. ..        | 504,350          | 674,774     | 170,424                 | 33·7      |
| Oil, grease, glue ..          | 122,870          | 291,402     | 168,532                 | 137·2     |
| Arms and explosives ..        | 366,266          | 521,731     | 155,465                 | 42·4      |
| All others ..                 | 6,192,832        | 9,262,325   | 3,072,493               | 49·6      |
| Total ..                      | 49,439,985       | 101,475,363 | 52,035,378              | ..        |

## INDIVIDUAL INDUSTRIES.

The salient features in connexion with the chief industries are set forth in the succeeding pages.

The development of the tanning and fellmongering industry during the past ten years is shown by the particulars contained in the next two tables:—

Tanneries,  
&c.

## TANNERIES, ETC., 1910 to 1919-20.

| Year.      | Number of Establishments. | Horse-power of Engines. | Value of Machinery and Plant in Use. | Number of Persons Employed. | Number of Working Proprietors | Amount of Wages Paid. |
|------------|---------------------------|-------------------------|--------------------------------------|-----------------------------|-------------------------------|-----------------------|
|            |                           |                         | £                                    |                             |                               | £                     |
| 1910 ..    | 80                        | 1,900                   | 141,702                              | 1,956                       | 90                            | 175,564               |
| 1911 ..    | 88                        | 2,665                   | 165,964                              | 2,183                       | 97                            | 192,822               |
| 1912 ..    | 90                        | 2,161                   | 176,947                              | 1,996                       | 103                           | 205,050               |
| 1913 ..    | 84                        | 2,393                   | 196,848                              | 1,824                       | 86                            | 194,943               |
| 1914 ..    | 79                        | 2,434                   | 190,469                              | 1,875                       | 82                            | 219,007               |
| 1915 ..    | 82                        | 2,510                   | 193,350                              | 2,165                       | 97                            | 268,884               |
| 1916-17 .. | 74                        | 3,167                   | 214,896                              | 2,362                       | 82                            | 300,796               |
| 1917-18 .. | 76                        | 3,476                   | 271,120                              | 2,485                       | 69                            | 347,753               |
| 1918-19 .. | 81                        | 4,065                   | 370,765                              | 2,984                       | 74                            | 465,543               |
| 1919-20 .. | 86                        | 4,631                   | 400,110                              | 3,299                       | 85                            | 631,920               |

The quantity of bark used in connexion with tanning operations in 1919-20 was 13,623 tons. The output of tanneries for each of the last ten years was as follows :—

OUTPUT OF TANNERIES, ETC., 1910 TO 1919-20.

| Year.      | Number Tanned of— |             |                        | Sheep Skins Stripped. | Wool Washed (weight after washing). | Value of Articles produced or Work done. |
|------------|-------------------|-------------|------------------------|-----------------------|-------------------------------------|--|
|            | Hides.            | Calf Skins. | Sheep and other Skins. |                       |                                     |  |
|            |                   |             |                        | No.                   | lbs.                                | £  |
| 1910 ..    | 496,200           | 186,993     | 1,007,343              | 1,241,693             | 8,242,456                           | 1,799,850                                |
| 1911 ..    | 523,989           | 199,257     | 817,866                | 1,301,298             | 9,356,529                           | 1,843,189                                |
| 1912 ..    | 536,343           | 194,441     | 891,971                | 1,095,196             | 8,182,610                           | 1,891,816                                |
| 1913 ..    | 528,117           | 181,643     | 863,580                | 1,128,302             | 7,424,263                           | 1,961,653                                |
| 1914 ..    | 554,242           | 210,894     | 936,975                | 1,639,161             | 7,916,250                           | 2,132,935                                |
| 1915 ..    | 765,088           | 166,197     | 1,150,449              | 1,463,775             | 12,224,184                          | 3,201,455                                |
| 1916-17 .. | 723,649           | 230,380     | 1,027,347              | 1,538,178             | 13,843,439                          | 3,982,202                                |
| 1917-18 .. | 601,950           | 217,605     | 1,418,595              | 1,641,000             | 24,560,590                          | 5,061,236                                |
| 1918-19 .. | 676,956           | 234,548     | 1,742,388              | 2,354,487             | 34,483,316                          | 6,918,270                                |
| 1919-20 .. | 738,907           | 251,973     | 2,780,017              | 5,030,433             | 38,191,912                          | 8,896,091                                |

The value of the leather, &c. imported into Victoria from oversea countries during the year ended 30th June, 1920, was £378,410.

Particulars in regard to the soap and candle works in the State for the past ten years are given below :—

SOAP AND CANDLE WORKS, 1910 TO 1919-20.

| Year.      | Number of Establishments. | Value of Machinery and Plant in Use. | Number of Employees. | Amount of Wages Paid. | Products. |          | Value of Output. |
|------------|---------------------------|--------------------------------------|----------------------|-----------------------|-----------|----------|------------------|
|            |                           |                                      |                      |                       | Soap.*    | Candles. |                  |
|            |                           | £                                    |                      | £                     | cwt.      | cwt.     | £                |
| 1910 ..    | 16                        | 113,418                              | 528                  | 51,518                | 187,433   | 44,768   | 516,508          |
| 1911 ..    | 16                        | 113,664                              | 528                  | 53,474                | 189,048   | 41,557   | 572,000          |
| 1912 ..    | 17                        | 117,034                              | 593                  | 61,398                | 215,629   | 40,157   | 562,013          |
| 1913 ..    | 18                        | 117,692                              | 561                  | 60,703                | 223,598   | 39,099   | 610,881          |
| 1914 ..    | 17                        | 120,215                              | 604                  | 65,155                | 243,558   | 37,564   | 641,104          |
| 1915 ..    | 17                        | 121,946                              | 627                  | 71,282                | 267,426   | 41,031   | 721,845          |
| 1916-17 .. | 18                        | 128,100                              | 670                  | 84,036                | 214,526   | 38,746   | 802,179          |
| 1917-18 .. | 17                        | 130,795                              | 756                  | 91,604                | 228,310   | 37,290   | 951,114          |
| 1918-19 .. | 15                        | 140,600                              | 669                  | 92,663                | 206,429   | 39,680   | 957,295          |
| 1919-20 .. | 16                        | 143,310                              | 725                  | 103,333               | 243,156   | 40,908   | 1,321,112        |

\* Not including soap made in small soap works not classified as factories, viz., 5,479 cwt. in 1910, 6,216 cwt. in 1911, 4,732 cwt. in 1912, 3,564 cwt. in 1913, 3,489 cwt. in 1914, 1,664 cwt. in 1915, 927 cwt. in 1916-17, 1,134 cwt. in 1917-18, 1,064 cwt. in 1918-19, and 967 cwt. in 1919-20.

The quantity of tallow used in 1919-20 in the manufacture of soap and candles was 159,087 cwt. in factories, and 424 cwt. in minor works.

The imports from oversea countries in 1919-20 included 297,514 lbs. of soap valued at £24,804, and 16,791 lbs. of candles valued at £1,475.

Particulars relating to brickyards and potteries for the ten years 1910 to 1919-20 are shown in the following statement. The value of the land, plant, buildings, &c., used in connexion with such works in 1919-20 was £676,250.

## BRICKS, POTTERY, PIPES, AND TILES, 1910 TO 1919-20.

| Year.      | Number of Establishments. | Number of Employees. | Amount of Wages Paid | Number of Bricks Made.* | Value of—        |          |
|------------|---------------------------|----------------------|----------------------|-------------------------|------------------|----------|
|            |                           |                      |                      |                         | Pipes and Tiles. | Pottery. |
|            |                           |                      | £                    |                         | £                | £        |
| 1910 ..    | 122                       | 1,730                | 178,868              | 145,809,500             | 83,397           | 31,897   |
| 1911 ..    | 120                       | 1,856                | 197,282              | 153,944,800             | 97,478           | 35,522   |
| 1912 ..    | 119                       | 2,047                | 236,526              | 180,724,200             | 123,944          | 44,788   |
| 1913 ..    | 106                       | 1,974                | 233,157              | 175,644,900             | 132,709          | 32,839   |
| 1914 ..    | 109                       | 2,117                | 260,877              | 188,238,420             | 124,826          | 47,948   |
| 1915 ..    | 89                        | 1,839                | 230,969              | 142,601,380             | 134,623          | 52,732   |
| 1916-17 .. | 79                        | 1,636                | 200,781              | 108,444,400             | 147,840          | 57,266   |
| 1917-18 .. | 78                        | 1,842                | 231,090              | 107,139,000             | 171,836          | 73,398   |
| 1918-19 .. | 84                        | 2,296                | 314,452              | 133,176,000             | 246,763          | 121,286  |
| 1919-20 .. | 93                        | 2,504                | 336,295              | 119,142,000             | 255,562          | 97,844   |

\* In addition there are bricks made in small brickyards not tabulated as factories.

The estimated value of bricks made in 1919-20 was £321,368, being an increase of £56,576 on the value of those made in the preceding year.

Detailed information in regard to the forest saw-mills of the State for the ten years 1910 to 1919-20 are given in the table which follows:—

Forest saw-mills.

## FOREST SAW-MILLS, 1910 TO 1919-20.

| Year.      | Number of Mills. | Value of Machinery and Plant in Use. | Number of Employees. | Amount of Wages Paid. | Victorian Timber Sawn. |         |
|------------|------------------|--------------------------------------|----------------------|-----------------------|------------------------|---------|
|            |                  |                                      |                      |                       | Quantity.              | Value.  |
|            |                  | £                                    |                      | £                     | Super ft.              | £       |
| 1910 ..    | 139              | 125,528                              | 1,767                | 158,733               | 70,947,200             | 248,320 |
| 1911 ..    | 142              | 148,136                              | 1,892                | 170,579               | 70,931,500             | 265,990 |
| 1912 ..    | 150              | 170,437                              | 1,814                | 183,169               | 73,374,900             | 265,980 |
| 1913 ..    | 167              | 262,964                              | 2,118                | 211,454               | 81,769,800             | 290,280 |
| 1914 ..    | 167              | 273,086                              | 2,127                | 232,305               | 84,374,300             | 316,400 |
| 1915 ..    | 138              | 233,343                              | 1,564                | 169,027               | 62,588,760             | 234,710 |
| 1916-17 .. | 151              | 235,140                              | 1,678                | 206,709               | 70,038,400             | 297,663 |
| 1917-18 .. | 162              | 260,280                              | 1,935                | 248,940               | 78,984,000             | 355,430 |
| 1918-19 .. | 187              | 315,670                              | 2,278                | 319,547               | 91,540,000             | 503,470 |
| 1919-20 .. | 203              | 366,355                              | 2,627                | 405,335               | 99,142,130             | 693,995 |

In addition to the forest saw-mills there were 309 other factories working in wood. The particulars for 1919-20 relating to these are given on page 547.

**Firewood, &c.** It is estimated that the approximate value of the production of firewood for consumption in the year 1919-20 was £790,140. In addition, there were supplies of railway sleepers, piles, posts and rails, shingles, and timber for mines obtained from the forests, but it has been found impossible to procure reliable information as to their value.

**Engineering, iron foundry, &c.** During the past decade there has been a very marked expansion in engineering works and iron foundries. Since 1904 the number of factories has increased by 90 per cent., the number of persons employed therein by 93 per cent., the amount of wages paid by 256 per cent., the value of machinery and plant by 133 per cent., the value of materials used by 324 per cent., and the value of the output by 286 per cent. The chief particulars of the industry for the years 1910 to 1919-20 are given in the next table:—

## ENGINEERING, IRON FOUNDRY, ETC., 1910 TO 1919-20.

| Year.   | Number of Factories. | Horse-power of Engines. | Value of Machinery and Plant. | Number of Persons Employed. | Amount of Wages Paid. | Value of—       |                      |           |
|---------|----------------------|-------------------------|-------------------------------|-----------------------------|-----------------------|-----------------|----------------------|-----------|
|         |                      |                         |                               |                             |                       | Materials Used. | Fuel and Light Used. | Output.   |
|         |                      |                         | £                             |                             | £                     | £               | £                    | £         |
| 1910..  | 290                  | 3,583                   | 496,232                       | 6,366                       | 615,704               | 757,270         | 66,693               | 1,805,199 |
| 1911..  | 304                  | 4,746                   | 553,685                       | 7,372                       | 762,824               | 913,476         | 77,674               | 2,194,805 |
| 1912..  | 326                  | 5,857                   | 635,481                       | 8,649                       | 988,802               | 1,154,377       | 83,841               | 2,640,453 |
| 1913..  | 345                  | 6,670                   | 715,909                       | 8,745                       | 1,029,136             | 1,206,001       | 90,005               | 2,824,892 |
| 1914..  | 354                  | 7,899                   | 762,392                       | 8,601                       | 1,038,622             | 1,298,255       | 94,284               | 2,961,187 |
| 1915..  | 364                  | 7,999                   | 784,447                       | 8,552                       | 1,056,075             | 1,349,270       | 106,483              | 3,029,713 |
| 1916-17 | 364                  | 7,964                   | 809,940                       | 7,726                       | 1,008,627             | 1,365,280       | 104,334              | 2,936,542 |
| 1917-18 | 388                  | 8,045                   | 844,350                       | 7,351                       | 1,011,930             | 1,414,060       | 110,900              | 3,096,090 |
| 1918-19 | 402                  | 8,694                   | 903,110                       | 7,537                       | 1,077,720             | 1,578,990       | 134,440              | 3,359,580 |
| 1919-20 | 441                  | 10,795                  | 1,023,395                     | 9,042                       | 1,395,379             | 1,917,877       | 128,435              | 4,220,094 |

The above figures are exclusive of railway workshops, which in 1919-20 numbered 19, and gave employment to 4,373 hands who were paid £791,753; the value of the materials dealt with was £804,061, and the value of the output was £1,784,163, of which 71 per cent. was from the Newport Workshops.

**Agricultural  
implement  
works.**

The subjoined statement contains the leading particulars relating to agricultural implement works for the last ten years :—

AGRICULTURAL IMPLEMENT WORKS, 1910 to 1919-20.

| Year.      | No. of Factories. | No. of Employees. | Wages Paid. | Approximate Value of— |                 |         |
|------------|-------------------|-------------------|-------------|-----------------------|-----------------|---------|
|            |                   |                   |             | Fuel, &c., Used.      | Materials Used. | Output. |
|            |                   |                   | £           | £                     | £               | £       |
| 1910 ..    | 50                | 2,193             | 231,919     | 21,537                | 300,718         | 742,326 |
| 1911 ..    | 59                | 2,651             | 297,824     | 19,299                | 345,665         | 831,474 |
| 1912 ..    | 67                | 2,590             | 309,789     | 19,388                | 329,397         | 799,217 |
| 1913 ..    | 66                | 2,166             | 268,880     | 16,916                | 324,063         | 710,832 |
| 1914 ..    | 65                | 1,895             | 242,158     | 16,866                | 278,283         | 638,827 |
| 1915 ..    | 64                | 1,678             | 206,764     | 15,337                | 213,257         | 526,756 |
| 1916-17 .. | 63                | 1,832             | 250,450     | 18,666                | 359,342         | 743,196 |
| 1917-18 .. | 62                | 1,904             | 261,045     | 20,911                | 435,665         | 830,876 |
| 1918-19 .. | 60                | 1,628             | 249,380     | 18,100                | 337,730         | 702,870 |
| 1919-20 .. | 61                | 1,701             | 272,262     | 20,001                | 349,555         | 757,062 |

The industry attained its greatest development in 1911, when the employees numbered 2,651, and the value of output was £831,474. From that year to 1915 there was a decrease both in the number of employees and in the value of the output. There has since been a considerable increase in the value of the output, doubtless owing in large measure to the high prices prevailing. The number of employees has also increased, but it is much less than the number for some years prior to 1915.

The wages averaged for each employee £89 19s. 5d. in 1904 and £160 1s. 2d. in 1919-20. The stripper-harvester, which is a Victorian invention, is one of the principal implements manufactured.

In the following table particulars of bacon and ham curing establishments are given for the ten years 1910 to 1919-20. The value of the machinery, plant, land and buildings in connexion with these establishments was £61,474 in 1910 and £224,710 in 1919-20.

## BACON CURING, 1910 TO 1919-20.

| Year.      | Number of Establishments. | Number of Employees. | Amount of Wages Paid. | Pigs Slaughtered for Curing. | Weight of Bacon and Hams Cured. | Value of Output. |
|------------|---------------------------|----------------------|-----------------------|------------------------------|---------------------------------|------------------|
|            |                           |                      | £                     | No.                          | lbs.                            | £                |
| 1910 ..    | 25                        | 307                  | 30,035                | 142,429                      | 13,455,397                      | 483,469          |
| 1911 ..    | 26                        | 349                  | 39,041                | 177,029                      | 15,190,449                      | 549,748          |
| 1912 ..    | 29                        | 399                  | 45,794                | 179,717                      | 16,044,228                      | 634,366          |
| 1913 ..    | 28                        | 423                  | 49,305                | 179,710                      | 16,345,955                      | 726,906          |
| 1914 ..    | 26                        | 442                  | 57,965                | 181,756                      | 16,298,474                      | 772,318          |
| 1915 ..    | 25                        | 362                  | 49,672                | 129,259                      | 11,451,031                      | 767,778          |
| 1916-17 .. | 23                        | 405                  | 58,191                | 167,003                      | 15,376,600                      | 972,477          |
| 1917-18 .. | 21                        | 433                  | 65,870                | 197,880                      | 17,908,100                      | 1,084,440        |
| 1918-19 .. | 21                        | 482                  | 76,308                | 201,770                      | 18,343,400                      | 1,107,910        |
| 1919-20 .. | 21                        | 529                  | 99,736                | 182,320                      | 16,675,090                      | 1,384,351        |

This table does not include pigs slaughtered for curing, nor bacon and hams cured in small curing works; the pigs so slaughtered numbered 1,637 in 1910, 695 in 1911, 671 in 1912, 666 in 1913, 974 in 1914, 439 in 1915, 379 in 1916-17, 140 in 1917-18, 130 in 1918-19, and 145 in 1919-20; the quantity (in pounds) of bacon and hams cured was 142,524 in 1910, 70,440 in 1911, 50,500 in 1912, 51,620 in 1913, 87,258 in 1914, 45,030 in 1915, 31,300 in 1916-17, 12,970 in 1917-18, 9,790 in 1918-19, and 11,500 in 1919-20.

In addition, the following quantities of bacon and hams were returned as having been cured on farms:—2,983,440 lbs. in 1910, 4,356,323 lbs. in 1911, 3,999,478 lbs. in 1912, 2,943,303 lbs. in 1913, 2,476,023 lbs. in 1914, 2,208,943 lbs. in 1915, 2,738,428 lbs. in 1916-17,

3,403,776 lbs. in 1917-18, 3,859,205 lbs. in 1918-19, and 2,698,919 lbs. in 1919-20. The total quantity of bacon and hams cured in 1919-20 was thus 19,385,509 lbs.—a decrease of 2,826,886 lbs. as compared with 1918-19.

The number of butter, cheese and kindred factories in 1919-20 was 181. Of these 153 were making butter, 30 cheese, 3 concentrated milk, 6 condensed milk, 8 powdered milk, 5 casein and 1 milk sugar. There were also 25 creameries attached to the factories. The number of factories and the value of machinery, plant, land, and buildings, the number of employees and the amount of their wages, and the total value of the output for the ten years 1910 to 1919-20 were as follows:—

#### BUTTER AND CHEESE FACTORIES, 1910 to 1919-20.

| Year.         | Number of Factories. | Value of Machinery, Plant, Land, and Buildings. | Number of Employees. | Amount of Wages Paid. | Value of Output. |
|---------------|----------------------|---|----------------------|-----------------------|------------------|
|               |                      | £   |                      | £                     | £                |
| 1910 .. ..    | 203                  | 513,292   | 1,209                | 121,128               | 2,980,669        |
| 1911 .. ..    | 199                  | 626,331   | 1,489                | 147,897               | 3,964,312        |
| 1912 .. ..    | 197                  | 635,358   | 1,374                | 152,922               | 3,636,174        |
| 1913 .. ..    | 197                  | 649,931   | 1,311                | 159,529               | 3,562,057        |
| 1914 .. ..    | 197                  | 643,677   | 1,290                | 161,740               | 3,228,640        |
| 1915 .. ..    | 190                  | 644,960   | 1,145                | 139,543               | 2,715,784        |
| 1916-17 .. .. | 182                  | 647,128   | 1,398                | 185,024               | 4,815,833        |
| 1917-18 .. .. | 181                  | 683,140   | 1,642                | 226,050               | 5,086,238        |
| 1918-19 .. .. | 180                  | 786,275   | 1,885                | 273,335               | 6,056,342        |
| 1919-20 .. .. | 181                  | 1,025,325                                       | 2,026                | 338,507               | 6,365,927        |

The reduction in the value of the output in 1915, as compared with that in each of the preceding five years, was due to a severe drought which occurred in 1914. Further particulars relating to butter and cheese factories will be found under the heading of Dairying on page 518.

Meat freezing and preserving works numbered eighteen in 1919-20, and gave employment to 2,471 hands and four working proprietors, the wages of the hands amounting to £505,046. The approximate value of machinery, plant, land and buildings in that year was £1,028,740. The output for each of the last ten years is given in the following table:—

## MEAT FREEZING AND PRESERVING, 1910 to 1919-20.

| Year.          | Frozen. |           |           |          |
|----------------|---------|-----------|-----------|----------|
|                | Cattle. | Sheep.    | Rabbits.  | Poultry. |
|                | Qrs.    | No.       | No.       | No.      |
| 1910 .. ..     | 36,464  | 1,573,516 | 2,660,604 | 60,312   |
| 1911 .. ..     | 40,184  | 1,578,133 | 2,312,928 | 35,388   |
| 1912 .. ..     | 29,752  | 1,409,243 | 2,101,704 | 28,824   |
| 1913 .. ..     | 126,568 | 2,107,180 | 4,674,588 | 25,284   |
| 1914 .. ..     | 212,520 | 1,710,152 | 3,778,164 | 30,504   |
| 1915 .. ..     | ..      | 47,546    | 3,584,388 | 8,652    |
| 1916-17 .. ..  | 28,492  | 418,418   | 2,846,904 | 4,900    |
| 1917-18 .. ..  | 3,832   | 196,267   | 7,394,140 | 4,620    |
| 1918-19 .. ..  | 8,640   | 668,970   | 2,335,990 | 2,700    |
| 1919-20. .. .. | 177,230 | 4,001,500 | 5,385,854 | ..       |

  

| Year.         | Preserved. |         |          |                  |
|---------------|------------|---------|----------|------------------|
|               | Beef.      | Mutton. | Rabbits. | Other Meats, &c. |
|               | Cwt.       | Cwt.    | Cwt.     | Cwt.             |
| 1910 .. ..    | 13,589     | 8,876   | 1,389    | 2,534            |
| 1911 .. ..    | 28,654     | 14,890  | 3,422    | 2,679            |
| 1912 .. ..    | 37,984     | 22,387  | ..       | 3,056            |
| 1913 .. ..    | 49,445     | 8,793   | 63       | 3,321            |
| 1914 .. ..    | 49,103     | 7,316   | 2,368    | 5,936            |
| 1915 .. ..    | 38,835     | 2,092   | 422      | 3,448            |
| 1916-17 .. .. | 15,591     | 4,484   | 5,245    | 2,693            |
| 1917-18 .. .. | 17,810     | 28,530  | 9,530    | 15,110           |
| 1918-19 .. .. | 75,790     | 118,520 | 9,625    | 9,880            |
| 1919-20 .. .. | 104,725    | 60,850  | 7,580    | 1,860            |

NOTE.—In addition to the above, there were treated at freezing works 3,893 calves, 1,557 pigs, and 29,532 hares in 1910; 7,308 calves, 1,609 pigs, and 58,008 hares in 1911; 3,355 calves, 3,120 pigs, and 43,224 hares in 1912; 5,050 calves, and 39,420 hares in 1913; 11,708 calves, 1,713 pigs, and 57,576 hares in 1914; 3,072 hares in 1915; 1,120 calves, 156 pigs, and 6,572 hares in 1916-17; 166 calves, 971 pigs, and 9,180 hares in 1917-18; 1,360 calves, 615 pigs, and 16,220 hares in 1918-19; and 130 calves, 1,000 pigs, and 65,530 hares in 1919-20.

Imports and  
exports of  
meats:

The following statement shows the imports from and exports to oversea countries of frozen and preserved meats, other than bacon and ham, during the year ended 30th

June, 1920:—

## MEATS IMPORTED AND EXPORTED OVERSEA, 1919-20.

|                                     | Imports.    |        | Exports.         |           |
|-------------------------------------|-------------|--------|------------------|-----------|
|                                     | Quantity.   | Value. | Quantity.        | Value.    |
|                                     |             | £      |                  | £         |
| Meats, Frozen—                      |             |        |                  |           |
| Mutton .. ..                        | ..          | ..     | 117,121,359 lbs. | 2,470,354 |
| Lamb .. ..                          | ..          | ..     | 52,059,615 "     | 1,287,528 |
| Beef .. ..                          | ..          | ..     | 2,252,509 "      | 44,532    |
| Rabbits and Hares .. ..             | ..          | ..     | 2,725,692 prs.   | 224,737   |
| Game .. ..                          | 16 lbs.     | 3      | ..               | ..        |
| Other .. ..                         | ..          | ..     | ..               | 69,534    |
| Meats—Potted and Concentrated .. .. | ..          | 18,429 | ..               | 27,758    |
| .. Preserved in tins .. ..          | 40,732 lbs. | 2,954  | 16,174,770 lbs.  | 875,108   |
| .. Sausage Casings .. ..            | ..          | 44,156 | ..               | 173,213   |
| .. Not elsewhere included .. ..     | ..          | 262    | ..               | 24,250    |
| Total value .. ..                   | ..          | 65,804 | ..               | 5,197,014 |

Flour mills.

The value of the machinery, plant, land and buildings used in connexion with flour mills was estimated at £460,713 in 1910, and at £591,685 in 1919-20. Particulars of the industry for the ten years 1910 to 1919-20 are as follows:—

## FLOUR MILLS, 1910 TO 1919-20.

| Year.         | Number of Mills. | Number of Employees. | Amount of Wages Paid. | Wheat Ground into Flour. | Flour Made. | Value of Total Output. |
|---------------|------------------|----------------------|-----------------------|--------------------------|-------------|------------------------|
|               |                  |                      | £                     | bushels.                 | tons.       | £                      |
| 1910 .. ..    | 62               | 734                  | 84,863                | 11,218,870               | 225,282     | 2,436,741              |
| 1911 .. ..    | 61               | 784                  | 93,503                | 12,266,013               | 247,434     | 2,456,538              |
| 1912 .. ..    | 61               | 790                  | 95,269                | 11,185,138               | 225,376     | 2,505,014              |
| 1913 .. ..    | 61               | 790                  | 102,882               | 12,459,988               | 252,763     | 2,633,604              |
| 1914 .. ..    | 57               | 836                  | 109,910               | 12,173,943               | 246,136     | 2,726,878              |
| 1915 .. ..    | 51               | 608                  | 70,982                | 6,574,753                | 134,401     | 2,730,730              |
| 1916-17 .. .. | 54               | 857                  | 126,280               | 12,483,990               | 263,095     | 3,458,633              |
| 1917-18 .. .. | 55               | 988                  | 155,330               | 15,034,990               | 311,450     | 3,989,510              |
| 1918-19 .. .. | 53               | 1,029                | 169,283               | 16,621,290               | 347,840     | 4,656,403              |
| 1919-20 .. .. | 51               | 1,028                | 189,224               | 16,920,890               | 353,683     | 6,082,741              |

In addition to the flour made, the wheat ground in 1919-20 produced 8,120,820 bushels of bran and 6,892,920 bushels of pollard. Other grain operated on amounted to 35,507 bushels in 1910, 84,707 bushels in 1911, 98,243 bushels in 1912, 39,826 bushels in 1913, 38,992 bushels in 1914, 43,618 bushels in 1915, 44,150 bushels in 1916-17, 31,960 bushels in 1917-18, 40,113 bushels in 1918-19, and 39,235 bushels in 1919-20.

Exports of bread-stuffs. During the year 1919-20 4,128,239 lbs. of biscuits, valued at £143,445, and 207,616 tons of flour, valued at £3,259,296, were exported from Victoria to countries beyond Australia.

Jam, pickle, and sauce works. In 1919-20 there were 42 establishments in which the manufacture of jams, pickles, and sauces was carried on, and the number of persons employed therein was 3,117, of whom 34 were working proprietors. The wages paid to the employees amounted to £324,438, and the value of machinery, plant, land and buildings was £281,390. The fruit and sugar used and the output for each of the last ten years were as shown below:—

JAM, PICKLE, AND SAUCE WORKS, 1910 to 1919-20.

| Year..    | Fruit Used. | Sugar Used. | Jams and Jellies Made. | Fruit Preserved. | Fruit Pulped. | Sauce Made. | Pickles Made. |
|-----------|-------------|-------------|------------------------|------------------|---------------|-------------|---------------|
|           | cwt.        | cwt.        | cwt.                   | cwt.             | cwt.          | pints.      | pints.        |
| 1910 ..   | 311,168     | 459,439     | 303,733                | 49,797           | 38,017        | 4,173,936   | 1,264,728     |
| 1911 ..   | 315,362     | 156,376     | 286,543                | 53,762           | 52,427        | 4,348,500   | 1,617,156     |
| 1912 ..   | 307,458     | 154,381     | 258,470                | 63,133           | 56,488        | 5,886,336   | 1,492,252     |
| 1913 ..   | 400,048     | 179,243     | 265,727                | 102,608          | 100,690       | 6,453,748   | 1,752,396     |
| 1914 ..   | 341,189     | 175,538     | 271,755                | 81,425           | 75,299        | 5,648,280   | 1,840,920     |
| 1915 ..   | 300,861     | 193,243     | 305,445                | 52,939           | 40,993        | 5,827,176   | 1,285,476     |
| 1916-17.. | 372,424     | 257,481     | 347,152                | 60,419           | 132,132       | 6,433,032   | 1,803,408     |
| 1917-18.. | 497,650     | 286,860     | 398,500                | 115,580          | 94,810        | 7,064,520   | 1,972,320     |
| 1918-19.. | 496,690     | 314,645     | 495,575                | 133,230          | 91,550        | 4,913,050   | 2,137,730     |
| 1919-20.. | 628,721     | 262,585     | 323,452                | 181,562          | 225,522       | 6,546,610   | 1,874,240     |

Some of these establishments also candied fruit peel, the quantities being 3,902 cwt. in 1910, 3,549 cwt. in 1911, 2,763 cwt. in 1912, 5,519 cwt. in 1913, 6,892 cwt. in 1914, 4,628 cwt. in 1915, 3,360 cwt. in 1916-17, 9,330 cwt. in 1917-18, 8,449 cwt. in 1918-19, and 10,466 cwt. in 1919-20. The value of the output in 1919-20 of the whole of the establishments whose produce is shown in the above table was £2,258,454.

In 1896 Parliament passed an Act making available £100,000, of which £62,000 was expended in promoting the establishment of the beet sugar industry on the basis of £2 for every £1 of private capital subscribed. A company was formed, and a substantial building, equipped with a modern plant, was erected at Maffra, in Gippsland. The industry, after various

Beet sugar industry.

vicissitudes, was compelled to cease operations after two seasons, and the building and plant, which fell into the hands of the Government under the terms of its mortgage, remained idle for twelve years.

In 1910 a definite campaign to revive the industry was commenced, numerous experimental beet plots were established throughout Gippsland in order to familiarize land-holders with beet-growing, lectures were given explanatory of the Government proposals and of different phases of the industry, a system of field labour was organized, and manufacturing operations were recommenced.

With the view of putting the industry on a sound footing the Government purchased large areas at Boisdale and Kilmany Park. These estates, which are in railway communication with Maffra, were cut up into small holdings under the Closer Settlement Board, and allotted to settlers, subject to the proviso that each must grow a certain area of beet. The compulsory beet-growing conditions were removed in 1914, and the supply of beet became dependent on voluntary growers.

The price of beet has increased to 35s. per ton, with the prospect of a further increase. A fine grade of white sugar is manufactured, and considerable quantities of beet pulp and molasses are distributed and found useful for stock feed. In the absence of an irrigation scheme, suitable land adjacent to the factory is limited, so that a number of growers are unable to secure the acreage they desire. This will soon be remedied, as the Government is proceeding with a comprehensive irrigation scheme. Sugar is in great demand, and, as there is likely to be a world's shortage for some years to come, a good opportunity presents itself for the expansion of the industry. It is an industry which, in addition to being congenial and profitable, provides employment for a large number of persons in proportion to the acreage under cultivation.

The following particulars summarize the results of the last ten seasons:—

| Season. |    |    |    | Area Harvested. | Sugar Beet Harvested. | Sugar Produced. |
|---------|----|----|----|-----------------|-----------------------|-----------------|
|         |    |    |    | acres.          | tons.                 | tons.           |
| 1910-11 | .. | .. | .. | 458             | 5,969                 | 482             |
| 1911-12 | .. | .. | .. | 752             | 4,000                 | 519             |
| 1912-13 | .. | .. | .. | 900             | 6,207                 | 648             |
| 1913-14 | .. | .. | .. | 1,000           | 7,431                 | 920             |
| 1914-15 | .. | .. | .. | 990             | 8,843                 | 1,181           |
| 1915-16 | .. | .. | .. | 461             | 4,928                 | 560             |
| 1916-17 | .. | .. | .. | 1,320           | 15,159                | 1,948           |
| 1917-18 | .. | .. | .. | 1,200           | 14,487                | 1,650           |
| 1918-19 | .. | .. | .. | 1,009           | 12,289                | 1,263           |
| 1919-20 | .. | .. | .. | 1,080           | 13,084                | 1,551           |

Particulars regarding breweries for the ten years 1910 to 1919-20 are set forth in the next table. Machinery and

Breweries.

plant were valued at £281,702 in 1910 and at £453,040 in 1919-20, whilst land and buildings were valued at £317,917 in 1910 and at £396,080 in 1919-20. The wages paid in 1919-20 amounted to £240,407.

### BREWERIES, 1910 TO 1919-20.

| Year.   | Number of Breweries. | Number of Employees. | Materials Used— |          |         | Beer Made. | Value of Output. |
|---------|----------------------|----------------------|-----------------|----------|---------|------------|------------------|
|         |                      |                      | Sugar.          | Malt.    | Hops.   |            |                  |
|         |                      |                      | cwt.            | bushels. | lbs.    | gallons.   | £                |
| 1910    | 31                   | 1,016                | 112,240         | 540,390  | 663,394 | 18,605,737 | 836,485          |
| 1911    | 33                   | 1,009                | 111,314         | 548,341  | 649,892 | 19,077,420 | 912,329          |
| 1912    | 29                   | 984                  | 119,667         | 566,779  | 659,323 | 20,247,337 | 980,927          |
| 1913    | 26                   | 966                  | 123,073         | 586,375  | 653,803 | 20,925,854 | 1,024,708        |
| 1914    | 25                   | 1,036                | 133,707         | 678,526  | 738,953 | 23,865,771 | 1,196,306        |
| 1915    | 22                   | 893                  | 111,363         | 600,333  | 661,299 | 20,339,924 | 1,061,196        |
| 1916-17 | 19                   | 857                  | 105,238         | 616,630  | 710,470 | 20,111,704 | 1,118,288        |
| 1917-18 | 18                   | 866                  | 109,640         | 650,500  | 748,840 | 21,021,070 | 1,334,344        |
| 1918-19 | 17                   | 932                  | 112,080         | 625,770  | 722,590 | 20,962,740 | 1,476,335        |
| 1919-20 | 17                   | 1,008                | 110,020         | 720,515  | 769,765 | 22,610,200 | 1,830,548        |

**Distilleries.** The number of distilleries working in 1919-20 was 11, and the persons employed numbered 193. The estimated value of the machinery, plant, land, and buildings was £284,190. The quantities of materials used in manufacture and of spirits distilled in each of the last ten years were as follows:—

### DISTILLERIES, 1910 TO 1919-20.

| Year.   | Materials Used. |          |              |           | Spirits Distilled. |
|---------|-----------------|----------|--------------|-----------|--------------------|
|         | Wine.           | Malt.    | Other Grain. | Molasses. |                    |
|         | gallons.        | bushels. | bushels.     | lbs.      | proof gal.         |
| 1910    | 605,204         | 25,345   | 3,560        | 649,152   | 223,560            |
| 1911    | 370,119         | 61,981   | 752          | 1,293,152 | 298,237            |
| 1912    | 580,976         | ..       | ..           | 791,056   | 152,645            |
| 1913    | 944,277         | 54,544   | ..           | 1,057,280 | 335,251            |
| 1914    | 1,248,957       | 39,043   | 118          | 1,649,760 | 409,815            |
| 1915    | 984,817         | 34,896   | 118          | 1,592,640 | 386,152            |
| 1916-17 | 1,452,048       | 176,472  | 170          | 1,093,120 | 658,357            |
| 1917-18 | 1,137,640       | 376,830  | ..           | 3,962,560 | 1,150,091          |
| 1918-19 | 1,206,530       | 385,690  | 397          | 5,604,480 | 1,185,629          |
| 1919-20 | 1,524,860       | 180,306  | ..           | 3,230,080 | 702,586            |

Spirits made by vine-growers for fortifying wine are not included in the foregoing table. The following quantities were distilled in vineyards for that purpose during the last ten years:—13,427 gallons in 1910, 29,745 gallons in 1911, 23,874 gallons in 1912, 13,357 gallons in 1913, 12,256 gallons in 1914, 9,955 gallons in 1915, 9,937 gallons in 1916-17, 5,134 gallons in 1917-18, and 2,232 gallons in 1918-19. and 5,141 gallons in 1919-20,

The number of tobacco, cigar and cigarette factories licensed in 1919-20 was thirty-two, of which eighteen were too small to be classified as ordinary factories and were consequently not included in the statistical tabulation on page 548. In the year mentioned the remaining fourteen employed 1,925 hands, who were paid £289,027 in wages, also eighteen working proprietors; and used machinery, plant, land, and buildings valued at £297,410. The subjoined table shows the quantity of tobacco leaf used by and the output of the full number of licensed establishments for the last ten years:—

#### TOBACCO FACTORIES, 1910 to 1919-20.

| Year.      | Unmanufactured Leaf Operated on. |           | Quantity Manufactured of— |        |            |             |
|------------|----------------------------------|-----------|---------------------------|--------|------------|-------------|
|            | Australian.                      | Imported. | Tobacco.                  | Snuff. | Cigars.    | Cigarettes. |
|            | lbs.                             | lbs.      | lbs.                      | lbs.   | No.        | No.         |
| 1910 ..    | 195,279                          | 5,225,078 | 5,510,099                 | 577    | 21,310,111 | 135,108,700 |
| 1911 ..    | 180,501                          | 4,972,275 | 5,521,175                 | 603    | 22,424,806 | 116,435,800 |
| 1912 ..    | 165,156                          | 5,137,331 | 5,641,547                 | 702    | 23,333,951 | 97,400,400  |
| 1913 ..    | 254,561                          | 5,113,935 | 5,605,566                 | 500    | 25,019,435 | 103,382,600 |
| 1914 ..    | 340,296                          | 4,708,548 | 5,140,695                 | 746    | 23,533,572 | 140,100,500 |
| 1915 ..    | 515,969                          | 4,414,921 | 5,022,910                 | 565    | 22,676,586 | 138,111,000 |
| 1916-17 .. | 656,320                          | 5,254,110 | 6,089,929                 | 446    | 26,268,733 | 123,480,200 |
| 1917-18 .. | 558,278                          | 4,598,364 | 5,479,191                 | 313    | 27,920,180 | 126,883,970 |
| 1918-19 .. | 405,625                          | 5,006,176 | 5,842,142                 | 1,049  | 27,973,908 | 125,372,900 |
| 1919-20 .. | 573,932                          | 5,189,098 | 6,164,126                 | 426    | 35,232,399 | 143,374,400 |

There were fourteen woollen mills working in 1919-20, and the number of persons employed therein was 2,864, of whom ten were working proprietors. The wages paid to employees amounted to £324,690, and the approximate value of the machinery, plant, land, and buildings to £1,119,665. The value of the raw materials used in mills during the year was £1,131,765, and that of the goods manufactured in the same period was £1,976,428. The

quantities of wool and cotton used and of goods manufactured in each of the last ten years were as follows:—

WOOLLEN MILLS, 1910 TO 1919-20.

| Year.   | Quantity of Scoured Wool Used. | Quantity of Cotton Used. | Goods Manufactured— |           |               |                  | Value of Output. |
|---------|--------------------------------|--------------------------|---------------------|-----------|---------------|------------------|------------------|
|         |                                |                          | Tweed and Cloth.    | Flannel.  | Blankets.     | Shawls and Rugs. |                  |
|         | lbs.                           | lbs.                     | yards.              | yards.    | No. of pairs. | No.              | £                |
| 1910    | 3,136,442                      | 955,894                  | 890,281             | 4,640,401 | 191,651       | 18,185           | 426,336          |
| 1911    | 3,409,105                      | 897,804                  | 901,348             | 4,691,255 | 240,961       | 13,718           | 473,686          |
| 1912    | 3,265,390                      | 1,061,201                | 1,013,444           | 4,604,654 | 265,637       | 14,476           | 473,880          |
| 1913    | 3,489,150                      | 1,068,214                | 1,017,776           | 4,965,527 | 287,814       | 19,443           | 513,252          |
| 1914    | 3,607,690                      | 1,075,666                | 1,036,079           | 5,546,841 | 258,859       | 22,455           | 577,434          |
| 1915    | 6,521,130                      | 702,653                  | 1,331,137           | 5,136,258 | 347,988       | 6,418            | 931,774          |
| 1916-17 | 5,114,320                      | 599,288                  | 1,238,363           | 5,250,093 | 259,080       | 3,661            | 1,006,635        |
| 1917-18 | 4,332,420                      | 832,400                  | 1,429,050           | 5,411,990 | 214,410       | 8,560            | 1,036,081        |
| 1918-19 | 4,614,585                      | 513,800                  | 1,429,200           | 5,047,490 | 191,130       | 19,436           | 1,126,119        |
| 1919-20 | 7,285,570                      | 578,542                  | 2,212,202           | 3,667,816 | 165,794       | 51,637           | 1,976,428        |

During the period 1910 to 1919-20 the value of the output of woollen mills increased by 363 per cent. The quantity of tweed and cloth manufactured increased by 148 per cent., and was greater than in any previous year. There was a falling off in the output of flannel and blankets.

The development which has taken place in the boot factories. industry in recent years is exhibited in the following tables:—

BOOT FACTORIES, 1910 TO 1919-20.

| Year.   | Number of Factories. | Persons Employed. | Value of Land, Buildings, and Machinery. | Wages Paid. |
|---------|----------------------|-------------------|--|-------------|
|         |                      |                   | £  | £           |
| 1910    | 144                  | 6,832             | 324,529                                  | 455,997     |
| 1911    | 154                  | 7,001             | 363,540                                  | 542,707     |
| 1912    | 151                  | 6,774             | 378,501                                  | 570,025     |
| 1913    | 162                  | 6,951             | 426,573                                  | 578,503     |
| 1914    | 172                  | 6,924             | 455,158                                  | 603,318     |
| 1915    | 174                  | 6,847             | 483,683                                  | 625,886     |
| 1916-17 | 201                  | 8,494             | 529,950                                  | 843,772     |
| 1917-18 | 231                  | 8,565             | 577,125                                  | 858,874     |
| 1918-19 | 238                  | 8,961             | 627,770                                  | 987,203     |
| 1919-20 | 264                  | 10,357            | 716,305                                  | 1,252,004   |

## OUTPUT OF BOOT FACTORIES, 1910 TO 1919-20.

| Year.         | Goods Manufactured— |               | Value of Materials Used. | Value of Output. |
|---------------|---------------------|---------------|--------------------------|------------------|
|               | Boots and Shoes.    | Slippers.*    |                          |                  |
|               | No. of pairs.       | No. of pairs. | £                        | £                |
| 1910 .. ..    | 4,847,368           | 191,204       | 963,110                  | 1,620,179        |
| 1911 .. ..    | 5,198,030           | 164,313       | 1,103,653                | 1,878,308        |
| 1912 .. ..    | 4,966,768           | 220,616       | 1,132,045                | 1,951,998        |
| 1913 .. ..    | 5,013,143           | 254,844       | 1,230,725                | 2,094,866        |
| 1914 .. ..    | 4,913,593           | 272,866       | 1,281,352                | 2,160,500        |
| 1915 .. ..    | 5,257,415           | 191,044       | 1,502,285                | 2,436,673        |
| 1916-17 .. .. | 6,210,866           | 212,582       | 2,171,812                | 3,460,404        |
| 1917-18 .. .. | 6,049,510           | 205,614       | 2,093,803                | 3,442,302        |
| 1918-19 .. .. | 6,073,117           | 243,383       | 2,563,423                | 4,040,550        |
| 1919-20 .. .. | 6,774,267           | 552,652       | 3,909,570                | 5,996,639        |

\* Includes canvas shoes and house-boots.

During the period 1910 to 1919-20 the wages paid increased by 175 per cent., the value of materials used by 306 per cent., and the value of output by 270 per cent., while the quantity of boots and shoes manufactured increased by only about 39 per cent.

The value of the output of establishments connected with the manufacture of dress, *i.e.*, clothing, tailoring, dressmaking, millinery, underclothing, hats and caps, &c., **Dress (exclusive of boot) factories.** but exclusive of boots and shoes, was £11,407,324 in 1919-20, as compared with £4,174,402 in 1910. During the period 1910 to 1919-20 the persons employed increased by 7 per cent., the wages paid by 111 per cent., the value of materials used by 193 per cent., and the value of the output by 173 per cent. Particulars of the industry for each of the last ten years are as follows:—

## DRESS (EXCLUSIVE OF BOOT) FACTORIES, 1910 TO 1919-20.

| Year.   | Number of Factories. | Number of Persons Employed. |          |        | Amount of Wages Paid. | Value of Materials Used. | Value of Output. |
|---------|----------------------|-----------------------------|----------|--------|-----------------------|--------------------------|------------------|
|         |                      | Males.                      | Females. | Total. |                       |                          |                  |
|         |                      |                             |          |        | £                     | £                        | £                |
| 1910 .. | 1,160                | 3,620                       | 24,069   | 27,689 | 1,181,534             | 2,259,826                | 4,174,402        |
| 1911 .. | 1,213                | 3,921                       | 26,114   | 30,035 | 1,384,678             | 2,557,287                | 4,756,604        |
| 1912 .. | 1,205                | 4,067                       | 26,255   | 30,322 | 1,532,559             | 2,760,001                | 5,184,535        |
| 1913 .. | 1,296                | 4,221                       | 25,955   | 30,176 | 1,579,957             | 2,868,302                | 5,430,240        |
| 1914 .. | 1,298                | 4,019                       | 25,660   | 29,679 | 1,591,133             | 3,001,379                | 5,568,744        |
| 1915 .. | 1,198                | 3,833                       | 24,126   | 27,959 | 1,554,921             | 3,295,009                | 5,901,238        |
| 1916-17 | 1,196                | 3,744                       | 25,739   | 29,483 | 1,747,478             | 3,919,333                | 6,765,326        |
| 1917-18 | 1,209                | 3,730                       | 24,630   | 28,360 | 1,788,136             | 4,512,648                | 7,674,705        |
| 1918-19 | 1,210                | 3,776                       | 23,505   | 27,281 | 1,915,096             | 5,205,460                | 8,599,603        |
| 1919-20 | 1,252                | 4,123                       | 25,490   | 29,613 | 2,490,549             | 6,628,276                | 11,407,324       |

**Electric light and power works.** Particulars relating to the electric light and power works of the State are shown in the next table:—

**ELECTRIC LIGHT AND POWER WORKS, 1910 to 1919-20.**

| Year.   | Number of Stations. | Horse-power of Machinery. | Value of Machinery and Plant. | Persons Employed. | Wages Paid. | Electricity Supplied. | Value of Output. |
|---------|---------------------|---------------------------|-------------------------------|-------------------|-------------|-----------------------|------------------|
|         |                     |                           | £                             |                   | £           | British Units.        | £                |
| 1910 .. | 16                  | 13,962                    | 645,333                       | 523               | 62,266      | 18,832,467            | 231,604          |
| 1911 .. | 20                  | 15,819                    | 733,769                       | 590               | 75,722      | 23,011,340            | 270,498          |
| 1912 .. | 24                  | 20,005                    | 912,712                       | 666               | 89,435      | 27,579,734            | 309,156          |
| 1913 .. | 51                  | 26,213                    | 1,165,020                     | 860               | 114,874     | 35,637,971            | 400,192          |
| 1914 .. | 58                  | 28,485                    | 1,418,511                     | 924               | 131,854     | 44,890,249            | 473,918          |
| 1915 .. | 63                  | 33,127                    | 1,569,553                     | 957               | 135,045     | 53,209,990            | 536,251          |
| 1916-17 | 74                  | 42,144                    | 1,787,477                     | 1,144             | 178,430     | 71,622,490            | 673,769          |
| 1917-18 | 75                  | 48,526                    | 1,889,550                     | 1,167             | 183,948     | 79,485,920            | 760,117          |
| 1918-19 | 77                  | 48,777                    | 2,135,310                     | 1,149             | 190,280     | 83,778,000            | 835,190          |
| 1919-20 | 78                  | 49,241                    | 2,632,665                     | 1,215             | 217,995     | 100,838,000           | 953,039          |

The electricity supplied in 1919-20 represented an increase of 436 per cent. on that supplied in 1910.

The *Electricity Commissioners Act 1918* was brought into operation on 7th January, 1919. The Act is administered by three Commissioners appointed by the Governor in Council, each Commissioner being appointed for a period of seven years. The Commissioners also administer the *Electric Light and Power Act 1915*, the provisions of which give control over all electrical undertakings in the State.

The duties of the Commissioners include the following:—(1) To inquire into and report to the Government as to the steps which should be taken to co-ordinate and concentrate all electrical undertakings in Victoria, and to secure the efficient inter-connexion of such undertakings by the adoption of the necessary standards of plant, pressure, &c. (2) To encourage and promote the use of electricity for industrial and manufacturing purposes, and to report to the Government on the prospects of establishing new industries in Victoria requiring large quantities of electrical energy. (3) To carry out investigations of coal deposits or of water power in connexion with the generation of electricity.

The Commissioners are vested with the following powers in relation to electrical undertakings:—(1) To erect and operate electrical undertakings. (2) To supply electricity in bulk to any corporation. (3) To supply electricity to any person outside any area in which there is an existing undertaking. (4) To carry on any business associated with an electrical undertaking. (5) To make regulations as to precautions to be adopted in the use of electricity and to arrange for the licensing of electric wiremen.

Authority is also given to the Commissioners to establish and operate State coal mines.

The Commissioners have complete control over all officers and employees required for the carrying out of the provisions of the Act.

At the present time the expenses of administration are met from appropriations made by Parliament, on the basis of estimates furnished by the Commissioners, whilst capital expenditure is provided for by loans raised by the Government. Steps are now being taken, however, to secure an amendment of existing legislation, which will empower the Commissioners themselves to raise by loan such sums as they think requisite for their operations.

In accordance with the instructions contained in the Act the Commissioners prepared a scheme for a coal winning and electrical undertaking to be carried out by them in the neighbourhood of Morwell, for the purpose of utilizing the practically unlimited supplies of brown coal in that area. The scheme provides for the erection of a power station with an initial capacity of 50,000 kilowatts, and for the winning of coal on the open cut system by means of mechanical appliances. On the authority of the Government, the Commissioners are now taking steps to give effect to their proposals.

The approximate value of the machinery and plant, land and buildings connected with gasworks in Victoria was £1,719,696 in 1910, and £1,897,705 in 1919-20. The gas made in the latter year was 85 per cent. in excess of that made in 1910. Particulars in regard to these works are given below.

#### GASWORKS, 1910 to 1919-20.

| Year.      | Number of Works.* | Persons Employed. | Wages Paid. | Coal Used. | Gas Made.     | Coke Produced. | Value of Output. |
|------------|-------------------|-------------------|-------------|------------|---------------|----------------|------------------|
|            |                   |                   | £           | tons.      | cubic feet.   | tons.          | £                |
| 1910 ..    | 47                | 1,421             | 199,308     | 235,532    | 2,476,523,100 | 139,423        | 733,910          |
| 1911 ..    | 47                | 1,661             | 230,626     | 361,348    | 2,813,159,700 | 156,436        | 810,414          |
| 1912 ..    | 47                | 1,836             | 275,755     | 284,670    | 3,103,555,700 | 171,750        | 873,134          |
| 1913 ..    | 47                | 1,973             | 302,354     | 294,541    | 3,436,186,300 | 176,810        | 935,910          |
| 1914 ..    | 47                | 2,117             | 332,971     | 309,152    | 3,806,380,100 | 195,178        | 979,229          |
| 1915 ..    | 47                | 2,175             | 347,434     | 307,902    | 4,107,577,600 | 204,957        | 1,035,941        |
| 1916-17 .. | 47                | 2,093             | 365,777     | 317,450    | 4,449,280,000 | 206,673        | 1,181,096        |
| 1917-18 .. | 47                | 2,039             | 375,131     | 318,560    | 4,505,847,000 | 200,660        | 1,263,030        |
| 1918-19 .. | 46                | 2,270             | 420,597     | 353,534    | 4,904,351,000 | 220,237        | 1,373,603        |
| 1919-20 .. | 45                | 2,267             | 472,855     | 331,149    | 4,592,305,000 | 206,245        | 1,396,320        |

\* Including one establishment manufacturing coke only, which was not working during 1919-20.

Oil was used as well as coal in the manufacture of gas, the number of gallons consumed each year being 228,034 in 1910, 274,353 in 1911, 306,405 in 1912, 348,385 in 1913, 332,586 in 1914, 328,230 in 1915, 345,272 in 1916-17, 306,717 in 1917-18, 355,933 in 1918-19, and 343,764 in 1919-20.

The facilities afforded in the metropolitan area have had the effect of bringing within that area the more important of the manufactories. The distribution of factories by classes as between the metropolis and the remainder of the State, for the years 1903, 1911, 1918-19, and 1919-20, is exhibited in the following statement:—

## NUMBER AND LOCATION OF FACTORIES.

| Class of Industry.   | Number of Factories. |       |         |         |                     |       |         |         |
|--|----------------------|-------|---------|---------|---------------------|-------|---------|---------|
|  | Metropolis.          |       |         |         | Remainder of State. |       |         |         |
|  | 1903.                | 1911. | 1918-19 | 1919-20 | 1903.               | 1911. | 1918-19 | 1919-20 |
| Treating raw material, product of pastoral pursuits, &c. . . . . | 97                   | 84    | 94      | 96      | 227                 | 253   | 218     | 209     |
| Treating oils and fats, animal, vegetable, &c. . . . .           | 12                   | 12    | 15      | 16      | 12                  | 11    | 9       | 10      |
| Processes in stone, clay, glass, &c. . . . .                     | 79                   | 96    | 101     | 114     | 112                 | 119   | 79      | 82      |
| Working in wood . . . . .  | 107                  | 168   | 218     | 226     | 161                 | 207   | 253     | 286     |
| Metal works, machinery, &c. . . . .                              | 304                  | 440   | 545     | 577     | 241                 | 234   | 182     | 197     |
| Connected with food and drink, &c. . . . .                       | 160                  | 197   | 247     | 261     | 461                 | 454   | 404     | 415     |
| Clothing and textile fabrics, &c. . . . .                        | 827                  | 1,128 | 1,193   | 1,249   | 281                 | 288   | 307     | 324     |
| Books, paper, printing, &c. . . . .                              | 193                  | 255   | 298     | 309     | 104                 | 165   | 150     | 156     |
| Musical instruments, &c. . . . .                                 | 2                    | 5     | 12      | 12      | ..                  | ..    | ..      | ..      |
| Arms and explosives . . . . .                                    | 2                    | 6     | 10      | 10      | 3                   | 3     | 1       | ..      |
| Vehicles, saddlery, harness, &c. . . . .                         | 164                  | 219   | 268     | 291     | 170                 | 191   | 303     | 321     |
| Ship and boat building and repairing . . . . .                   | 6                    | 11    | 10      | 10      | 2                   | 1     | 2       | 2       |
| Furniture, upholstery, and bedding . . . . .                     | 169                  | 222   | 258     | 304     | 18                  | 20    | 38      | 28      |
| Drugs, chemicals, and by-products . . . . .                      | 45                   | 50    | 73      | 79      | 17                  | 31    | 39      | 45      |
| Surgical and other scientific appliances . . . . .               | 9                    | 16    | 30      | 30      | ..                  | 1     | 2       | 3       |
| Jewellery, time-pieces, and platedware . . . . .                 | 47                   | 74    | 90      | 92      | 5                   | 6     | 5       | 7       |
| Heat, light, and power . . . . .                                 | 25                   | 29    | 61      | 62      | 43                  | 54    | 105     | 108     |
| Leatherware, n.e.i. . . . .                                      | 20                   | 32    | 40      | 45      | 1                   | ..    | ..      | ..      |
| Minor wares, n.e.i. . . . .                                      | 25                   | 44    | 58      | 60      | ..                  | ..    | 2       | 2       |
| Totals . . . . .   | 2,293                | 3,088 | 3,621   | 3,843   | 1,858               | 2,038 | 2,099   | 2,195   |

Since 1903 the number of factories has increased by 1,887, the greatest numerical increase in the classes being that of the clothing and textile factories, of which there were 465 more in 1919-20 than in 1903.

The employment afforded in each class of industry is set forth in the next statement:—

### AVERAGE NUMBER OF PERSONS EMPLOYED IN FACTORIES.

| Class of Industry.  | 1903.  | 1917-18. | 1918-19. | 1919-20. |
|---|--------|----------|----------|----------|
| Treating raw materials, product of pastoral pursuits, &c. . . | 2,976  | 3,632    | 4,204    | 4,759    |
| Treating oils and fats, animal, vegetable, &c. . .            | 528    | 883      | 807      | 878      |
| Processes in stone, clay, glass, &c. . .                      | 3,076  | 3,921    | 4,436    | 4,828    |
| Working in wood . . .   | 3,713  | 6,948    | 7,669    | 8,802    |
| Metal works, machinery, &c. . .                               | 10,350 | 16,183   | 16,261   | 19,079   |
| Connected with food and drink, &c. . .                        | 10,602 | 17,100   | 19,185   | 20,545   |
| Clothing and textile fabrics, &c. . .                         | 26,301 | 40,312   | 39,739   | 44,245   |
| Books, paper, printing, &c. . .                               | 6,525  | 8,940    | 9,051    | 9,487    |
| Musical instruments, &c. . .                                  | 25     | 229      | 255      | 285      |
| Arms and explosives . . .                                     | 342    | 1,030    | 864      | 839      |
| Vehicles, saddlery, harness, &c. . .                          | 2,973  | 4,654    | 4,974    | 5,707    |
| Ship and boat building and repairing . . .                    | 98     | 653      | 692      | 938      |
| Furniture, bedding, and upholstery . . .                      | 1,978  | 2,867    | 3,023    | 3,657    |
| Drugs, chemicals, and by-products . . .                       | 987    | 2,207    | 2,268    | 2,447    |
| Surgical and other scientific appliances . . .                | 35     | 149      | 159      | 174      |
| Jewellery, time-pieces, and plated ware . . .                 | 594    | 1,028    | 1,199    | 1,347    |
| Heat, light, and power . . .                                  | 988    | 4,146    | 4,289    | 4,466    |
| Leatherware, n.e.i. . .                                       | 283    | 750      | 762      | 1,045    |
| Minor wares, n.e.i. . .                                       | 855    | 2,609    | 2,512    | 2,994    |
| Total . . .   | 73,229 | 118,241  | 122,349  | 136,522  |

The total increase in the number of hands employed during the period covered by the above table was 63,293, and represented an advance of about 86 per cent. The greatest development had taken place in clothing factories, metal works, and industries connected with food, drink, &c., which showed increases of 17,944, 8,729, and 9,943 respectively in the number of persons employed in 1919-20 as compared with the number in 1903.

An examination of the figures relating to different factories in 1910 and 1919-20 reveals the great increase in the number of hands employed which has taken place in factories of the largest size. During the past ten years the number of factories employing over 100 hands has increased by 37 per cent., and the number of hands engaged therein by 46 per cent., whilst the factories employing less than 100 and their employees have increased by only 23 and 25 per cent. respectively. Particulars of factories of different sizes in 1910 and 1919-20 are given in the next two tables :—

FACTORIES ACCORDING TO NUMBER OF HANDS EMPLOYED.

| Size of Factory.      | Number of Factories. |          | Average Number of Hands Employed. |          |
|-----------------------|----------------------|----------|-----------------------------------|----------|
|                       | 1910.                | 1919-20. | 1910.                             | 1919-20. |
| Under 4 hands .. ..   | 703                  | 1,153    | 1,722                             | 2,632    |
| 4 " " " " " "         | 584                  | 601      | 2,336                             | 2,404    |
| 5 to 10 " " " " " "   | 1,734                | 1,970    | 12,083                            | 13,717   |
| 11 to 20 " " " " " "  | 885                  | 1,034    | 12,888                            | 15,147   |
| 21 to 50 " " " " " "  | 602                  | 774      | 18,801                            | 24,501   |
| 51 to 100 " " " " " " | 194                  | 271      | 13,566                            | 18,586   |
| Over 100 " " " " " "  | 171                  | 235      | 40,780                            | 59,535   |
| Total .. ..           | 4,873                | 6,038    | 102,176                           | 136,522  |

PROPORTION OF FACTORIES OF DIFFERENT SIZES.

| Size of Factory.      | Percentage to Total. |          |        |          |
|-----------------------|----------------------|----------|--------|----------|
|                       | Factories.           |          | Hands. |          |
|                       | 1910.                | 1919-20. | 1910.  | 1919-20. |
| Under 4 hands .. ..   | 14·43                | 19·08    | 1·68   | 1·93     |
| 4 " " " " " "         | 11·98                | 9·96     | 2·29   | 1·76     |
| 5 to 10 " " " " " "   | 35·58                | 32·63    | 11·82  | 10·05    |
| 11 to 20 " " " " " "  | 18·16                | 17·13    | 12·61  | 11·10    |
| 21 to 50 " " " " " "  | 12·36                | 12·82    | 18·41  | 17·94    |
| 51 to 100 " " " " " " | 3·98                 | 4·49     | 13·28  | 13·61    |
| Over 100 " " " " " "  | 3·51                 | 3·89     | 39·91  | 43·61    |
| Total .. ..           | 100·00               | 100·00   | 100·00 | 100·00   |

**Occupations in factories.** In the following table the persons employed in factories are grouped according to their occupational status:—

### OCCUPATIONS OF PERSONS EMPLOYED IN FACTORIES.

| Occupations.                      | 1903.         | 1917-18.       | 1918-19.       | 1919-20.       |
|-----------------------------------|---------------|----------------|----------------|----------------|
| Working proprietors .. ..         | 4,190         | 5,368          | 5,471          | 5,898          |
| Managers, overseers .. ..         | 2,520         | 3,716          | 3,799          | 4,170          |
| Accountants, clerks .. ..         | 2,213         | 4,519          | 4,919          | 5,602          |
| Engine-drivers, firemen .. ..     | 1,441         | 1,867          | 1,914          | 2,144          |
| Workers in factory or works .. .. | 57,721        | 97,765         | 101,608        | 113,276        |
| Outworkers .. ..                  | 955           | 1,406          | 1,022          | 1,492          |
| Carters, messengers .. ..         | 2,778         | 2,763          | 2,816          | 3,056          |
| Others .. ..                      | 1,411         | 837            | 808            | 924            |
| <b>Total .. ..</b>                | <b>73,229</b> | <b>118,241</b> | <b>122,349</b> | <b>136,522</b> |

**Outworkers.** The term "outworker" used in the above table relates to factory workers working in their own homes, but does not include individuals working for themselves. The employment of outworkers is regulated by a special provision of the Factories and Shops Act. They are required to register their names and addresses with the Chief Inspector of Factories, and factory proprietors are forbidden to give work to those who are not registered.

**Sex distribution in factories.** The average numbers of males and females employed in factories, and their proportions to the male and female populations for the years 1910 to 1919-20 were as follows:—

### EMPLOYMENT OF MALES AND FEMALES IN FACTORIES.

| Year.      | Males.  |  | Females. |  | Total.  |   |
|------------|---------|--|----------|--|---------|---|
|            | Number. | Average per 10,000 of Male Population. | Number.  | Average per 10,000 of Female Population. | Number. | Average per 10,000 of Total Population. |
| 1910 ..    | 66,309  | 1,023                                  | 35,867   | 550                                      | 102,176 | 786                                     |
| 1911 ..    | 73,573  | 1,118                                  | 38,375   | 579                                      | 111,948 | 848                                     |
| 1912 ..    | 77,565  | 1,145                                  | 38,543   | 567                                      | 116,108 | 856                                     |
| 1913 ..    | 80,054  | 1,151                                  | 38,690   | 554                                      | 118,744 | 853                                     |
| 1914 ..    | 79,772  | 1,119                                  | 38,627   | 543                                      | 118,399 | 833                                     |
| 1915 ..    | 75,971  | 1,097                                  | 37,863   | 522                                      | 113,834 | 798                                     |
| 1916-17 .. | 74,924  | 1,123                                  | 42,046   | 574                                      | 116,970 | 836                                     |
| 1917-18 .. | 76,654  | 1,142                                  | 41,587   | 562                                      | 118,241 | 838                                     |
| 1918-19 .. | 81,357  | 1,188                                  | 40,992   | 550                                      | 122,349 | 855                                     |
| 1919-20 .. | 92,101  | 1,243                                  | 44,421   | 588                                      | 136,522 | 913                                     |

Males formed 64·9 per cent. in 1910 and 67·5 per cent. in 1919-20 of the total persons employed. The increase during the period 1910 to 1919-20 in the number of males employed was 25,792, or 38·9 per cent., and in the number of females employed 8,554, or 23·8 per cent.

Of the total females in factories 71·7 per cent. are engaged in the textile and clothing industries, and 12·6 per cent. in the preparation of food and drink. The extent of female employment in certain industries is shown in the next table.

### FEMALE EMPLOYMENT IN FACTORIES, 1919-20.

| Industry.                            | Number Employed. |          | Females per 100 Males. |
|--------------------------------------|------------------|----------|------------------------|
|                                      | Males.           | Females. |                        |
| Biscuit .. .. .                      | 926              | 681      | 73·54                  |
| Jam, pickle, and sauce .. .. .       | 1,692            | 1,425    | 84·22                  |
| Confectionery .. .. .                | 1,326            | 1,709    | 128·88                 |
| Tobacco, &c. .. .. .                 | 1,157            | 786      | 67·93                  |
| Woollen mills .. .. .                | 1,373            | 1,491    | 108·59                 |
| Clothing, tailoring, &c. .. .. .     | 2,099            | 7,223    | 344·12                 |
| Dressmaking, millinery .. .. .       | 321              | 8,796    | 2,740·19               |
| Underclothing .. .. .                | 359              | 5,660    | 1,573·69               |
| Hats, caps, &c. .. .. .              | 730              | 873      | 119·59                 |
| Hosiery .. .. .                      | 297              | 2,146    | 723·56                 |
| Waterproof clothing .. .. .          | 47               | 153      | 325·53                 |
| Boots and shoes .. .. .              | 6,094            | 4,263    | 69·95                  |
| Printing, &c. .. .. .                | 5,251            | 1,348    | 25·67                  |
| Bookbinding, stationery, &c. .. .. . | 554              | 493      | 88·99                  |
| Fancy-box, &c. .. .. .               | 214              | 720      | 336·45                 |
| Rope, twine .. .. .                  | 543              | 349      | 64·27                  |
| Sail, tent .. .. .                   | 98               | 81       | 82·65                  |
| Ammunition .. .. .                   | 222              | 303      | 136·49                 |
| Match .. .. .                        | 129              | 355      | 275·19                 |
| Fancy leather .. .. .                | 468              | 397      | 84·83                  |
| Rubber goods .. .. .                 | 1,717            | 581      | 33·84                  |
| All other factories .. .. .          | 66,484           | 4,588    | 6·90                   |
| Total .. .. .                        | 92,101           | 44,421   | 48·23                  |

A very favorable feature of factory statistics in the past few years has been the small proportion of children, especially girls, engaged in factories. Of the male and female employees, boys and girls under 16 represented only 4·04 and 6·47 per cent. respectively in 1919-20, as against 6·05 and 11·47 per cent. in 1904. The number of children employed in factories and their

Child labour  
in factories.

proportion to the total employees are given in the subjoined table for the years 1910 to 1919-20 :—

### CHILDREN EMPLOYED IN FACTORIES.

| Year.      | Boys under 16. | Girls under 16. | Total Children. | Proportion per cent. of— |                            |                              |
|------------|----------------|-----------------|-----------------|--------------------------|----------------------------|------------------------------|
|            |                |                 |                 | Boys to Male Employees.  | Girls to Female Employees. | Children to Total Employees. |
| 1910 ..    | 2,753          | 2,174           | 4,927           | 4·15                     | 6·06                       | 4·82                         |
| 1911 ..    | 2,623          | 1,937           | 4,560           | 3·57                     | 5·05                       | 4·07                         |
| 1912 ..    | 2,652          | 1,740           | 4,392           | 3·42                     | 4·51                       | 3·78                         |
| 1913 ..    | 2,743          | 1,840           | 4,583           | 3·43                     | 4·76                       | 3·86                         |
| 1914 ..    | 2,898          | 1,816           | 4,714           | 3·63                     | 4·70                       | 3·98                         |
| 1915 ..    | 3,355          | 2,197           | 5,552           | 4·42                     | 5·80                       | 4·88                         |
| 1916-17 .. | 3,072          | 2,301           | 5,373           | 4·10                     | 5·47                       | 4·59                         |
| 1917-18 .. | 3,195          | 2,447           | 5,642           | 4·17                     | 5·88                       | 4·77                         |
| 1918-19 .. | 3,137          | 2,389           | 5,526           | 3·85                     | 5·83                       | 4·52                         |
| 1919-20 .. | 3,721          | 2,872           | 6,593           | 4·04                     | 6·47                       | 4·83                         |

In the following table are shown the number of factories using mechanical power, the total horse-power of the engines used, and the value of the machinery and plant for the ten years, 1910 to 1919-20 :—

### MACHINERY IN FACTORIES.

| Year.      | Number of Factories equipped with Machinery. | Value of Machinery and Plant. | Horse-power of Engines. |
|------------|--|-------------------------------|-------------------------|
|            |  | £                             |                         |
| 1910 ..    | 3,239  | 7,601,085                     | 69,373                  |
| 1911 ..    | 3,474  | 8,336,373                     | 79,515                  |
| 1912 ..    | 3,653  | 9,095,134                     | 89,290                  |
| 1913 ..    | 3,990  | 10,022,429                    | 105,224                 |
| 1914 ..    | 4,106  | 10,727,526                    | 110,055                 |
| 1915 ..    | 4,089  | 11,068,949                    | 117,815                 |
| 1916-17 .. | 4,226  | 11,732,062                    | 136,986                 |
| 1917-18 .. | 4,371  | 12,612,797                    | 149,095                 |
| 1918-19 .. | 4,470  | 13,645,220                    | 153,408                 |
| 1919-20 .. | 4,737  | 15,846,935                    | 166,803                 |

The nature of the power used and the capacity of the machinery in the factories of the State are set out in the next table. Establishments using more than one kind of mechanical power are included once only in the first portion, usually under the power which is principally used. The second portion shows the total horse-power of engines used.

## POWER USED IN FACTORIES.

| Year.      | Number of Factories using— |      |              |      |                                  |                   |
|------------|----------------------------|------|--------------|------|----------------------------------|-------------------|
|            | Steam.                     | Gas. | Electricity. | Oil. | Water,<br>Wind,<br>or<br>Horses. | Manual<br>Labour. |
| 1910 .. .. | 1,169                      | 794  | 954          | 215  | 107                              | 1,634             |
| 1911 .. .. | 1,147                      | 811  | 1,164        | 255  | 97                               | 1,652             |
| 1912 .. .. | 1,134                      | 821  | 1,327        | 269  | 102                              | 1,610             |
| 1913 .. .. | 1,114                      | 883  | 1,579        | 335  | 79                               | 1,623             |
| 1914 .. .. | 1,040                      | 858  | 1,782        | 348  | 78                               | 1,544             |
| 1915 .. .. | 961                        | 824  | 1,915        | 330  | 59                               | 1,324             |
| 1916-17 .. | 931                        | 800  | 2,142        | 311  | 42                               | 1,219             |
| 1917-18 .. | 896                        | 784  | 2,365        | 285  | 41                               | 1,256             |
| 1918-19 .. | 875                        | 782  | 2,481        | 297  | 35                               | 1,250             |
| 1919-20 .. | 910                        | 761  | 2,712        | 315  | 39                               | 1,301             |

  

| Year.      | Actual Horse-power of Engines. |        |              |       |         |
|------------|--------------------------------|--------|--------------|-------|---------|
|            | Steam.                         | Gas.   | Electricity. | Oil.  | Total.  |
| 1910 .. .. | 49,013                         | 9,415  | 9,629        | 1,316 | 69,373  |
| 1911 .. .. | 54,282                         | 11,862 | 11,764       | 1,607 | 79,515  |
| 1912 .. .. | 59,262                         | 13,745 | 14,505       | 1,778 | 89,290  |
| 1913 .. .. | 67,262                         | 16,759 | 18,732       | 2,471 | 105,224 |
| 1914 .. .. | 67,649                         | 17,432 | 22,584       | 2,390 | 110,055 |
| 1915 .. .. | 71,223                         | 17,935 | 26,385       | 2,272 | 117,815 |
| 1916-17 .. | 81,611                         | 18,651 | 34,348       | 2,375 | 136,985 |
| 1917-18 .. | 89,561                         | 19,045 | 38,246       | 2,243 | 149,095 |
| 1918-19 .. | 91,245                         | 18,929 | 40,791       | 2,443 | 153,408 |
| 1919-20 .. | 95,747                         | 19,183 | 48,814       | 3,059 | 166,803 |

Although steam is the principal motive power, and was used to supply 57 per cent. of the total mechanical power employed in factories in 1919-20, a remarkable development is shown in the use of electricity, which in 1910 was used by 954, and in 1919-20 by 2,712 factories, the actual horse-power increasing from 9,629 to 48,814 in the same interval.

The total amount and the average amount of salaries and wages paid to male and female employees in factories are given in the following table:—

### SALARIES AND WAGES PAID IN FACTORIES.

| Year.    | Salaries paid to Managers and Clerks. |          | Wages paid to Factory Workers. |           | Average Salary of Managers and Clerks. |          | Average Wage of Factory Workers. |          |
|----------|---------------------------------------|----------|--------------------------------|-----------|--|----------|----------------------------------|----------|
|          | Males.                                | Females. | Males.                         | Females.  | Males.                                 | Females. | Males.                           | Females. |
|          | £                                     | £        | £                              | £         | £ s. d.                                | £ s. d.  | £ s. d.                          | £ s. d.  |
| 1910 ..  | 634,826                               | 43,224   | 5,639,096                      | 1,268,787 | 127 3 11                               | 38 4 4   | 98 18 6                          | 37 13 0  |
| 1911 ..  | 796,957                               | 68,458   | 6,560,778                      | 1,484,826 | 148 19 3                               | 55 11 4  | 103 1 2                          | 40 13 6  |
| 1912 ... | 917,125                               | 85,793   | 7,471,488                      | 1,627,838 | 165 9 1                                | 70 1 10  | 111 0 8                          | 44 6 6   |
| 1913 ... | 1,097,574                             | 109,381  | 7,828,249                      | 1,879,146 | 183 12 0                               | 66 12 1  | 118 6 10                         | 45 12 11 |
| 1914 ..  | 1,187,114                             | 125,610  | 8,065,222                      | 1,721,994 | 198 9 7                                | 97 18 1  | 117 6 10                         | 46 18 6  |
| 1915 ..  | 1,232,981                             | 133,362  | 7,928,871                      | 1,741,131 | 205 10 7                               | 94 11 8  | 121 13 9                         | 48 10 0  |
| 1916-17  | 1,364,269                             | 171,675  | 8,226,582                      | 2,070,991 | 220 3 0                                | 97 3 1   | 128 7 8                          | 52 2 7   |
| 1917-18  | 1,462,220                             | 190,707  | 8,679,530                      | 2,170,144 | 231 4 4                                | 99 15 11 | 132 8 6                          | 55 10 1  |
| 1918-19  | 1,625,564                             | 208,584  | 9,906,982                      | 2,340,218 | 244 5 4                                | 104 7 5  | 141 19 8                         | 60 19 6  |
| 1919-20  | 1,937,959                             | 270,875  | 12,515,207                     | 2,948,132 | 264 8 1                                | 118 6 9  | 157 16 8                         | 70 17 5  |

Owing to the lack of data, a comparison of the wages of males and females is not possible prior to 1910. From that date the particulars shown in the above table reveal a steady and continued increase in the average earnings of males and females, both as regards the salaries of managers, overseers, and clerks, and the wages of factory workers generally.

The amount of wages paid during the year 1919-20, £17,702,173, represents an average payment for all employees of £135 10s. 5d., which is an increase of £15 1s. on the average wage for 1918-19, of £24 15s. 1d. on that for 1917-18, of £29 12s. 11d. on that for 1916-17, of £33 15s. 5d. on that for 1915, of £37 0s. 5d. on that for 1914, of £49 15s. 8d. on that for 1913, of £44 6s. 5d. on that for 1912, of £52 0s. 5d. on that for 1911, and of £57 6s. 5d. on that for 1910. Concurrent with this increase there was a slight change in the relative proportions of male and female workers during the eight years, the percentages of male to total employees being 68 in 1919-20, 67 in 1912, 1913, 1914, 1915, and 1918-19, 66 in 1911, 65 in 1910 and 1917-18, and 64 in 1916-17. The above average wage for 1919-20 (£135 10s. 5d.) is probably below the average according to the determinations of Wages Boards. This is mainly accounted for by the fact that the former sum is based on the actual payments to workers, while the latter represents the average of the sums to which they would be entitled if they worked throughout the whole year. There is, of necessity, a difference between the two averages, as all hands are not continuously employed, nor are all factories working throughout the whole year.

The cost of production and the value of the output in each class of manufacturing industry during the year 1919-20 are given in the subjoined statement:—

## FACTORY COSTS AND OUTPUT, 1919-20.

| Class of Industry.   | Cost of—            |                              |                          | Value of Output.   |
|--|---------------------|------------------------------|--------------------------|--------------------|
|  | Raw Materials Used. | Fuel, Light, and Power Used. | Salaries and Wages Paid. |                    |
|  | £                   | £                            | £                        | £                  |
| Treating raw material, product of pastoral pursuits, &c. . .       | 8,882,848           | 109,359                      | 797,141                  | 11,026,037         |
| Treating oils and fats, animal, vegetable, &c. . .                 | 1,115,658           | 42,526                       | 127,054                  | 1,612,514          |
| Processes in stone, clay, glass, &c. . .                           | 390,501             | 206,894                      | 681,187                  | 1,690,630          |
| Working in wood . . .  | 1,884,329           | 30,439                       | 1,294,096                | 4,062,773          |
| Metal works, machinery, &c. Connected with food and drink, &c. . . | 4,400,296           | 211,992                      | 2,971,364                | 9,079,610          |
| Clothing and textile fabrics, &c. . .                              | 27,028,497          | 469,052                      | 2,965,894                | 34,974,347         |
| Books, paper, printing, &c. . .                                    | 12,549,338          | 161,399                      | 4,225,126                | 20,655,143         |
| Musical instruments, &c. . .                                       | 2,330,282           | 65,875                       | 1,309,389                | 4,910,117          |
| Arms and explosives . . .  | 41,947              | 909                          | 46,034                   | 111,987            |
| Vehicles, saddlery, harness, &c. . .                               | 380,886             | 9,653                        | 95,237                   | 521,731            |
| Ship and boat building and repairing . . .                         | 866,480             | 21,005                       | 689,290                  | 1,945,012          |
| Furniture, upholstery, and bedding . . .                           | 192,725             | 7,342                        | 181,513                  | 448,858            |
| Drugs, chemicals, and by-products . . .                            | 926,536             | 12,409                       | 448,214                  | 1,695,571          |
| Surgical and other scientific instruments . . .                    | 1,504,982           | 35,043                       | 334,113                  | 2,367,123          |
| Jewellery, time-pieces, and plated-ware . . .                      | 21,528              | 568                          | 19,302                   | 55,594             |
| Heat, light, and power . . .                                       | 361,863             | 5,437                        | 178,209                  | 689,423            |
| Leatherware, n.e.l. . .  | 864,355             | 279,794                      | 794,839                  | 2,843,470          |
| Minor wares, n.e.l. . .  | 568,854             | 3,215                        | 111,055                  | 825,371            |
|  | 1,251,199           | 50,314                       | 413,116                  | 1,959,543          |
| <b>Total . . .</b>   | <b>65,563,104</b>   | <b>1,723,229</b>             | <b>17,702,173</b>        | <b>101,475,363</b> |

The difference between the sum of the first three columns and the last column represents the amount available for miscellaneous expenses, interest, and profit. The proportions which this margin and the chief items of the cost of production bear to the total value

of production in each class of industry are shown in the following table :—

PROPORTIONATE VALUE OF COSTS, ETC., TO PRODUCTION  
IN FACTORIES, 1919-20.

| Class of Industry.   | Percentage of Costs, &c., on Total Value of Production. |                  |        |  |
|--|---|------------------|--------|--|
|  | Materials.  | Fuel, Light, &c. | Wages. | All other Expenditure, Interest, and Profit. |
| Treating raw material, product of pastoral pursuits, &c. . . . . | 80·56   | 0·99             | 7·23   | 11·22  |
| Treating oils and fats, animal, vegetable, &c. . . . .           | 69·19   | 2·51             | 7·88   | 20·42  |
| Processes in stone, clay, glass, &c. . . . .                     | 23·69   | 12·24            | 40·29  | 23·78  |
| Working in wood . . . . .  | 46·38   | 0·75             | 31·85  | 21·02  |
| Metal works, machinery, &c. . . . .                              | 48·46   | 2·33             | 32·72  | 16·49  |
| Connected with food and drink, &c. . . . .                       | 77·28   | 1·34             | 8·54   | 12·84  |
| Clothing and textile fabrics, &c. . . . .                        | 60·76   | 0·78             | 20·45  | 18·01  |
| Books, paper, printing, &c. . . . .                              | 47·46   | 1·34             | 26·77  | 24·43  |
| Musical instruments, &c. . . . .                                 | 37·46   | 0·81             | 41·11  | 20·62  |
| Arms and explosives . . . . .                                    | 73·00   | 1·85             | 18·25  | 6·90   |
| Vehicles, saddlery, harness, &c. . . . .                         | 44·55   | 1·08             | 35·44  | 18·93  |
| Ship and boat building and repairing . . . . .                   | 42·93   | 1·64             | 40·44  | 14·99  |
| Furniture, upholstery, and bedding . . . . .                     | 54·64   | 0·73             | 26·43  | 18·20  |
| Drugs, chemicals, and by-products . . . . .                      | 63·58   | 1·48             | 14·11  | 20·83  |
| Surgical and other scientific instruments . . . . .              | 38·72   | 1·02             | 34·72  | 25·54  |
| Jewellery, time-pieces, and plated-ware . . . . .                | 52·49   | 0·79             | 25·85  | 20·87  |
| Heat, light, and power . . . . .                                 | 30·39   | 9·84             | 27·95  | 31·82  |
| Leatherware, n.e.i. . . . .                                      | 68·92   | 0·39             | 13·46  | 17·23  |
| Minor wares, n.e.i. . . . .                                      | 63·85   | 2·57             | 21·08  | 12·50  |
| Total . . . . .  | 64·61   | 1·70             | 17·44  | 16·25  |

There are considerable variations in the proportions which the cost of materials and the expenditure on wages bear to the total output in the different classes of industries. These are, of course, due to the difference in the treatment required to present the raw material in its manufactured form. Thus in brickworks, &c., the cost of wages represents 40 per cent. and that of raw materials 23 per cent. of the value of the finished article, whilst in the industries connected with food and drink the expenditure on wages amounts to 9 per cent. and that on raw materials to over 77 per cent. of the value of the output.

Cost of production, 1910 to 1919-20.

In the next table the cost of production, the value of the output of factories, and the balance available for profit and miscellaneous expenses are compared for the years 1910 to 1919-20 :—

COST OF PRODUCTION AND VALUE OF OUTPUT OF FACTORIES, 1910 to 1919-20.

| Year.      | Cost of Production. |                         |                     |  | Total Value of Output. |
|------------|---------------------|-------------------------|---------------------|--|------------------------|
|            | Materials.          | Fuel, Light, and Power. | Salaries and Wages. | All other Expenditure, Interest, and Profit. |                        |
|            | £                   | £                       | £                   | £  | £                      |
| 1910 .. .. | 21,941,255          | 639,135                 | 7,600,932           | 6,479,532                                    | 36,660,854             |
| 1911 .. .. | 25,029,525          | 637,497                 | 8,911,019           | 7,169,822                                    | 41,747,863             |
| 1912 .. .. | 27,002,302          | 683,376                 | 10,102,244          | 7,622,851                                    | 45,410,773             |
| 1913 .. .. | 28,465,699          | 739,835                 | 10,714,336          | 8,016,777                                    | 47,936,647             |
| 1914 .. .. | 28,986,694          | 804,325                 | 11,099,940          | 8,549,026                                    | 49,439,985             |
| 1915 .. .. | 30,728,743          | 834,966                 | 11,036,345          | 8,866,039                                    | 51,466,093             |
| 1916-17 .. | 37,103,750          | 1,024,156               | 11,833,517          | 10,085,861                                   | 60,047,284             |
| 1917-18 .. | 42,133,636          | 1,248,186               | 12,502,601          | 11,182,292                                   | 67,066,715             |
| 1918-19 .. | 52,098,737          | 1,457,124               | 14,080,403          | 12,559,413                                   | 80,195,677             |
| 1919-20 .. | 65,563,104          | 1,723,220               | 17,702,173          | 16,486,866                                   | 101,475,363            |

These figures are reduced in the appended statement to their proportionate value of the total output.

PROPORTION OF OUTLAY TO OUTPUT OF FACTORIES, 1910 to 1919-20.

| Year.      | Proportion of Outlay to Output. |                         |                     |  | Total. |
|------------|---------------------------------|-------------------------|---------------------|--|--------|
|            | Materials.                      | Fuel, Light, and Power. | Salaries and Wages. | Other Expenditure, Interest, and Profit. |        |
|            | %                               | %                       | %                   | %  | %      |
| 1910 .. .. | 59·9                            | 1·7                     | 20·7                | 17·7                                     | 100·0  |
| 1911 .. .. | 60·0                            | 1·5                     | 21·3                | 17·2                                     | 100·0  |
| 1912 .. .. | 59·5                            | 1·5                     | 22·2                | 16·8                                     | 100·0  |
| 1913 .. .. | 59·4                            | 1·5                     | 22·4                | 16·7                                     | 100·0  |
| 1914 .. .. | 58·6                            | 1·6                     | 22·5                | 17·3                                     | 100·0  |
| 1915 .. .. | 59·7                            | 1·6                     | 21·5                | 17·2                                     | 100·0  |
| 1916-17 .. | 61·8                            | 1·7                     | 19·7                | 16·8                                     | 100·0  |
| 1917-18 .. | 62·8                            | 1·9                     | 18·6                | 16·7                                     | 100·0  |
| 1918-19 .. | 65·0                            | 1·8                     | 17·5                | 15·7                                     | 100·0  |
| 1919-20 .. | 64·6                            | 1·7                     | 17·4                | 16·3                                     | 100·0  |

The ratio of salaries and wages to the value of the output of factories was 18·6 per cent. on the average of the past five years, as against 21·9

per cent. in the period 1910-14. The cost of materials was 63·2 per cent. of the value of output in the period 1915 to 1919-20 as compared with 59·4 per cent. in the years 1910-14. The proportionate outlay on fuel, light, and power has remained fairly uniform during the past ten years. The balance available for miscellaneous expenses, rent, interest, and manufacturers' profit was £16 8s. 7d. in every £100 of the total output value in the period 1915 to 1919-20, as against £17 2s. 1d. in the preceding five-year period.

**Capital  
invested in  
manufacturing  
plant and  
premises.**

In the following statement the amount of capital invested in machinery and plant and land and buildings used in connexion with the various classes of manufacturing industries is shown for the year 1919-20 :—

**VALUE OF MACHINERY AND PLANT AND LAND AND BUILDINGS CONNECTED WITH FACTORIES, 1919-20.**

| Class of Industry.   | Value of<br>Machinery and<br>Plant. | Value of Land<br>and Buildings. |
|--|-------------------------------------|---------------------------------|
|  | £                                   | £                               |
| Treating raw material, product of pastoral pursuits, &c. . . . . | 534,080                             | 602,985                         |
| Treating oils and fats, animal, vegetable, &c. . . . .           | 167,495                             | 162,230                         |
| Processes in stone, clay, glass, &c. . . . .                     | 563,790                             | 558,225                         |
| Working in wood . . . . .  | 697,780                             | 513,195                         |
| Metal works, machinery, &c. . . . .                              | 2,148,785                           | 2,035,835                       |
| Connected with food and drink, &c. . . . .                       | 3,293,810                           | 3,548,675                       |
| Clothing and textile fabrics, &c. . . . .                        | 1,716,020                           | 2,751,150                       |
| Books, paper, printing, &c. . . . .                              | 1,181,500                           | 1,129,755                       |
| Musical instruments, &c. . . . .                                 | 9,515                               | 47,550                          |
| Arms and explosives . . . . .                                    | 203,520                             | 176,850                         |
| Vehicles, saddlery, harness, &c. . . . .                         | 197,090                             | 716,090                         |
| Ship and boat building and repairing . . . . .                   | 110,055                             | 256,410                         |
| Furniture, upholstery, and bedding . . . . .                     | 111,500                             | 417,990                         |
| Drugs, chemicals, and by-products . . . . .                      | 359,490                             | 484,555                         |
| Surgical and other scientific instruments . . . . .              | 7,170                               | 28,380                          |
| Jewellery, time-pieces, and plated-ware . . . . .                | 44,495                              | 165,450                         |
| Heat, light, and power . . . . .                                 | 4,163,425                           | 1,061,575                       |
| Leatherware, n.e.i. . . . .                                      | 22,310                              | 89,890                          |
| Minor wares, n.e.i. . . . .                                      | 315,105                             | 210,795                         |
| <b>Total . . . . .</b>   | <b>15,846,935</b>                   | <b>14,957,585</b>               |

The capital invested in plant, buildings, &c., used in connexion with three classes of industries—heat, light and power; food and drink; and metal works and machinery—amounted to £16,252,105, or slightly more than one-half of the total for all manufacturing industries.

The total value of machinery and plant and that of land and buildings used in connexion with factories are shown in the next table for the past ten years :—

VALUES OF MACHINERY AND PLANT AND LAND AND BUILDINGS CONNECTED WITH FACTORIES, 1910 to 1919-20.

| Year.    |    |    |    |    |    | Value of Machinery and Plant. | Value of Land and Buildings. |
|----------|----|----|----|----|----|-------------------------------|------------------------------|
|          |    |    |    |    |    | £                             | £                            |
| 1910     | .. | .. | .. | .. | .. | 7,601,085                     | 9,012,263                    |
| 1911     | .. | .. | .. | .. | .. | 8,336,373                     | 9,921,516                    |
| 1912     | .. | .. | .. | .. | .. | 9,095,134                     | 10,362,661                   |
| 1913     | .. | .. | .. | .. | .. | 10,022,429                    | 10,753,309                   |
| 1914     | .. | .. | .. | .. | .. | 10,727,526                    | 11,248,120                   |
| 1915     | .. | .. | .. | .. | .. | 11,068,949                    | 11,460,123                   |
| 1916-17. | .. | .. | .. | .. | .. | 11,732,062                    | 12,052,227                   |
| 1917-18  | .. | .. | .. | .. | .. | 12,612,797                    | 12,847,485                   |
| 1918-19  | .. | .. | .. | .. | .. | 13,645,220                    | 13,673,515                   |
| 1919-20  | .. | .. | .. | .. | .. | 15,846,935                    | 14,957,585                   |

It will be seen from these figures that the value of machinery and plant more than doubled between 1910 and 1919-20, whilst that of the land and buildings showed an increase of £5,945,322, or 66 per cent in the same interval.

In the appended table the number of accidents in factories is given for the past seventeen years. These particulars relate to establishments which came within the scope of the Factories Acts in force in the years specified, and not to those classified for statistical purposes in the preceding tables.

ACCIDENTS IN FACTORIES.

| Year. |    | Number of Employees. | Number of Accidents. | Percentage of Accidents to Number of Employees. |
|-------|----|----------------------|----------------------|---|
| 1903  | .. | 57,767               | 175                  | ·303  |
| 1904  | .. | 60,977               | 189                  | ·310  |
| 1905  | .. | 63,270               | 170                  | ·269  |
| 1906  | .. | 67,545               | 205                  | ·303  |
| 1907  | .. | 71,908               | 275                  | ·382  |
| 1908  | .. | 76,210               | 294                  | ·385  |
| 1909  | .. | 79,348               | 287                  | ·361  |
| 1910  | .. | 83,053               | 331                  | ·398  |
| 1911  | .. | 88,694               | 337                  | ·379  |
| 1912  | .. | 104,746              | 389                  | ·371  |
| 1913  | .. | 110,487              | 407                  | ·368  |
| 1914  | .. | 110,660              | 391                  | ·353  |
| 1915  | .. | 91,888               | 464                  | ·505  |
| 1916  | .. | 92,320               | 503                  | ·544  |
| 1917  | .. | 97,561               | 442                  | ·453  |
| 1918  | .. | 104,242              | 459                  | ·440  |
| 1919  | .. | 116,309              | 362                  | ·311  |

**Manufactures—** The foregoing tables do not include particulars relating to work of various kinds done by the Penal Department at Pentridge. At this establishment the manufacture of clothing, brushware, boots, mats, blankets, flannel, underclothing, bread, &c., and printing are carried on. The estimated value of the output for 1919-20 was £29,866, and that of the materials used was £19,440. The articles produced are used principally by Government Departments.

**Value of Victorian production.** The value of all articles produced or manufactured in Victoria has been compiled from actual returns or estimates in the office of the Government Statist, and the results are set forth in the following table :—

### VALUE OF VICTORIAN PRODUCTION, 1915 TO 1919-20.

| Produce.   | Value in—         |                   |                   |                   |                   |
|--|-------------------|-------------------|-------------------|-------------------|-------------------|
|  | 1915.             | 1916-17.          | 1917-18.          | 1918-19.          | 1919-20.          |
| <i>Cultivation.</i>                                | £                 | £                 | £                 | £                 | £                 |
| Wheat .. ..  | 10,972,820        | 10,232,488        | 7,547,510         | 5,994,469         | 5,726,667         |
| Oats .. ..   | 942,607           | 828,929           | 965,973           | 1,175,882         | 1,848,903         |
| Barley, malting ..                                 | 171,966           | 158,735           | 207,275           | 272,567           | 304,377           |
| " other .. ..                                      | 122,631           | 140,746           | 166,104           | 188,489           | 173,196           |
| Maize .. ..  | 191,645           | 163,638           | 243,766           | 190,522           | 336,920           |
| Other Cereals ..                                   | 52,900            | 49,592            | 60,961            | 49,915            | 58,207            |
| Grass and Clover                                   |                   |                   |                   |                   |                   |
| Seed .. ..   | 6,022             | 4,446             | 7,445             | 5,405             | 5,606             |
| Potatoes .. ..                                     | 1,017,563         | 550,086           | 519,605           | 1,079,496         | 1,328,640         |
| Onions .. ..                                       | 105,244           | 118,423           | 141,343           | 236,451           | 274,375           |
| Other Root Crops                                   | 16,505            | 9,892             | 10,640            | 16,813            | 14,148            |
| Hay .. ..  | 4,098,664         | 2,033,990         | 2,801,158         | 4,622,523         | 8,304,475         |
| Straw .. ..  | 104,495           | 78,302            | 52,424            | 71,263            | 68,893            |
| Green Forage* ..                                   | 181,278           | 149,001           | 167,709           | 368,205           | 449,010           |
| Tobacco .. ..                                      | 1,840             | 840               | 943               | 6,513             | 16,240            |
| Grapes, not made into wine, raisins, &c. .. ..     | 31,715            | 23,454            | 11,268            | 26,674            | 42,025            |
| Raisins, ordinary ..                               | 66,410            | 41,832            | 40,811            | 79,930            | 138,899           |
| " sultanas .. ..                                   | 295,469           | 185,616           | 150,712           | 237,738           | 494,037           |
| Currants .. ..                                     | 123,473           | 91,355            | 92,803            | 139,880           | 139,153           |
| Wine .. ..   | 138,036           | 146,549           | 90,008            | 202,396           | 347,370           |
| Hops .. ..   | 3,990             | 4,875             | 4,190             | 3,654             | 10,365            |
| Other Crops .. ..                                  | 58,293            | 64,821            | 62,450            | 79,526            | 71,859            |
| Fruit grown for sale in orchards and gardens .. .. | 769,611           | 602,584           | 765,405           | 893,108           | 1,274,715         |
| Fruit in private orchards and gardens .. ..        | 7,476             | 7,680             | 6,620             | 14,895            | 13,810            |
| Market Gardens ..                                  | 284,475           | 268,650           | 284,050           | 405,790           | 442,155           |
| <b>Total .. ..</b>                                 | <b>19,765,128</b> | <b>15,956,524</b> | <b>14,401,173</b> | <b>16,362,104</b> | <b>21,884,045</b> |

\* Exclusive of area under sown grasses.

## VALUE OF VICTORIAN PRODUCTION, 1915 TO 1919-20—continued.

| Produce.                                      | Value in—         |                   |                   |                   |                   |
|---|-------------------|-------------------|-------------------|-------------------|-------------------|
|   | 1915.             | 1916-17.          | 1917-18.          | 1918-19.          | 1919-20.          |
| <i>Dairying and Pastoral.</i>                 | £                 | £                 | £                 | £                 | £                 |
| Milk consumed in natural state ..             | 1,895,160         | 1,646,520         | 1,755,620         | 2,034,510         | 2,424,050         |
| Butter made ..                                | 2,528,360         | 4,224,420         | 4,229,310         | 4,868,670         | 4,945,480         |
| Cheese made ..                                | 129,110           | 223,040           | 197,750           | 257,880           | 344,210           |
| Cream made (not for butter) ..                | 13,760            | 26,840            | 25,690            | 29,290            | 32,970            |
| Condensed, Concentrated, and Powdered Milk .. | 386,456           | 777,810           | 1,005,580         | 1,331,240         | 1,516,000         |
| Horses ..                                     | ..                | 262,020           | 70,880            | 97,640            | ..                |
| Cattle ..                                     | 226,480           | 4,774,610         | 5,270,940         | 5,383,660         | 4,856,100         |
| Pigs ..                                       | 472,050           | 825,450           | 1,002,250         | 884,280           | 2,782,290         |
| Sheep (without wool) ..                       | 784,575           | 3,928,860         | 3,641,630         | 3,288,330         | 1,139,960         |
| Wool ..                                       | 4,066,003         | 5,927,814         | 6,410,077         | 7,621,410         | 7,908,010         |
| <b>Total ..</b>                               | <b>10,501,954</b> | <b>22,617,384</b> | <b>23,609,727</b> | <b>25,796,910</b> | <b>25,949,070</b> |
| <i>Mining.</i>                                |                   |                   |                   |                   |                   |
| Gold ..                                       | 1,397,793         | 1,090,194         | 857,500           | 674,655           | 575,260           |
| Coal ..                                       | 275,343           | 216,875           | 345,830           | 367,640           | 406,620           |
| Stone from Quarries (including limestone) ..  | 209,539           | 125,106           | 171,990           | 189,770           | 300,100           |
| Other Metals and Minerals ..                  | 64,022            | 104,212           | 124,910           | 110,260           | 48,150            |
| <b>Total ..</b>                               | <b>1,946,697</b>  | <b>1,536,387</b>  | <b>1,500,230</b>  | <b>1,342,325</b>  | <b>1,330,130</b>  |
| <i>Forest Produce.</i>                        |                   |                   |                   |                   |                   |
| Timber (Forest Saw-mills only) ..             | 234,700           | 297,660           | 355,430           | 503,470           | 693,995           |
| Firewood (estimated) ..                       | 506,260           | 521,770           | 567,910           | 604,650           | 790,140           |
| Bark for Tanning ..                           | 140,400           | 117,230           | 116,460           | 120,300           | 153,260           |
| <b>Total ..</b>                               | <b>881,360</b>    | <b>936,660</b>    | <b>1,039,800</b>  | <b>1,228,420</b>  | <b>1,637,395</b>  |
| <i>Miscellaneous.</i>                         |                   |                   |                   |                   |                   |
| Honey and Beeswax ..                          | 18,774            | 30,504            | 80,473            | 37,639            | 35,930            |
| Poultry production (estimated) ..             | 1,747,000         | 1,714,770         | 2,160,650         | 2,738,620         | 3,579,230         |
| Rabbits and Hares ..                          | 114,800           | 110,770           | 266,490           | 210,130           | 913,220           |
| Fish ..                                       | 109,429           | 121,634           | 137,423           | 172,977           | 181,760           |
| <b>Total ..</b>                               | <b>1,990,003</b>  | <b>1,977,678</b>  | <b>2,645,036</b>  | <b>3,159,366</b>  | <b>4,710,140</b>  |
| Total Value of Primary Products ..            | 35,085,142        | 43,024,633        | 43,195,966        | 47,889,125        | 55,510,780        |
| Manufacturing—<br>Added Value*                | 20,053,552        | 21,678,039        | 23,976,732        | 26,880,485        | 34,259,060        |
| <b>Grand Total ..</b>                         | <b>55,138,694</b> | <b>64,702,672</b> | <b>67,172,698</b> | <b>74,769,610</b> | <b>89,769,840</b> |

\* Exclusive of value of output of butter and cheese factories, and forest saw-mills (as regards Victorian timber), which is included above under the headings "Dairying and Pastoral" and "Forest Produce," respectively.

The production in the year 1919-20 under the heading "Cultivation" was the highest on record. In 1919-20 dairying and pastoral production was higher, and mining production lower, than at any time during the past ten years. Forest produce, on the other hand,

showed a distinct improvement, the value having increased from £747,555 in 1910 to £1,637,395 in 1919-20.

The total value of primary production in 1919-20 was £55,510,780, or £7,621,655 more, and that of manufactures (added value) was £34,259,060, or £7,378,575 more than in the preceding year.

The values of different kinds of production per head of the total population in each of the last five years were as follows:—

VALUE OF PRODUCTION PER HEAD OF POPULATION,  
1915 TO 1919-20.

| Produce.                        | Value of Produce per head in— |                |                 |                |                |
|---------------------------------|-------------------------------|----------------|-----------------|----------------|----------------|
|                                 | 1915.                         | 1916-17.       | 1917-18.        | 1918-19.       | 1919-20.       |
|                                 | £ s. d.                       | £ s. d.        | £ s. d.         | £ s. d.        | £ s. d.        |
| Cultivation ..                  | 13 17 2                       | 11 8 0         | 10 4 2          | 11 8 9         | 14 12 7        |
| Dairying and Pastoral ..        | 7 7 3                         | 16 3 2         | 16 14 8         | 18 0 7         | 17 7 0         |
| Mining .. ..                    | 1 7 5                         | 1 1 11         | 1 1 3           | 0 18 9         | 0 17 9         |
| Forest .. ..                    | 0 12 5                        | 0 13 5         | 0 14 9          | 0 17 2         | 1 1 11         |
| Miscellaneous ..                | 1 7 10                        | 1 8 3          | 1 17 6          | 2 4 2          | 3 3 0          |
| <b>Total Primary Produce ..</b> | <b>24 12 1</b>                | <b>30 14 9</b> | <b>30 12 4</b>  | <b>33 9 5</b>  | <b>37 2 3</b>  |
| <b>Manufactures ..</b>          | <b>14 1 3</b>                 | <b>15 9 9</b>  | <b>16 19 10</b> | <b>18 15 9</b> | <b>22 18 1</b> |
| <b>Grand Total</b>              | <b>38 13 4</b>                | <b>46 4 6</b>  | <b>47 12 2</b>  | <b>52 5 2</b>  | <b>60 0 4</b>  |

The figures show the steadily increasing importance of the manufacturing industries. Relatively to population, the amount added in the process of manufacture to the value of the raw materials used was 63 per cent. higher in 1919-20 than in 1915.