

# 6 *Agriculture*



## **INTRODUCTION**

This chapter presents an overview of Victoria's agricultural performance as compared with Australia as a whole. Data are provided on the gross value of commodities produced, the major agricultural activities within statistical divisions, the area and production of agricultural commodities, and information concerning livestock and livestock products. The chapter concludes with a new article on the environment, which pays particular attention to the problem of soil salinity.

### **The 1989 Season**

Compared with the 1988 season, 1989 saw a reduction both in the area and production of cereals for grain of 9 per cent and 8 per cent respectively, continuing a downward trend.

Despite a fall of 3 per cent in the area of legumes for grain, production rose by 8 per cent, indicating an improved yield. This was also the case for oilseeds, the area of which fell by 9 per cent while production decreased only 6 per cent. The area of vegetables fell 3 per cent compared to the previous season.

Fruit production totalled 668,000 tonnes, a fall of 3 per cent over the previous year.

Grazing livestock numbers **increased** while there was a decline in the numbers of poultry and pigs. Wool clipped reached 132,500 tonnes, the highest production in the last three years.

There were 32,035 establishments commercially engaged in agricultural activity, 2 per cent fewer than in the previous year.

The 1989 season saw a **10 per cent rise** in the total gross value of agricultural commodities produced, to just over \$5 billion.

### **Victoria compared with Australia**

In terms of farm income, Victoria's share for the latest 6 year period (1983-84 to 1988-89) fluctuated markedly. Farm income increased from \$983m in 1987-88 to \$991m in 1988-89, the highest since 1983-84. The 1988-89 figure represented 24 per cent of the Australian farm income of \$4,207m.

The gross value of agricultural commodities produced (GVACP) provides a measure of the output from farming. **In 1988-89, the GVACP for Victoria was \$5,037m, or 22 per cent of the Australian total of \$23,120m.** In terms of value, Victoria produced 17 per cent of Australia's crops, 22 per cent of livestock slaughtered, and 27 per cent of livestock products (wool, milk, **eggs**, and honey).

**Scope of the Agricultural Census**

Statistics in this publication are, in general, derived from the annual Agricultural Census conducted throughout Australia at 31 March, which collects data from establishments with agricultural activity.

The ABS excludes from the Census establishments with an estimated value of agricultural operations (EVAO) less than a certain cut-off level. This cut-off level is reviewed from time to time. From 1981-82 to 1985-86 establishments were excluded from the Census if they had, or were expected to have, an EVAO of less than \$2,500. From the 1986-87 Census, the cut-off value was raised to \$20,000.

EVAO is an aggregation of derived values for all crop and livestock activity for each unit. It should be noted that EVAO is applicable *only for Industry Coding and Size Valuation purposes*. It is NOT an indicator of receipts obtained by units nor of the value of agricultural commodities produced by these units.

**TABLE 6.1 AUSTRALIAN NATIONAL ACCOUNTS: GROSS DOMESTIC PRODUCT AT FACTOR COST, AGRICULTURE, FORESTRY, FISHING, AND HUNTING INDUSTRY**

| Year    | Gross Domestic Product at factor cost |           |   |
|---------|---------------------------------------|-----------|---|
|         | Victoria                              | Australia | Victoria<br>as a percentage<br>of Australia |
|         | \$m                                   | \$m       | per cent                                    |
| 1983-84 | r2,121                                | r9,243    | r22.9                                       |
| 1984-85 | r1,703                                | r9,313    | r18.3                                       |
| 1985-86 | r1,850                                | r9,225    | r20.1                                       |
| 1986-87 | r2,218                                | r10,063   | r22.0                                       |
| 1987-88 | r2,514                                | r12,060   | r20.8                                       |
| 1988-89 | 2,728                                 | 14,210    | 19.2  |

**TABLE 6.2 AUSTRALIAN NATIONAL ACCOUNTS : FARM INCOME**

| Year    | Gross Domestic Product at factor cost |           |   |
|---------|---------------------------------------|-----------|---|
|         | Victoria                              | Australia | Victoria<br>as a percentage<br>of Australia |
|         | \$m                                   | \$m       | per cent                                    |
| 1983-84 | r1,060                                | r3,159    | r33.6                                       |
| 1984-85 | r485                                  | r2,696    | r18.0                                       |
| 1985-86 | r456                                  | r1,417    | r32.2                                       |
| 1986-87 | r740                                  | r1,889    | r39.2                                       |
| 1987-88 | r983                                  | r3,250    | r30.2                                       |
| 1988-89 | 991                                   | 4,207     | 23.6  |

**TABLE 6.3 VALUE OF AGRICULTURAL COMMODITIES PRODUCED, VICTORIA**  
(S'000)

| Particulars  | Year ended 30 June |                  |                  |                  |                  |                  |
|--|--------------------|------------------|------------------|------------------|------------------|------------------|
|  | 1984               | 1985             | 1986             | 1987             | 1988             | 1989             |
| <b>Crops -</b>                                       |                    |                  |                  |                  |                  |                  |
| Cereals for grain                                    | 814,819            | 588,176          | 480,321          | 525,136          | 421,509          | 514,421          |
| Hay  | 311,638            | 82,103           | 143,698          | 181,003          | 148,406          | 211,254          |
| Industrial crops                                     | 34,465             | 35,776           | 33,091           | 34,329           | 48,562           | 45,706           |
| Vegetables   | 197,641            | 158,496          | 185,605          | 227,351          | 255,994          | 304,674          |
| Grapes   | 93,116             | 114,014          | 123,000          | 117,776          | 149,323          | 163,878          |
| Fruit  | 113,962            | 151,554          | 154,030          | 203,604          | 202,101          | 228,139          |
| Other  | 93,592             | 131,078          | 158,528          | 186,862          | 269,598          | 238,994          |
| <b>Total</b>   | <b>1,659,233</b>   | <b>1,261,197</b> | <b>1,278,273</b> | <b>1,476,061</b> | <b>1,495,493</b> | <b>1,707,066</b> |
| <b>Livestock slaughterings and other disposals -</b> |                    |                  |                  |                  |                  |                  |
| Cattle and calves                                    | 432,670            | 484,082          | 520,269          | 561,154          | 570,499          | 625,307          |
| Sheep and lambs                                      | 182,611            | 179,647          | 178,677          | 259,275          | 270,033          | 233,308          |
| Other  | 219,695            | 258,121          | 251,327          | 249,424          | 294,405          | 318,831          |
| <b>Total</b>   | <b>834,804</b>     | <b>921,851</b>   | <b>950,273</b>   | <b>1,069,853</b> | <b>1,134,937</b> | <b>1,177,446</b> |
| <b>Livestock products -</b>                          |                    |                  |                  |                  |                  |                  |
| Wool   | 381,858            | 502,306          | 542,076          | 726,259          | 1,144,831        | 1,159,326        |
| Dairy products                                       | 589,062            | 473,360          | 557,935          | 643,778          | 747,811          | 904,065          |
| Other  | 86,019             | 84,322           | 84,322           | 86,327           | 84,633           | 91,815           |
| <b>Total</b>   | <b>1,056,939</b>   | <b>1,059,988</b> | <b>1,184,647</b> | <b>1,456,364</b> | <b>1,977,275</b> | <b>2,155,206</b> |
| <b>Grand total</b>                                   | <b>3,550,977</b>   | <b>3,243,036</b> | <b>3,413,193</b> | <b>4,002,278</b> | <b>4,607,705</b> | <b>5,039,718</b> |

**TABLE 6.4 GROSS VALUE OF AGRICULTURAL COMMODITIES PRODUCED 1988-89**  
(S'000)

|  | Victoria         |                   | Victoria<br>as a percentage<br>of Australia |
|--|------------------|-------------------|---|
|  | Victoria         | Australia         |   |
| <b>Crops -</b>                                       |                  |                   |   |
| Cereals for Grain                                    | 514,400          | 4,200,600         | 12.2  |
| Hay  | 211,200          | 532,000           | 39.6  |
| Industrial Crops                                     | 45,700           | 1,563,100         | 2.9   |
| Vegetables   | 304,700          | 1,197,300         | 25.4  |
| Grapes   | 163,900          | 462,400           | 35.4  |
| Fruit  | 228,100          | 1,000,200         | 22.8  |
| Other  | 239,000          | 950,500           | 25.1  |
| <b>Total</b>   | <b>1,707,000</b> | <b>9,906,100</b>  | <b>17.2</b>                                 |
| <b>Livestock Slaughterings and other disposals -</b> |                  |                   |   |
| Cattle and Calves                                    | 625,300          | 3,197,600         | 19.5  |
| Sheep and Lambs                                      | 233,300          | 738,300           | 31.5  |
| Other  | 318,800          | 1,356,300         | 23.5  |
| <b>Total</b>   | <b>1,177,400</b> | <b>5,292,200</b>  | <b>22.2</b>                                 |
| <b>Livestock Products -</b>                          |                  |                   |   |
| Wool   | 1,159,300        | 5,906,000         | 19.6  |
| Dairy Products                                       | 904,100          | 1,635,100         | 55.2  |
| Other  | 91,800           | 369,700           | 24.8  |
| <b>Total</b>   | <b>2,155,200</b> | <b>7,910,800</b>  | <b>27.2</b>                                 |
| <b>Grand total</b>                                   | <b>5,039,600</b> | <b>23,109,100</b> | <b>21.8</b>                                 |

**TABLE 6.5 NUMBER OF ESTABLISHMENTS, WITH AGRICULTURAL ACTIVITY, AREA, AND LAND UTILISATION, BY STATISTICAL DIVISION 1988-89**

| Statistical division  | Number of establishments (a) | Area used       | Sown pasture | Native       | Balance of     | Total area of  |
|-----------------------|------------------------------|-----------------|--------------|--------------|----------------|----------------|
|                       |                              | for crops(b)(c) | and lucerne  | pasture      | establishments | establishments |
|                       |                              | '000 ha         | '000 ha      | '000 ha      | '000 ha        | '000 ha        |
| Melbourne             | 1,492                        | 18              | 92           | 34           | 31             | 175            |
| Barwon                | 1,605                        | 40              | 279          | 73           | 55             | 447            |
| South Western         | 4,869                        | 53              | 1,339        | 226          | 168            | 1,786          |
| Central Highlands     | 1,787                        | 60              | 517          | 124          | 96             | 796            |
| Wimmera               | 3,286                        | 735             | 1,000        | 188          | 459            | 2,382          |
| Northern Mallee       | 3,536                        | 695             | 677          | 358          | 732            | 2,463          |
| Loddon-Campaspe       | 3,188                        | 206             | 775          | 256          | 281            | 1,518          |
| Goulburn              | 4,888                        | 127             | 745          | 218          | 181            | 1,271          |
| North Eastern         | 1,841                        | 33              | 311          | 97           | 263            | 704            |
| East Gippsland        | 1,197                        | 8               | 227          | 269          | 374            | 878            |
| Central Gippsland     | 3,433                        | 9               | 422          | 57           | 87             | 575            |
| East Central          | 913                          | 4               | 75           | 10           | 12             | 102            |
| <b>Total Victoria</b> | <b>32,035</b>                | <b>1,990</b>    | <b>6,458</b> | <b>1,910</b> | <b>2,738</b>   | <b>13,096</b>  |

(a) Includes non land-based bee keeping establishments (i.e. bee keeping activity not permanently located at one site).

(b) Excludes area of pasture cut for hay or seed.

(c) Duplicated area included if double-cropping occurred.

**TABLE 6.6 NUMBER OF ESTABLISHMENTS WITH AGRICULTURAL ACTIVITY, CLASSIFIED BY EVAO AND MAIN ACTIVITY OF ESTABLISHMENT, BY STATISTICAL DIVISION, VICTORIA, 1988-89 (a)**

| Main activity of establishment            | Estimated value of agricultural operations (EVAO) (\$'000) |            |            |              |              |            | Total establishments |
|---|--|------------|------------|--------------|--------------|------------|----------------------|
|   | <20  | 20-39      | 40-59      | 60-99        | 100-199      | 200+       |                      |
| <b>MELBOURNE STATISTICAL DIVISION</b>     |  |            |            |              |              |            |                      |
| Vegetables                                | 5  | 26         | 34         | 55           | 86           | 89         | 295                  |
| Meat cattle                               | 29   | 102        | 58         | 38           | 14           | 3          | 244                  |
| Orchard and other fruit                   | 12   | 37         | 31         | 41           | 53           | 35         | 209                  |
| Nurseries                                 | 36   | 40         | 25         | 30           | 33           | 25         | 189                  |
| Poultry                                   | 6  | 9          | 12         | 27           | 31           | 56         | 141                  |
| Potatoes                                  | -  | 1          | 2          | 2            | 1            | 3          | 9                    |
| Other                                     | 55   | 106        | 62         | 85           | 68           | 29         | 405                  |
| <b>Total</b>                              | <b>143</b>   | <b>321</b> | <b>224</b> | <b>278</b>   | <b>286</b>   | <b>240</b> | <b>1,492</b>         |
| <b>BARWON STATISTICAL DIVISION</b>        |  |            |            |              |              |            |                      |
| Milk cattle                               | 6  | 33         | 58         | 196          | 229          | 55         | 577                  |
| Sheep                                     | 12   | 59         | 84         | 127          | 111          | 68         | 461                  |
| Meat cattle                               | 24   | 64         | 29         | 29           | 12           | 5          | 163                  |
| Other                                     | 33   | 60         | 55         | 76           | 92           | 88         | 404                  |
| <b>Total</b>                              | <b>75</b>  | <b>216</b> | <b>226</b> | <b>428</b>   | <b>444</b>   | <b>216</b> | <b>1,605</b>         |
| <b>SOUTH WESTERN STATISTICAL DIVISION</b> |  |            |            |              |              |            |                      |
| Sheep                                     | 20   | 113        | 237        | 528          | 721          | 416        | 2,035                |
| Milk cattle                               | 16   | 54         | 150        | 557          | 703          | 145        | 1,625                |
| Sheep and meat cattle                     | 5  | 50         | 64         | 112          | 164          | 155        | 550                  |
| Meat cattle                               | 47   | 164        | 115        | 72           | 41           | 16         | 455                  |
| Other                                     | 25   | 22         | 21         | 37           | 44           | 55         | 204                  |
| <b>Total</b>                              | <b>113</b>   | <b>403</b> | <b>587</b> | <b>1,306</b> | <b>1,673</b> | <b>787</b> | <b>4,869</b>         |

**TABLE 6.6 NUMBER OF ESTABLISHMENTS WITH AGRICULTURAL ACTIVITY, CLASSIFIED BY EVAO AND MAIN ACTIVITY OF ESTABLISHMENT, BY STATISTICAL DIVISION, VICTORIA, 1988-89 (a) - continued**

| Main activity<br>of establishment             | Estimated value of agricultural operations EVAO (\$'000) |            |            |              |              |            | Total<br>establish-<br>ments |
|---|--|------------|------------|--------------|--------------|------------|------------------------------|
|   | <20  | 20-39      | 40-59      | 60-99        | 100-199      | 200+       |                              |
| <b>CENTRAL HIGHLANDS STATISTICAL DIVISION</b> |  |            |            |              |              |            |                              |
| Sheep   | 18   | 102        | 162        | 299          | 375          | 204        | 1,160                        |
| Potatoes                                      | 1  | 3          | 9          | 24           | 39           | 57         | 133                          |
| Sheep and meat cattle                         | 2  | 33         | 30         | 30           | 23           | 15         | 133                          |
| Sheep and cereals                             | 3  | 12         | 13         | 17           | 27           | 20         | 92                           |
| Meat cattle                                   | 15   | 24         | 13         | 12           | 4            | -          | 68                           |
| Other   | 22   | 37         | 31         | 41           | 42           | 28         | 201                          |
| <b>Total</b>                                  | <b>61</b>  | <b>211</b> | <b>258</b> | <b>423</b>   | <b>510</b>   | <b>324</b> | <b>1,787</b>                 |
| <b>WIMMERA STATISTICAL DIVISION</b>           |  |            |            |              |              |            |                              |
| Sheep and cereals                             | 9  | 91         | 160        | 330          | 545          | 300        | 1,435                        |
| Sheep   | 25   | 97         | 142        | 234          | 272          | 78         | 848                          |
| Cereal grains                                 | 14   | 95         | 113        | 192          | 245          | 158        | 817                          |
| Other   | 26   | 28         | 27         | 33           | 35           | 37         | 186                          |
| <b>Total</b>                                  | <b>74</b>  | <b>311</b> | <b>442</b> | <b>789</b>   | <b>1,097</b> | <b>573</b> | <b>3,286</b>                 |
| <b>NORTHERN MALLEE STATISTICAL DIVISION</b>   |  |            |            |              |              |            |                              |
| Grapes  | 15   | 169        | 349        | 481          | 326          | 77         | 1,417                        |
| Sheep and cereals                             | 2  | 28         | 54         | 115          | 296          | 251        | 746                          |
| Cereal grains                                 | 10   | 42         | 52         | 78           | 165          | 195        | 542                          |
| Orchard and other fruit                       | 11   | 21         | 29         | 47           | 44           | 62         | 214                          |
| Other   | 68   | 88         | 81         | 146          | 151          | 83         | 617                          |
| <b>Total</b>                                  | <b>106</b>   | <b>348</b> | <b>565</b> | <b>867</b>   | <b>982</b>   | <b>668</b> | <b>3,536</b>                 |
| <b>LODDON-CAMPASPE STATISTICAL DIVISION</b>   |  |            |            |              |              |            |                              |
| Sheep   | 40   | 159        | 203        | 276          | 274          | 96         | 1,048                        |
| Milk cattle                                   | 5  | 23         | 53         | 306          | 309          | 58         | 754                          |
| Sheep and cereals                             | 5  | 50         | 81         | 149          | 175          | 90         | 550                          |
| Sheep and meat cattle                         | 6  | 36         | 36         | 50           | 54           | 9          | 191                          |
| Meat cattle                                   | 21   | 79         | 37         | 25           | 15           | 5          | 182                          |
| Pigs  | -  | 5          | 4          | 15           | 20           | 32         | 76                           |
| Other   | 42   | 83         | 53         | 68           | 69           | 72         | 387                          |
| <b>Total</b>                                  | <b>119</b>   | <b>435</b> | <b>467</b> | <b>889</b>   | <b>916</b>   | <b>362</b> | <b>3,188</b>                 |
| <b>GOULBURN STATISTICAL DIVISION</b>          |  |            |            |              |              |            |                              |
| Milk cattle                                   | 10   | 64         | 167        | 768          | 692          | 101        | 1,802                        |
| Sheep and cereals                             | 1  | 41         | 77         | 143          | 121          | 27         | 410                          |
| Meat cattle                                   | 56   | 197        | 110        | 84           | 39           | 8          | 494                          |
| Sheep and meat cattle                         | 7  | 84         | 107        | 141          | 112          | 39         | 490                          |
| Orchard and other fruit                       | 4  | 24         | 27         | 57           | 110          | 140        | 362                          |
| Cereal grains                                 | 8  | 10         | 5          | 11           | 7            | 2          | 43                           |
| Meat cattle and cereals                       | 3  | 7          | 5          | 10           | 4            | 1          | 30                           |
| Other   | 71   | 203        | 222        | 316          | 274          | 171        | 1,257                        |
| <b>Total</b>                                  | <b>160</b>   | <b>630</b> | <b>720</b> | <b>1,530</b> | <b>1,359</b> | <b>489</b> | <b>4,888</b>                 |

**TABLE 6.6 NUMBER OF ESTABLISHMENTS WITH AGRICULTURAL ACTIVITY, CLASSIFIED BY EVAO AND MAIN ACTIVITY OF ESTABLISHMENT, BY STATISTICAL DIVISION, VICTORIA, 1988-89 (a) - continued**

| Main activity of establishment                | Estimated value of agricultural operations EVAO (\$'000) |            |            |            |              |            | Total establishments |
|---|--|------------|------------|------------|--------------|------------|----------------------|
|   | <20  | 20-39      | 40-59      | 60-99      | 100-199      | 200+       |                      |
| <b>NORTH EASTERN STATISTICAL DIVISION</b>     |  |            |            |            |              |            |                      |
| Meat cattle                                   | 40   | 208        | 165        | 146        | 62           | 14         | 635                  |
| Milk cattle                                   | 3  | 9          | 39         | 138        | 134          | 28         | 351                  |
| Sheep and meat cattle                         | 7  | 44         | 59         | 70         | 64           | 15         | 259                  |
| Tobacco                                       | -  | 11         | 20         | 36         | 71           | 35         | 173                  |
| Other   | 36   | 57         | 69         | 111        | 97           | 53         | 423                  |
| <b>Total</b>                                  | <b>86</b>  | <b>329</b> | <b>352</b> | <b>501</b> | <b>428</b>   | <b>145</b> | <b>1,841</b>         |
| <b>EAST GIPPSLAND STATISTICAL DIVISION</b>    |  |            |            |            |              |            |                      |
| Milk cattle                                   | 1  | 13         | 26         | 115        | 145          | 50         | 350                  |
| Meat cattle                                   | 15   | 107        | 63         | 59         | 33           | 5          | 282                  |
| Sheep and meat cattle                         | 2  | 25         | 43         | 58         | 60           | 28         | 216                  |
| Other   | 12   | 38         | 44         | 98         | 96           | 61         | 349                  |
| <b>Total</b>                                  | <b>30</b>  | <b>183</b> | <b>176</b> | <b>330</b> | <b>334</b>   | <b>144</b> | <b>1,197</b>         |
| <b>CENTRAL GIPPSLAND STATISTICAL DIVISION</b> |  |            |            |            |              |            |                      |
| Milk cattle                                   | 13   | 77         | 215        | 710        | 826          | 142        | 1,983                |
| Meat cattle                                   | 79   | 286        | 168        | 137        | 87           | 25         | 782                  |
| Other   | 39   | 87         | 91         | 135        | 166          | 150        | 668                  |
| <b>Total</b>                                  | <b>131</b>   | <b>450</b> | <b>474</b> | <b>982</b> | <b>1,079</b> | <b>317</b> | <b>3,433</b>         |
| <b>EAST CENTRAL STATISTICAL DIVISION</b>      |  |            |            |            |              |            |                      |
| Milk cattle                                   | 3  | 30         | 49         | 139        | 133          | 11         | 365                  |
| Meat cattle                                   | 20   | 91         | 53         | 40         | 20           | 6          | 230                  |
| Other   | 25   | 39         | 48         | 53         | 84           | 69         | 318                  |
| <b>Total</b>                                  | <b>48</b>  | <b>160</b> | <b>150</b> | <b>232</b> | <b>237</b>   | <b>86</b>  | <b>913</b>           |

(a) The period covered in this and most subsequent tables in this Chapter is the 1988-89 season, which in general refers to the year ended 31 March 1989 but also includes activities which may have been finalised after 31 March (e.g. grape picking). In most of these activities the growing period occurred before 31 March.

## AGRICULTURAL COMMODITIES

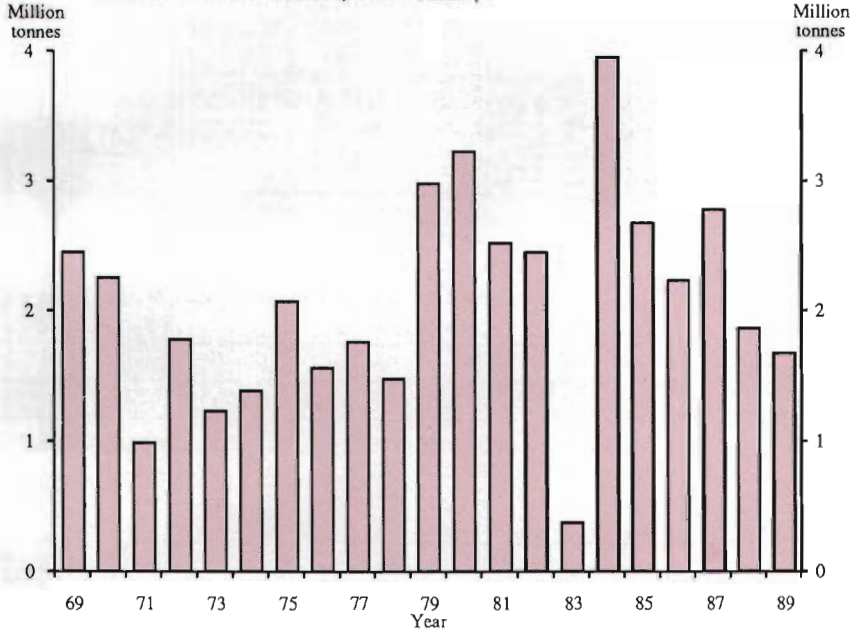
### Field crops

The cereals wheat, oats, and barley are the principal field crops in Victoria. These, together with hay production, green feed, and silage, represent about 80 per cent of the total area sown, although there is some variation from year to year.

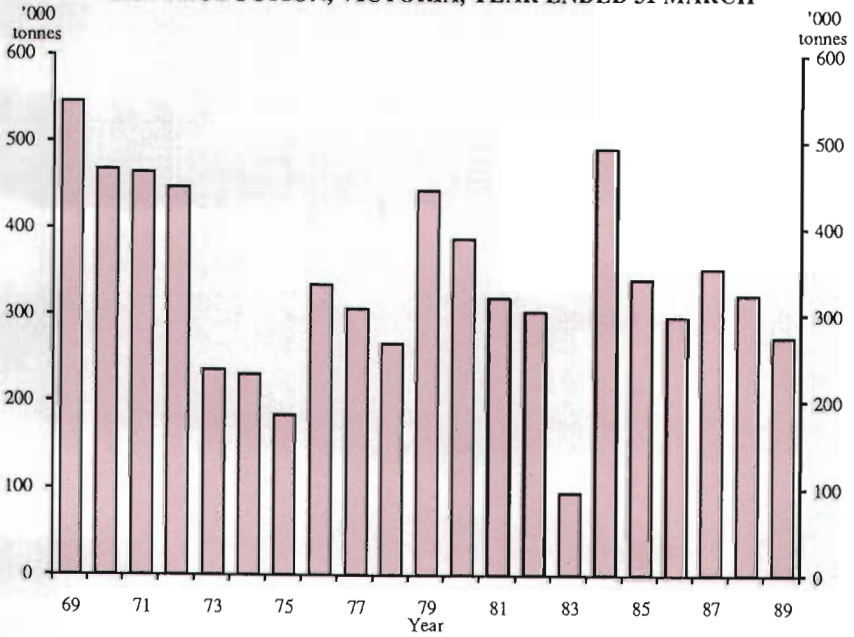
### Wheat

Wheat is Victoria's largest crop in terms of area and production. The average area sown in the six-year period 1983-84 to 1988-89 was 1.3 million hectares, about 56 per cent of the State's total area under crops. Over the same period production has averaged 2.5 million tonnes, with a record 4.0 million tonnes in 1983-84. In Victoria, wheat remained a significant crop in 1988-89, representing 66 per cent of total cereals for grain. The value of wheat produced in Victoria amounted to \$355m in 1988-89.

**WHEAT PRODUCTION, VICTORIA, YEAR ENDED 31 MARCH**



**OAT PRODUCTION, VICTORIA, YEAR ENDED 31 MARCH**

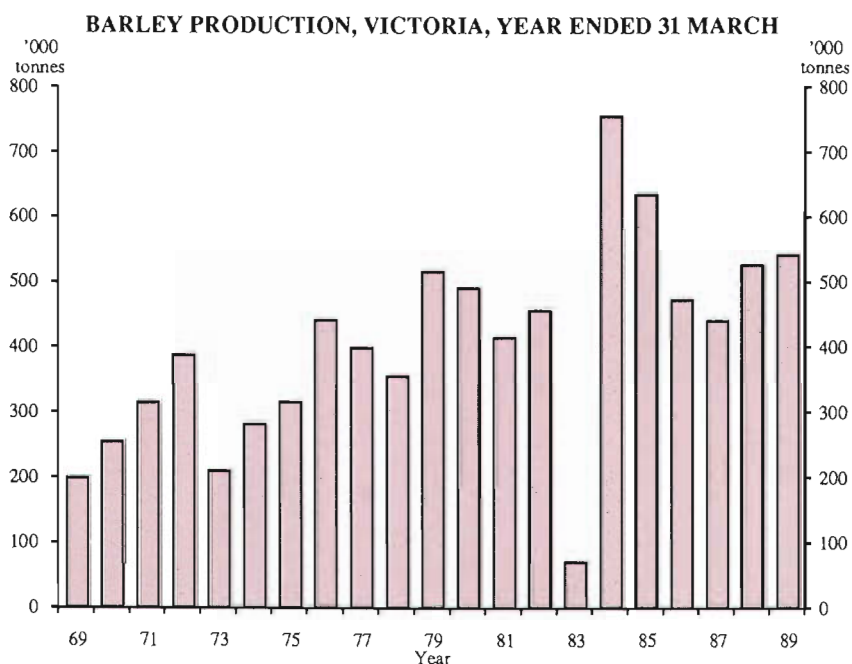


### Oats

Oats are sown for grain production, winter grazing, and hay production. The average annual area sown for grain, grazing, and hay between 1983-84 and 1988-89 was 298,854 hectares, of which about 77 per cent was harvested for grain, some of it after being grazed during the winter. Generally, 60 per cent of oats produced is held on farms, 25 per cent is used for compound/urban feed markets, 5 per cent is milled and 10 per cent is exported. Within the feed market, the horse racing industry takes around 25,000 tonnes each year of the higher quality oats available for feed.

### Barley

The area sown to barley for all purposes in 1988-89 was 353,896 hectares, slightly lower than the 6 year average of 380,728 hectares. While barley is grown in all statistical divisions, production has been traditionally centred in two distinct areas where high quality grain is produced. The largest production is in the south-west of the Northern Mallee and the adjacent north-western Wimmera. The second source of high quality barley grain is in an area between Melbourne, Geelong, and Bacchus Marsh in southern Victoria.



### Maize

The total area of maize for grain fell from 860 hectares in 1983-84 to 250 hectares in 1988-89. Production fell from 5,023 tonnes in 1983-84 to 1,445 tonnes in 1988-89.



### Oil seeds

The production of rapeseed increased from 4,161 tonnes in 1983-84 to 25,000 tonnes in 1985-86, before falling to 16,327 tonnes in 1988-89. However during the six year period, yields were the highest in 1986-87 and 1988-89. Safflower production showed further growth in 1988-89 to reach 20,126 tonnes, while the area sown increased to 25,824 hectares.

### Grain legumes

The legumes, predominantly field peas and lupins for grain, have generally shown strong growth in recent years. The area of lupins sown has risen from about 100 hectares in 1973 to just under 35,000 hectares in 1988-89. The 1988 production of lupins was 37,000 tonnes, an increase of 5 per cent over the previous year, although the area sown was 2,000 hectares less than in 1987-88.

The production of field peas increased to 263,686 tonnes in 1988-89. This was considerably less than the record harvest of 334,800 tonnes in 1986-87. The area sown to field peas, which had an average increase of around 20,000 hectares per annum in the decade to 1983-84, appears to have stabilised. In 1988-89, the area sown was 221,000 hectares, 6 per cent less than the previous year.

TABLE 6.7 WHEAT FOR GRAIN, VICTORIA

| Season      | Area    | Production  | Average yield per hectare | A.S.W.(a) wheat standard |
|-------------|---------|-------------|---------------------------|--------------------------|
|             | '000 ha | '000 tonnes | tonnes                    | kg/hl                    |
| 1983-84     | 1,614   | 3,971       | 2.46                      | 76.7                     |
| 1984-85     | 1,523   | 2,666       | 1.75                      | 84.1                     |
| 1985-86     | 1,508   | 2,250       | 1.49                      | 80.9                     |
| 1985-86 (b) | 1,488   | 2,225       | 1.56                      | 80.9                     |
| 1986-87     | 1,364   | 2,795       | 2.05                      | 80.2                     |
| 1987-88     | 1,026   | 1,882       | 1.84                      | 82.7                     |
| 1988-89     | 931     | 1,691       | 1.82                      | 82.5                     |

(a) Australian Standard White, quoted in kilograms per hectolitre.

(b) To assist in gauging the degree of change of the effect of raising the EVAO cut-off from \$2,500 or more to \$20,000 or more, data for 1985-86 have been tabulated on both bases.

TABLE 6.8 OATS FOR GRAIN, VICTORIA

| Season      | Area    | Production  | Average yield per hectare |
|-------------|---------|-------------|---------------------------|
|             | '000 ha | '000 tonnes | tonnes                    |
| 1983-84     | 324     | 494         | 1.52                      |
| 1984-85     | 228     | 343         | 1.50                      |
| 1985-86     | 212     | 300         | 1.42                      |
| 1985-86 (a) | 204     | 290         | 1.43                      |
| 1986-87     | 215     | 356         | 1.66                      |
| 1987-88     | 216     | 325         | 1.51                      |
| 1988-89     | 189     | 276         | 1.46                      |

(a) See footnote (b) to Table 6.7.

**TABLE 6.9 BARLEY FOR GRAIN, VICTORIA**

| Season     | Area    |       | Production  |       | Average yield per hectare |       |
|------------|---------|-------|-------------|-------|---------------------------|-------|
|            | 2-row   | 6-row | 2-row       | 6-row | 2-row                     | 6-row |
|            | '000 ha |       | '000 tonnes |       | tonnes                    |       |
| 1983-84    | 390     | 13    | 736         | 22    | 1.89                      | 1.69  |
| 1984-85    | 470     | 15    | 617         | 20    | 1.31                      | 1.34  |
| 1985-86    | 379     | 10    | 464         | 12    | 1.22                      | 1.26  |
| 1985-86(a) | 370     | 9     | 453         | 11    | 1.22                      | 1.25  |
| 1986-87    | 259     | 6     | 433         | 11    | 1.67                      | 1.68  |
| 1987-88    | 357     | 9     | 517         | 12    | 1.45                      | 1.34  |
| 1988-89    | 342     | 8     | 534         | 10    | 1.56                      | 1.33  |

(a) See footnote (b) to Table 6.7.

**TABLE 6.10 OTHER CEREAL CROPS FOR GRAIN**

| Season      | Rye     |             | Maize   |             | Millet  |             | Triticale |             |
|-------------|---------|-------------|---------|-------------|---------|-------------|-----------|-------------|
|             | Area    | Production  | Area    | Production  | Area    | Production  | Area      | Production  |
|             | '000 ha | '000 tonnes | '000 ha | '000 tonnes | '000 ha | '000 tonnes | '000 ha   | '000 tonnes |
| 1983-84     | 7.1     | 5.3         | 0.9     | 5.0         | 3.3     | 4.8         | 7.6       | 14.2        |
| 1984-85     | 5.4     | 3.3         | 1.2     | 6.3         | 1.9     | 2.9         | 8.9       | 13.6        |
| 1985-86     | 10.0    | 5.9         | 1.1     | 5.0         | 1.7     | 2.6         | 11.9      | 18.6        |
| 1985-86 (a) | 10.0    | 5.9         | 1.0     | 5.0         | 1.6     | 2.5         | 11.7      | 18.4        |
| 1986-87     | 22.8    | 19.0        | 0.6     | 3.2         | 2.8     | 4.5         | 17.6      | 28.5        |
| 1987-88     | 11.6    | 6.8         | 1.3     | 5.5         | 1.4     | 2.1         | 18.3      | 27.4        |
| 1988-89     | 8.1     | 4.8         | 0.3     | 1.4         | 1.0     | 1.6         | 16.0      | 25.8        |

(a) See footnote (b) to Table 6.7.

**TABLE 6.11 SILAGE MADE, AND FARM STOCKS OF SILAGE AND HAY, BY STATISTICAL DIVISION**  
(tonnes)

| Statistical division  | Silage made, season 1988-89 |                  | Stocks at 31 March 1989 |                  |
|-----------------------|-----------------------------|------------------|-------------------------|------------------|
|                       | Silage                      | Hay              | Silage                  | Hay              |
| Melbourne             | 3,761                       | 42,599           | 4,701                   | 42,599           |
| Barwon                | 16,936                      | 133,939          | 19,406                  | 133,939          |
| South Western         | 56,280                      | 455,518          | 37,475                  | 455,518          |
| Central Highlands     | 4,333                       | 146,224          | 10,765                  | 146,224          |
| Wimmera               | 220                         | 214,814          | 4,563                   | 214,814          |
| Northern Mallee       | 2,895                       | 85,804           | 7,687                   | 85,804           |
| Loddon-Campaspe       | 9,929                       | 301,968          | 15,679                  | 301,968          |
| Goulburn              | 15,804                      | 446,632          | 17,126                  | 446,632          |
| North Eastern         | 22,137                      | 153,125          | 33,850                  | 153,125          |
| East Gippsland        | 4,723                       | 71,036           | 12,237                  | 71,036           |
| Central Gippsland     | 94,641                      | 355,309          | 77,430                  | 355,309          |
| East Central          | 19,080                      | 67,215           | 13,965                  | 67,215           |
| <b>Total Victoria</b> | <b>250,738</b>              | <b>2,474,182</b> | <b>254,884</b>          | <b>2,474,182</b> |

TABLE 6.12 HAY PRODUCTION, VICTORIA, SEASON 1988-89

| Variety                 | Area           | Production       | Average yield per hectare |
|-------------------------|----------------|------------------|---------------------------|
|                         | hectares       | tonnes           | tonnes                    |
| Meadow grass and clover | 414,385        | 1,559,054        | 3.76                      |
| Oaten                   | 34,051         | 127,599          | 3.75                      |
| Lucerne                 | 29,854         | 154,180          | 5.16                      |
| Wheaten                 | 4,072          | 13,412           | 3.29                      |
| Barley and other        | 3,168          | 8,327            | 2.63                      |
| <b>Total</b>            | <b>485,530</b> | <b>1,862,572</b> | <b>3.84</b>               |

TABLE 6.13 SELECTED OILSEEDS PRODUCTION, VICTORIA

| Season      | Area (hectares) | Production (tonnes) | Average yield per hectare (tonnes) |
|-------------|-----------------|---------------------|------------------------------------|
| LINSEED     |                 |                     |                                    |
| 1983-84     | 1,973           | 1,510               | 0.77                               |
| 1984-85     | 1,791           | 2,222               | 1.24                               |
| 1985-86     | 3,399           | 5,346               | 1.57                               |
| 1985-86 (a) | 3,374           | 5,325               | 1.58                               |
| 1986-87     | 2,618           | 2,926               | 1.12                               |
| 1987-88     | 4,040           | 4,336               | 1.07                               |
| 1988-89     | 1,981           | 2,539               | 1.28                               |
| RAPESEED    |                 |                     |                                    |
| 1983-84     | 4,258           | 4,161               | 0.98                               |
| 1984-85     | 8,592           | 8,711               | 1.01                               |
| 1985-86     | 21,785          | 24,543              | 1.13                               |
| 1985-86 (a) | 21,670          | 24,434              | 1.13                               |
| 1986-87     | 18,117          | 21,699              | 1.20                               |
| 1987-88     | 21,080          | 22,730              | 1.08                               |
| 1988-89     | 13,345          | 16,327              | 1.22                               |
| SAFFLOWER   |                 |                     |                                    |
| 1983-84     | 3,619           | 2,610               | 0.72                               |
| 1984-85     | 7,038           | 4,569               | 0.65                               |
| 1985-86     | 9,432           | 6,264               | 0.66                               |
| 1985-86 (a) | 9,174           | 6,136               | 0.67                               |
| 1986-87     | 10,448          | 7,425               | 0.71                               |
| 1987-88     | 20,878          | 14,467              | 0.69                               |
| 1988-89     | 25,824          | 20,126              | 0.78                               |
| SUNFLOWER   |                 |                     |                                    |
| 1983-84     | 14,105          | 12,546              | 0.89                               |
| 1984-85     | 12,355          | 14,407              | 1.17                               |
| 1985-86     | 13,240          | 14,894              | 1.12                               |
| 1985-86 (a) | 12,806          | 14,297              | 1.12                               |
| 1986-87     | 7,359           | 8,019               | 1.09                               |
| 1987-88     | 4,161           | 7,234               | 1.74                               |
| 1988-89     | 3,943           | 6,117               | 1.55                               |

(a) See footnote (b) to Table 6.7.

**TABLE 6.14 LEGUMES FOR GRAIN, VICTORIA**

| Season      | Lupins  |             | Field peas |             | Total (a) |             |
|-------------|---------|-------------|------------|-------------|-----------|-------------|
|             | Area    | Production  | Area       | Production  | Area      | Production  |
|             | '000 ha | '000 tonnes | '000 ha    | '000 tonnes | '000 ha   | '000 tonnes |
| 1983-84     | 16.2    | 15.8        | 45.6       | 61.4        | 62.0      | 77.5        |
| 1984-85     | 20.1    | 20.7        | 84.8       | 86.3        | 105.7     | 107.7       |
| 1985-86     | 24.2    | 30.4        | 136.7      | 137.0       | 161.9     | 168.6       |
| 1985-86 (b) | 23.5    | 29.7        | 135.9      | 136.5       | 160.4     | 167.3       |
| 1986-87     | 27.6    | 37.2        | 197.8      | 334.8       | 232.5     | 384.7       |
| 1987-88     | 37.2    | 35.2        | 236.8      | 258.5       | 289.8     | 311.2       |
| 1988-89     | 34.9    | 37.0        | 221.1      | 263.7       | 280.7     | 335.6       |

(a) Includes chick peas, dried edible beans, etc.

(b) See footnote (b) to Table 6.7.

**TABLE 6.15 AREA, PRODUCTION, AND YIELD OF LEGUMES FOR GRAIN, BY STATISTICAL DIVISION, YEAR ENDED 31 MARCH 1989**

| Statistical division  | Lupins for grain |             |            | Field peas for grain |              |            | Total legumes for grain (a) |              |            |
|-----------------------|------------------|-------------|------------|----------------------|--------------|------------|-----------------------------|--------------|------------|
|                       | Area             | Prod'n      | Yield      | Area                 | Prod'n       | Yield      | Area                        | Prod'n       | Yield      |
|                       | '000 ha          | '000 tonnes | tonnes /ha | '000 ha              | '000 tonnes  | tonnes /ha | '000 ha                     | '000 tonnes  | tonnes /ha |
| Melbourne             | 0.2              | 0.1         | 0.6        | -                    | -            | -          | 0.2                         | 0.1          | 0.5        |
| Barwon                | 1.2              | 1.3         | 1.1        | 1.9                  | 2.4          | 1.2        | 3.1                         | 3.7          | 1.2        |
| South Western         | 1.2              | 1.3         | 1.1        | 0.6                  | 0.8          | 1.4        | 2.0                         | 2.3          | 1.2        |
| Central Highlands     | 1.2              | 1.1         | 0.9        | 0.4                  | 0.5          | 1.5        | 1.6                         | 1.6          | 1.0        |
| Wimmera               | 8.1              | 7.0         | 0.9        | 118.7                | 155.4        | 1.3        | 146.1                       | 189.4        | 1.3        |
| Northern Mallee       | 4.4              | 3.5         | 0.8        | 75.1                 | 75.3         | 1.0        | 80.8                        | 79.8         | 1.0        |
| Loddon-Campaspe       | 3.8              | 3.6         | 1.0        | 21.3                 | 25.5         | 1.2        | 28.6                        | 35.2         | 1.2        |
| Goulburn              | 11.2             | 14.7        | 1.3        | 3.0                  | 3.8          | 1.3        | 14.4                        | 18.6         | 1.3        |
| North Eastern         | 3.5              | 4.4         | 1.2        | -                    | -            | 1.3        | 3.5                         | 4.3          | 1.2        |
| East Gippsland        | -                | -           | -          | -                    | -            | -          | 0.1                         | 0.2          | 1.3        |
| Central Gippsland     | -                | -           | 0.8        | -                    | -            | -          | -                           | -            | 0.1        |
| East Central          | -                | -           | -          | -                    | -            | 2.5        | -                           | -            | 2.5        |
| <b>Total Victoria</b> | <b>34.9</b>      | <b>37.0</b> | <b>1.1</b> | <b>221.1</b>         | <b>263.7</b> | <b>1.2</b> | <b>280.6</b>                | <b>335.6</b> | <b>1.2</b> |

(a) Includes chick peas, dried edible beans, etc.

## FRUIT

### Area planted

In Victoria in 1988-89, the area planted with fruit, nuts, and berries was 20,878 hectares, and the area of vineyards was 18,859 hectares. Although this total of 39,735 hectares is only about 1.2 per cent of the total area under crops in Victoria, fruit and vine growing make a valuable contribution to the economy of the State.

### Tree fruit

In Victoria, the main fruit growing areas are in the Goulburn, Northern Mallee, Melbourne, and East Central Statistical Divisions. There are smaller areas in the North Eastern Statistical Division and also in the Gippsland, Bacchus Marsh, and Ballarat areas.

### **Small fruit**

Climatic requirements have restricted the commercial production of strawberries, and cane and bramble fruits in particular, to the cooler southern regions of Victoria, and most of the fruit is grown in the hills of the Eastern Melbourne Metropolitan and Mornington Peninsula areas which are relatively close to the Melbourne market. During the last few years fruit growers in other parts of the State interested in diversification have taken up the production of strawberries, raspberries and kiwi fruit, particularly for the fresh fruit market.

### **Nuts**

A wide range of nuts can be grown in Victoria. Examples are almonds, walnuts, chestnuts, hazelnuts, pecans, and pistachios. In the past, only a few of these trees have been grown in commercial plantings. Almonds were mainly planted in the northern area; walnuts and chestnuts in situations with deep soil in the north-east, the Dandenongs, and Gippsland; and hazelnuts on shallower soils in the north-east and the Dandenongs. In 1988-89, production of nuts was 1,579 tonnes.

### **Grapes**

In Victoria, most wine grapes are grown under irrigation in the Northern Mallee Statistical Division, and in the Goulburn Valley and the Murray Valley areas. Wine grape varieties are also being grown in the traditional non-irrigated areas in the north-east (Rutherglen) and in the west (Great Western) of the State. With the increasing interest in wine grapes over recent years, many vineyards of varying sizes have been established in other suitable areas throughout the State.

In 1988-89, Victoria had 17,590 hectares of bearing vines which produced 104,275 tonnes for winemaking and 221,921 tonnes for drying and table grapes. There were 1,267 hectares of non-bearing vines.

Table grape production in recent years has risen considerably, increasing from 12,636 tonnes in 1983-84 to 30,316 tonnes in 1988-89.

## **OTHER INTENSIVE CROPS**

### **Vegetables**

Most of the fresh vegetable production in Victoria is located in the Melbourne, Central Highlands, Loddon-Campaspe and Goulburn statistical divisions.

Potatoes are mainly grown in the Central Highlands around Ballarat, at Thorpdale in the Gippsland Hills, and at Koo-wee-rup, with additional areas around Warrnambool, the Bellarine Peninsula, Colac, the Otway Ranges, and metropolitan market gardens. In 1988-89, the gross value of potato production was \$114m or 7 per cent of the total value of production of crops.

The tomato industry in Victoria is predominantly processing-orientated with most of the crop produced in the irrigated areas between Shepparton and Rochester in northern Victoria.

### **Tobacco**

The tobacco industry in Victoria is centred at Myrtleford in the north-east with production areas in the adjacent valleys of the Buffalo, Ovens, Upper King, and Kiewa Rivers. The 189 tobacco growers in Victoria produced 4,089 tonnes of cured leaf in 1988-89.

**Hops**

In Victoria, production of hops is confined to the alluvial soils in the valleys of the Ovens and King Rivers where good quality irrigation water is available to supplement the natural summer rainfall. The hop is a summer growing perennial plant, propagated from root cuttings, that develops long vines supported on a post and wire trellis system about six metres above the ground surface. In 1988-89 there were 23 hop gardens in Victoria with a total area of 371 hectares producing 680 tonnes (dried weight) of hops for both domestic brewers and export markets.

**Plant nurseries**

In 1988-89, there were 403 nurseries in Victoria with a total production area of 2,970 hectares (including establishments growing cultivated turf).

**TABLE 6.16 NUMBER OF SELECTED BEARING AND NON BEARING POME AND STONE FRUIT TREES BY STATISTICAL DIVISION, AT 31 MARCH 1989**  
( '000)

| <i>Statistical division</i> | <i>Apples</i> | <i>Pears</i> | <i>Peaches</i> | <i>Apricots</i> | <i>Nectarines</i> |
|-----------------------------|---------------|--------------|----------------|-----------------|-------------------|
| Melbourne                   | 531           | 59           | 100            | 2               | 33                |
| Barwon                      | 3             | -            | -              | 1               | -                 |
| South Western               | 10            | -            | 1              | 1               | -                 |
| Central Highlands           | 114           | 20           | 5              | 7               | 8                 |
| Wimmera                     | 2             | 1            | 2              | 1               | -                 |
| Northern Mallee             | 3             | 1            | 44             | 66              | 88                |
| Loddon-Campaspe             | 340           | 22           | -              | -               | -                 |
| Goulburn                    | 459           | 1,354        | 592            | 173             | 40                |
| North Eastern               | 170           | 2            | 5              | 1               | 1                 |
| East Gippsland              | 3             | -            | -              | -               | -                 |
| Central Gippsland           | 48            | 4            | 5              | -               | 3                 |
| East Central                | 144           | 7            | 9              | -               | 12                |
| <b>Total Victoria</b>       | <b>1,827</b>  | <b>1,470</b> | <b>763</b>     | <b>252</b>      | <b>186</b>        |

**TABLE 6.17 NUMBER OF SELECTED BEARING AND NOT BEARING CITRUS TREES BY STATISTICAL DIVISION, AT 31 MARCH 1989**  
( '000)

| <i>Statistical division</i> | <i>Oranges</i> | <i>Lemons and limes</i> | <i>Mandarins</i> |
|-----------------------------|----------------|-------------------------|------------------|
| Melbourne                   | -              | 9                       | -                |
| Barwon                      | -              | -                       | -                |
| South Western               | -              | -                       | -                |
| Central Highlands           | -              | -                       | -                |
| Wimmera                     | -              | -                       | -                |
| Northern Mallee             | 948            | 44                      | 84               |
| Loddon-Campaspe             | -              | -                       | -                |
| Goulburn                    | 94             | 25                      | 1                |
| North Eastern               | 12             | 5                       | -                |
| East Gippsland              | -              | -                       | -                |
| Central Gippsland           | -              | -                       | -                |
| East Central                | -              | 3                       | -                |
| <b>Total Victoria</b>       | <b>1,054</b>   | <b>86</b>               | <b>85</b>        |

**TABLE 6.18 ORCHARD FRUIT PRODUCTION, VICTORIA**  
(tonnes)

| Type of fruit    | Year ended 31 March - |         |         |         |         |         |         |
|------------------|-----------------------|---------|---------|---------|---------|---------|---------|
|                  | 1984                  | 1985    | 1986    | 1986(a) | 1987    | 1988    | 1989    |
| Pears            | 97,150                | 114,087 | 120,933 | 120,638 | 123,859 | 138,814 | 119,012 |
| Apples           | 64,379                | 92,379  | 85,404  | 84,902  | 99,801  | 83,451  | 99,554  |
| Peaches          | 23,824                | 32,232  | 31,691  | 31,355  | 31,491  | 38,061  | 28,351  |
| Apricots         | 5,857                 | 5,936   | 7,682   | 7,297   | 6,365   | 8,567   | 8,384   |
| Cherries         | 1,130                 | 1,170   | 1,198   | 1,121   | 1,193   | 1,092   | 971     |
| Plums and prunes | 2,574                 | 2,702   | 2,877   | 2,664   | 2,865   | 3,150   | 3,311   |
| Olives           | 938                   | 810     | 690     | 690     | 43      | 111     | 121     |
| Nectarines       | 1,544                 | 1,696   | 1,975   | 1,914   | 2,074   | 2,536   | 2,425   |
| Quinces          | 111                   | 48      | 41      | 36      | 33      | 23      | 26      |
| Figs             | 1                     | 4       | 3       | 2       | 2       | 5       | 6       |
| Oranges -        |                       |         |         |         |         |         |         |
| Valencias        | 31,192                | 37,695  | 40,008  | 39,303  | 47,132  | 40,680  | 35,461  |
| Navels           | 16,051                | 19,470  | 20,481  | 20,145  | 20,572  | 22,094  | 21,620  |
| Other            | 314                   | 194     | 255     | 255     | 324     | 380     | 331     |
| Lemons and limes | 4,134                 | 8,098   | 8,466   | 8,257   | 7,454   | 6,363   | 7,265   |
| Grapefruit       | 5,071                 | 5,237   | 6,837   | 6,772   | 6,033   | 6,801   | 6,079   |
| Mandarins        | 2,933                 | 3,278   | 2,652   | 2,571   | 3,080   | 2,783   | 3,259   |

(a) See footnote (b) to Table 6.7.

**TABLE 6.19 SMALL FRUIT PRODUCTION, VICTORIA**  
(kilograms)

| Type of fruit | Year ended 31 March - |           |           |           |           |           |           |
|---------------|-----------------------|-----------|-----------|-----------|-----------|-----------|-----------|
|               | 1984                  | 1985      | 1986      | 1986(a)   | 1987      | 1988      | 1989      |
| Strawberries  | 1,443,800             | 1,481,776 | 1,475,457 | 1,430,480 | 1,619,267 | 1,747,881 | 1,621,007 |
| Raspberries   | 154,622               | 255,031   | 215,712   | 207,053   | 312,030   | 320,055   | 330,469   |
| Kiwi Fruit    | 80,600                | 103,304   | 239,193   | 237,643   | 567,504   | 860,870   | 1,656,630 |
| Blueberries   | (b)                   | 12,988    | 30,471    | 16,489    | 21,374    | 30,893    | 31,545    |
| Gooseberries  | 2,500                 | 3,324     | 3,358     | 288       | 400       | 650       | 475       |
| Loganberries  | 6,782                 | 5,280     | 6,680     | 6,680     | 3,585     | 9,128     | 4,410     |
| Other berries | (b)                   | 50,989    | 56,571    | 52,361    | 135,651   | 100,111   | 95,497    |

(a) See footnote (b) to Table 6.7.

(b) not collected.

**TABLE 6.20 NUT PRODUCTION, VICTORIA**  
(kilograms)

| Type of fruit | Year ended 31 March - |         |         |         |           |           |           |
|---------------|-----------------------|---------|---------|---------|-----------|-----------|-----------|
|               | 1984                  | 1985    | 1986    | 1986(a) | 1987      | 1988      | 1989      |
| Walnuts       | 71,550                | 71,626  | 78,858  | 74,224  | 68,296    | 47,858    | 43,364    |
| Chestnuts     | 35,796                | 46,981  | 49,981  | 27,769  | 28,525    | 52,619    | 52,571    |
| Almonds       | 621,747               | 597,157 | 871,721 | 864,136 | 1,161,347 | 1,655,376 | 1,478,694 |

(a) See footnote (b) to table 6.7

TABLE 6.21 VITICULTURE, AREA AND PRODUCTION, VICTORIA

| Season      | Area (hectares) |             | Production (tonnes) for - |                      |
|-------------|-----------------|-------------|---------------------------|----------------------|
|             | Bearing         | Non-bearing | Wine making               | Drying and table (a) |
| 1983-84     | 18,806          | 1,321       | 82,973                    | 259,160              |
| 1984-85     | 19,132          | 1,352       | 96,807                    | 255,631              |
| 1985-86     | 18,720          | 1,305       | 68,761                    | 290,652              |
| 1985-86 (b) | 18,412          | 1,240       | 68,086                    | 288,376              |
| 1986-87     | 17,827          | 1,127       | 67,133                    | 221,482              |
| 1987-88     | 17,591          | 1,172       | 78,407                    | 250,789              |
| 1988-89     | 17,590          | 1,267       | 104,275                   | 221,921              |

(a) Production for drying is estimated as fresh weight equivalent of dried weight.

(b) See footnote (b) to Table 6.7.

TABLE 6.22 VEGETABLES FOR HUMAN CONSUMPTION, VICTORIA

| Type of vegetable | Area sown (hectares) |         |         | Production (tonnes) |         |         |
|-------------------|----------------------|---------|---------|---------------------|---------|---------|
|                   | 1986-87              | 1987-88 | 1988-89 | 1986-87             | 1987-88 | 1988-89 |
| Potatoes          | 13,195               | 14,458  | 13,020  | 364,319             | 298,175 | 368,307 |
| Onions            | 467                  | 421     | 377     | 12,006              | 10,020  | 10,656  |
| Carrots           | 1,142                | 1,097   | 1,137   | 36,233              | 33,449  | 40,633  |
| Parsnips          | 176                  | 130     | 113     | 4,082               | 5,025   | 2,230   |
| Beetroot          | 22                   | 31      | 28      | 405                 | 335     | 354     |
| Tomatoes          | 2,935                | 2,884   | 2,880   | 115,007             | 125,111 | 107,077 |
| French beans      | 649                  | 712     | 705     | 3,201               | 3,880   | 3,993   |
| Green peas -      |                      |         |         |                     |         |         |
| Market (a)        | 178                  | 135     | 108     | 245                 | 193     | 164     |
| Factory (b)       | 1,131                | 1,547   | 1,806   | 3,758               | 5,584   | 6,929   |
| Cabbages          | 821                  | 723     | 787     | 28,639              | 28,055  | 27,750  |
| Cauliflowers      | 1,095                | 1,009   | 1,094   | 30,198              | 28,626  | 25,033  |
| Lettuce           | 1,226                | 1,259   | 1,375   | 30,305              | 32,460  | 30,512  |
| Pumpkins          | 484                  | 386     | 351     | 7,602               | 5,651   | 8,338   |

(a) Sold in pod.

(b) Shelled weight.

TABLE 6.23 TOBACCO PRODUCTION, VICTORIA

| Season      | Area     | Production   | Average yield per hectare |
|-------------|----------|--------------|---------------------------|
|             | hectares | tonnes (dry) | tonnes (dry)              |
| 1983-84     | 2,823    | 5,856        | 2.07                      |
| 1984-85     | 2,146    | 4,755        | 2.22                      |
| 1985-86     | 1,652    | 3,711        | 2.25                      |
| 1985-86 (a) | 1,649    | 3,708        | 2.25                      |
| 1986-87     | 1,819    | 3,975        | 2.19                      |
| 1987-88     | 2,041    | 5,102        | 2.50                      |
| 1988-89     | 1,737    | 4,089        | 2.35                      |

(a) See footnote (b) to Table 6.7.



TABLE 6.24 HOP PRODUCTION, VICTORIA

| Season      | Area     | Production | Average yield<br>per hectare |
|-------------|----------|------------|------------------------------|
|             | hectares | tonnes (a) | tonnes                       |
| 1983-84     | 456      | 687        | 1.51                         |
| 1984-85     | 420      | 554        | 1.32                         |
| 1985-86     | 471      | 643        | 1.37                         |
| 1985-86 (b) | 467      | 640        | 1.37                         |
| 1986-87     | 336      | 579        | 1.72                         |
| 1987-88     | 382      | 695        | 1.82                         |
| 1988-89     | 371      | 680        | 1.84                         |

(a) Dried weight.

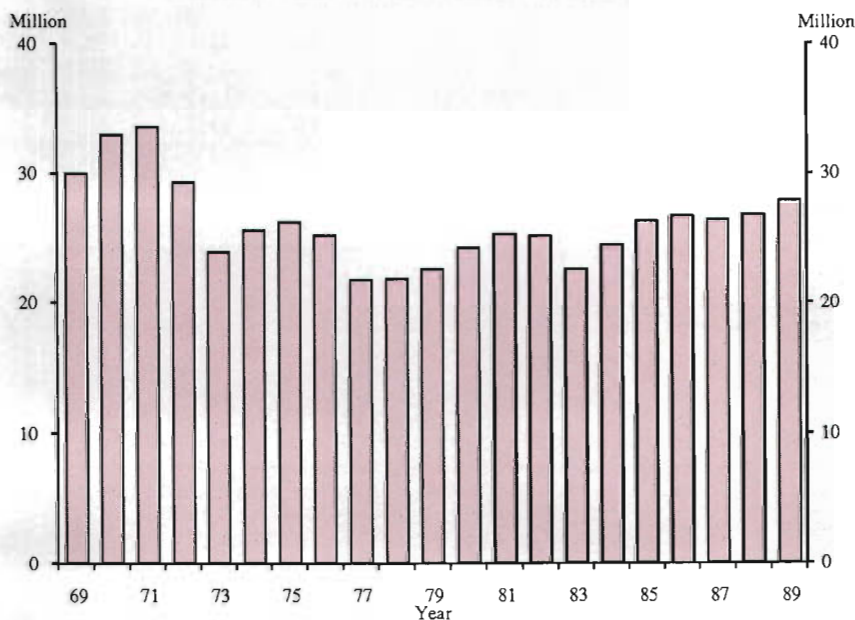
(b) See footnote (b) to Table 6.7.

## LIVESTOCK AND LIVESTOCK PRODUCTS

### Sheep and wool

At 31 March 1989, the Victorian sheep population was 28.1 million head, well below the 1971 peak of 33.8 million head. Almost 60 per cent of the State's sheep flock is located in the South Western, Central Highlands, and Wimmera statistical divisions. Wool production rose by 3 per cent, reaching 132,000 tonnes, with a record value of \$1,205 million. The number of sheep shorn increased by 2 per cent while the average yield (for sheep and lambs) remained steady at 4.3 kilograms per head.

SHEEP NUMBERS, VICTORIA, AT 31 MARCH



## Lambing

The lambing performance of the Victorian flock has fluctuated according to seasonal conditions around a six year average of 86.4 lambs marked for each 100 ewes mated.

Victoria's largest lambing season occurred in 1970-71, when 12.7 million lambs were marked from 14.8 million ewes mated (86 per cent), but in 1983-84 reduced matings led to the smallest lambing season (8.4 million) since 1978-79. This increased sharply in 1984-85 when 10.4 million lambs were marked from 11.7 million ewes mated (89 per cent). Since then there has been a slight decline, with 9.0 million lambs marked from 10.4 million sheep mated (86 per cent) in 1988-89.

## Mutton and lamb production

Mutton, the meat from adult sheep, is mainly produced from surplus sheep from the wool industry so that production patterns correspond closely to expansions and contractions in that industry. In 1988-89 mutton production was 63,000 tonnes, well down on the 1971-72 peak of 247,000 tonnes.

Prime lamb producers are found throughout the State. However, early to mid-season producers are distributed in a broad band across northern Victoria, including some irrigated areas. In addition, a considerable number of early lambs are brought from southern New South Wales for slaughter in Victoria. Mid to late-season producers are located mainly in the South Western, Central Highlands, Central Gippsland, and parts of the North Eastern Statistical Divisions of the State. In 1988-89, 114,000 tonnes of lamb were produced.

## Meat cattle

The Victorian environment is very favourable for beef production with cattle able to graze on pasture throughout the year.

Most of the Victorian breeding herds are located in the South Western, Goulburn, North Eastern, East Gippsland, and Central Gippsland Statistical Divisions. A significant proportion of Victorian beef and veal production was exported during 1988-89, the main markets being the USA, Japan, Papua New Guinea, and Taiwan.

## Milk cattle

Dairy farming in Victoria is largely confined to the higher rainfall areas of Gippsland, the Western District, and the northern irrigation areas. With minor fluctuations, milk cattle numbers have been gradually declining from the 1973 peak of 1,977,000. There were 1,438,000 milk cattle at 31 March 1989, 2,000 more than the previous year.

## Pigs

The number of commercial establishments with pigs declined from 1,730 in 1983-84 to 1,037 in 1988-89. During the same period the average herd size increased from 234 to 407 pigs. This trend toward fewer but larger units is expected to continue, with the bulk of the industry becoming increasingly capital-intensive and established in grain growing areas. The number of pigs in Victoria at 31 March 1989 was 422,538.

## Poultry

The trend in the Victorian egg industry has been towards larger specialised farms, with egg producers, hatcheries, and pullet growers using modern poultry housing, equipment, and labour saving machinery.

The main areas of commercial egg production in Victoria are centred on the outskirts of the Melbourne metropolitan area and in the Bendigo district, together with a large centre around Geelong, and substantial flocks in Ballarat, the Wimmera, Goulburn Valley, the north-east, and the La Trobe Valley.

Farms consisting of one person or one family usually manage 5,000 to 15,000 layers. There are, however, many larger farms employing labour with up to 40,000 layers, and a few with much bigger establishments.

In 1988-89, there were 72.3 million chickens, hens, stags, and ducks and drakes slaughtered for human consumption. The total dressed weight was 103,162 tonnes.

Most broiler farms range in capacity from 30,000 to 100,000 broilers, and with the present average of 5.5 batches of broiler chickens a year, these farms may produce from 165,000 to 550,000 broilers a year.

The main broiler production centres are located on the Mornington Peninsula, in areas south-east and east of Melbourne, and in the Geelong area - near the processing works and the main centres of consumption. Most of Victoria's production is consumed locally, with very little being exported.

### Apiculture

Honey production in Victoria was 2,886 tonnes in 1988-89. The bulk of the honey produced is sold to large processors who clarify and pack the honey. About 50 per cent of the annual production is exported, chiefly to the United Kingdom.

TABLE 6.25 SELECTED LIVESTOCK NUMBERS, (a), VICTORIA  
(<sup>000</sup>)

| Season      | Cattle       |              |       | Sheep  | Pigs |
|-------------|--------------|--------------|-------|--------|------|
|             | Dairy        | Beef         | Total |        |      |
| 1983-84     | 1,535        | 1,952        | 3,487 | 24,632 | 404  |
| 1984-85     | 1,559        | 2,017        | 3,576 | 26,471 | 410  |
| 1985-86     | <b>1,534</b> | <b>2,187</b> | 3,720 | 26,895 | 432  |
| 1985-86 (a) | 1,513        | 1,870        | 3,383 | 25,716 | 427  |
| 1986-87     | 1,464        | 2,014        | 3,478 | 26,586 | 432  |
| 1987-88     | 1,436        | 2,038        | 3,474 | 26,997 | 437  |
| 1988-89     | 1,438        | 2,071        | 3,509 | 28,067 | 423  |

(a) See footnote (b) to Table 6.7.

TABLE 6.26 LIVESTOCK SLAUGHTERED, VICTORIA  
(<sup>000</sup>)

| Types of livestock | 1983-84 | 1984-85 | 1985-86 | 1986-87 | 1987-88 | 1988-89 |
|--------------------|---------|---------|---------|---------|---------|---------|
| Sheep              | 2,061   | 3,301   | 3,863   | 3,857   | r3,530  | 3,053   |
| Lambs              | 6,207   | 6,777   | 7,987   | 6,634   | r7,111  | 6,264   |
| Cattle and calves  | 1,992   | 1,971   | 2,045   | 2,081   | 2,054   | 1,875   |
| Pigs               | 1,237   | 1,298   | 1,020   | 849     | 938     | 917     |

**TABLE 6.27 SHEEP AND LAMBS BY STATISTICAL DIVISION, AT 31 MARCH 1989**  
(000)

| <i>Statistical division</i> | <i>Rams</i> | <i>Ewes</i>   | <i>Wethers</i> | <i>Lambs</i> | <i>Total</i>  |
|-----------------------------|-------------|---------------|----------------|--------------|---------------|
| Melbourne                   | 3           | 88            | 82             | 47           | 220           |
| Barwon                      | 19          | 759           | 389            | 338          | 1,506         |
| South Western               | 89          | 3,868         | 2,133          | 1,874        | 7,965         |
| Central Highlands           | 34          | 1,713         | 1,410          | 831          | 3,988         |
| Wimmera                     | 40          | 1,864         | 1,531          | 868          | 4,303         |
| Northern Mallee             | 15          | 845           | 323            | 361          | 1,544         |
| Loddon-Campaspe             | 32          | 1,487         | 1,166          | 705          | 3,390         |
| Goulburn                    | 31          | 1,380         | 791            | 519          | 2,721         |
| North Eastern               | 8           | 335           | 164            | 113          | 620           |
| East Gippsland              | 8           | 425           | 289            | 218          | 939           |
| Central Gippsland           | 10          | 435           | 170            | 189          | 805           |
| East Central                | 1           | 46            | 3              | 16           | 66            |
| <b>Total Victoria</b>       | <b>290</b>  | <b>13,245</b> | <b>8,451</b>   | <b>6,081</b> | <b>28,067</b> |

**TABLE 6.28 LAMBING, VICTORIA**

| <i>Season</i> | <i>Ewes mated</i> | <i>Lambs marked</i> | <i>Percentage of lambs marked to ewes mated</i> |
|---------------|-------------------|---------------------|---|
|               | '000              | '000                | per cent  |
| 1983-84       | 10,112            | 8,362               | 83  |
| 1984-85       | 11,744            | 10,446              | 89  |
| 1985-86       | 11,269            | 9,746               | 86  |
| 1985-86 (a)   | 10,801            | 9,344               | 86  |
| 1986-87       | 10,479            | 9,001               | 86  |
| 1987-88       | 10,662            | 9,399               | 88  |
| 1988-89       | 10,447            | 9,029               | 86  |

(a) See footnote (b) to Table 6.7.

**TABLE 6.29 SHEEP SHORN AND WOOL CLIPPED, VICTORIA**

| <i>Season</i>   | <i>Number Shorn</i> |              | <i>Wool clipped (including crutchings)</i> |              | <i>Average</i>   |                 |
|-----------------|---------------------|--------------|--|--------------|------------------|-----------------|
|                 | <i>Sheep</i>        | <i>Lambs</i> | <i>Sheep</i>                               | <i>Lambs</i> | <i>Per sheep</i> | <i>Per lamb</i> |
|                 | '000                | '000         | tonnes                                     | tonnes       | kg               | kg              |
| 1983-84         | 22,977              | 5,277        | 110,715                                    | 8,949        | 4.8              | 1.7             |
| 1984-85         | 25,784              | 8,306        | 129,728                                    | 12,744       | 5.0              | 1.5             |
| 1985-86         | 27,430              | 7,548        | 129,641                                    | 11,200       | 4.7              | 1.5             |
| 1985-86 (a) (b) | 23,189              | 6,381        | 109,597                                    | 9,469        | 4.7              | 1.5             |
| 1986-87 (a) (b) | 22,978              | 5,942        | 115,684                                    | 9,281        | 5.0              | 1.6             |
| 1987-88 (a) (b) | 23,545              | 6,365        | 118,620                                    | 9,597        | 5.0              | 1.5             |
| 1988-89 (a) (b) | 24,357              | 6,225        | 122,566                                    | 9,927        | 5.0              | 1.6             |

(a) Calculated directly from Census data collected at 31 March. Previous data were 'industry best estimates' compiled at 30 June - see publication 7211.0 for details.

(b) See footnote (b) to Table 6.7.

TABLE 6.30 SHEEP SHORN AND WOOL CLIPPED BY STATISTICAL DIVISION,  
SEASON 1988-89

| Statistical division  | Number Shorn  |              | Wool clipped<br>(including crutchings) |              | Average    |            |
|-----------------------|---------------|--------------|--|--------------|------------|------------|
|                       | Sheep         | Lambs        | Sheep                                  | Lambs        | Per sheep  | Per lamb   |
|                       | '000          | '000         | tonnes                                 | tonnes       | kg         | kg         |
| Melbourne             | 180           | 44           | 891                                    | 74           | 4.9        | 1.7        |
| Barwon                | 1,324         | 361          | 5,816                                  | 547          | 4.4        | 1.5        |
| South Western         | 7,134         | 1,994        | 32,305                                 | 3,092        | 4.5        | 1.6        |
| Central Highlands     | 3,554         | 738          | 15,863                                 | 1,162        | 4.5        | 1.6        |
| Wimmera               | 3,673         | 877          | 20,113                                 | 1,454        | 5.5        | 1.7        |
| Northern Mallee       | 1,132         | 330          | 6,029                                  | 588          | 5.3        | 1.8        |
| Loddon-Campaspe       | 2,985         | 750          | 15,342                                 | 1,245        | 5.1        | 1.7        |
| Goulburn              | 2,362         | 586          | 11,133                                 | 930          | 4.7        | 1.6        |
| North Eastern         | 525           | 131          | 2,188                                  | 194          | 4.2        | 1.5        |
| East Gippsland        | 808           | 185          | 3,815                                  | 280          | 4.7        | 1.5        |
| Central Gippsland     | 633           | 210          | 2,896                                  | 333          | 4.6        | 1.6        |
| East Central          | 47            | 20           | 201                                    | 29           | 4.3        | 1.4        |
| <b>Total Victoria</b> | <b>24,357</b> | <b>6,225</b> | <b>116,593</b>                         | <b>9,927</b> | <b>4.8</b> | <b>1.6</b> |

TABLE 6.31 TOTAL WOOL PRODUCTION, VICTORIA

| Season      | Clip    | Stripped from or exported<br>on skins (greasy) | Total quantity<br>(greasy) |
|-------------|---------|--|----------------------------|
|             | tonnes  | tonnes   | tonnes                     |
| 1983-84     | 119,664 | 22,409   | 142,074                    |
| 1984-85     | 142,472 | 24,816   | 167,288                    |
| 1985-86     | 140,841 | 30,067   | 170,908                    |
| 1985-86 (a) | 135,102 | n.a.   | n.a.                       |
| 1986-87     | 124,965 | 33,728   | 158,693                    |
| 1987-88     | 128,217 | 32,034   | 160,251                    |
| 1988-89     | 132,493 | 25,175   | 157,668                    |

(a) See footnote (b) to Table 6.7.

TABLE 6.32 DISTRIBUTION OF MEAT CATTLE BY STATISTICAL DIVISION  
AT 31 MARCH 1989  
(<sup>'000</sup>)

| Statistical division  | Bulls for service  |                 | Cows and<br>heifers | Calves<br>under<br>1 year | Other<br>(a) | Total        |
|-----------------------|--------------------|-----------------|---------------------|---------------------------|--------------|--------------|
|                       | 1 year<br>and over | Under<br>1 year |                     |                           |              |              |
| Melbourne             | 2                  | 1               | 47                  | 26                        | 12           | 88           |
| Barwon                | 2                  | 1               | 49                  | 25                        | 16           | 92           |
| South Western         | 12                 | 4               | 238                 | 98                        | 71           | 423          |
| Central Highlands     | 2                  | 1               | 40                  | 20                        | 11           | 74           |
| Wimmera               | 1                  | -               | 18                  | 10                        | 4            | 35           |
| Northern Mallee       | 1                  | -               | 26                  | 19                        | 7            | 54           |
| Loddon-Campaspe       | 3                  | 1               | 61                  | 51                        | 21           | 137          |
| Goulburn              | 7                  | 3               | 148                 | 81                        | 43           | 282          |
| North Eastern         | 5                  | 1               | 145                 | 76                        | 58           | 285          |
| East Gippsland        | 4                  | 1               | 90                  | 46                        | 17           | 159          |
| Central Gippsland     | 8                  | 2               | 157                 | 94                        | 95           | 356          |
| East Central          | 2                  | 1               | 39                  | 23                        | 20           | 85           |
| <b>Total Victoria</b> | <b>50</b>          | <b>16</b>       | <b>1,059</b>        | <b>570</b>                | <b>376</b>   | <b>2,071</b> |

(a) Steers and bullocks, 1 year and over.

MEAT CATTLE NUMBERS, VICTORIA, AT 31 MARCH

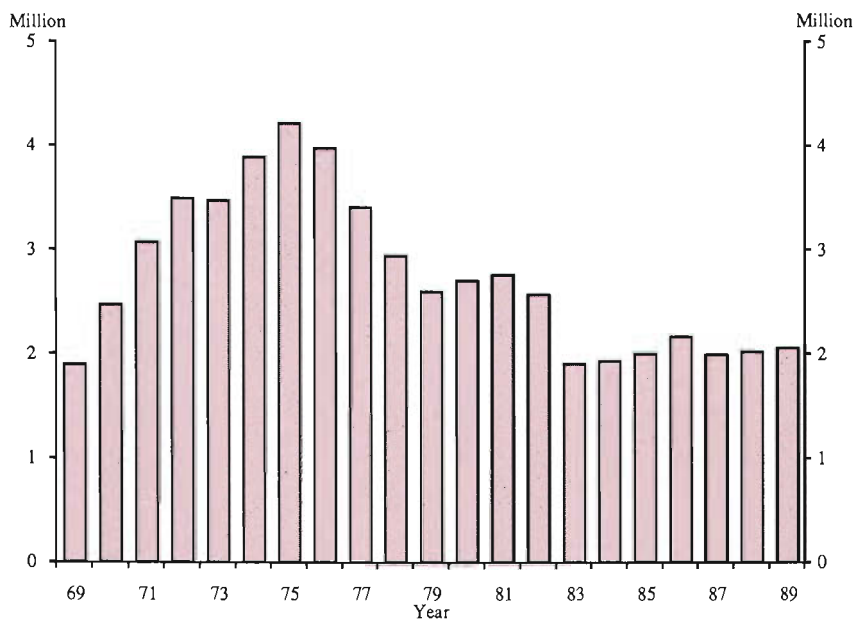


TABLE 6.33 DISTRIBUTION OF MILK CATTLE BY STATISTICAL DIVISION AT 31 MARCH 1989 ('000)

| Statistical division  | <i>Bulls for service</i> |                     | <i>Cows and heifers for milk and cream</i> |                        |                     |                               | Total        |
|-----------------------|--------------------------|---------------------|--|------------------------|---------------------|-------------------------------|--------------|
|                       | <i>1 year and over</i>   | <i>Under 1 year</i> | <i>Cows in milk and dry</i>                | <i>Heifers</i>         |                     | <i>House cows and heifers</i> |              |
|                       |                          |                     |  | <i>1 year and over</i> | <i>Under 1 year</i> |                               |              |
| Melbourne             | -                        | -                   | 6  | 2                      | 2                   | -                             | 10           |
| Barwon                | 1                        | -                   | 69   | 18                     | 15                  | -                             | 104          |
| South Western         | 4                        | 1                   | 201  | 49                     | 45                  | 1                             | 301          |
| Central Highlands     | 1                        | -                   | 6  | 2                      | 1                   | -                             | 10           |
| Wimmera               | -                        | -                   | 1  | 1                      | -                   | 1                             | 3            |
| Northern Mallee       | -                        | -                   | 22   | 6                      | 6                   | -                             | 34           |
| Loddon-Campaspe       | 1                        | -                   | 90   | 21                     | 21                  | -                             | 133          |
| Goulburn              | 3                        | 1                   | 202  | 48                     | 47                  | -                             | 303          |
| North Eastern         | 1                        | -                   | 40   | 9                      | 8                   | -                             | 59           |
| East Gippsland        | 1                        | -                   | 50   | 11                     | 11                  | -                             | 74           |
| Central Gippsland     | 4                        | 1                   | 236  | 57                     | 52                  | -                             | 349          |
| East Central          | 1                        | -                   | 39   | 10                     | 8                   | -                             | 58           |
| <b>Total Victoria</b> | <b>16</b>                | <b>6</b>            | <b>964</b>                                 | <b>233</b>             | <b>216</b>          | <b>4</b>                      | <b>1,438</b> |

TABLE 6.34 MILK PRODUCTION, VICTORIA

| <i>Year ended<br/>30 June -</i> | <i>Million litres</i> | <i>Year ended<br/>30 June -</i> | <i>Million litres</i> |
|---------------------------------|-----------------------|---------------------------------|-----------------------|
| 1984                            | 3,425                 | 1987                            | 3,692                 |
| 1985                            | 3,540                 | 1988                            | 3,649                 |
| 1986                            | 3,575                 | 1989                            | 3,792                 |

TABLE 6.35 PIGS AND PIG KEEPERS BY STATISTICAL DIVISION AT 31 MARCH 1989

| <i>Statistical division</i> | <i>Boars</i> | <i>Breeding<br/>sows</i> | <i>All<br/>other</i> | <i>Total<br/>pigs</i> | <i>Pig<br/>keepers</i> |
|-----------------------------|--------------|--------------------------|----------------------|-----------------------|------------------------|
| Melbourne                   | 192          | 2,602                    | 18,773               | 21,567                | 26                     |
| Barwon                      | 76           | 907                      | 7,049                | 8,032                 | 27                     |
| South Western               | 162          | 1,721                    | 16,001               | 17,884                | 93                     |
| Central Highlands           | 131          | 2,095                    | 17,277               | 19,503                | 32                     |
| Wimmera                     | 371          | 4,945                    | 34,618               | 39,934                | 187                    |
| Northern Mallee             | 306          | 3,461                    | 27,157               | 30,924                | 159                    |
| Loddon-Campaspe             | 1,292        | 18,882                   | 163,924              | 184,098               | 209                    |
| Goulburn                    | 720          | 9,110                    | 62,161               | 71,991                | 163                    |
| North Eastern               | 156          | 1,978                    | 14,600               | 16,734                | 70                     |
| East Gippsland              | 36           | 295                      | 1,731                | 2,062                 | 20                     |
| Central Gippsland           | 80           | 1,384                    | 7,201                | 8,665                 | 42                     |
| East Central                | 15           | 158                      | 971                  | 1,144                 | 9                      |
| <b>Total Victoria</b>       | <b>3,537</b> | <b>47,538</b>            | <b>371,463</b>       | <b>422,538</b>        | <b>1,037</b>           |

TABLE 6.36 POULTRY SLAUGHTERED FOR HUMAN CONSUMPTION, VICTORIA  
(<sup>'000</sup>)

| <i>Year ended 30 June-</i> | <i>Chickens (i.e. broilers,<br/>fryers, or roasters)</i> | <i>Hens<br/>and stags</i> | <i>Ducks and<br/>drakes</i> |
|----------------------------|--|---------------------------|-----------------------------|
| 1984                       | 46,061   | 2,308                     | 444                         |
| 1985                       | 55,995   | 2,264                     | 452                         |
| 1986                       | 61,644   | 2,614                     | 616                         |
| 1987                       | 62,466   | 2,441                     | 637                         |
| 1988                       | 68,325   | 2,829                     | 637                         |
| 1989                       | 68,943   | 2,719                     | 633                         |

TABLE 6.37 DRESSED WEIGHT OF POULTRY SLAUGHTERED, FRESH AND  
FROZEN (a) (b), VICTORIA  
(<sup>'000</sup> kg)

| <i>Year ended 30 June-</i> | <i>Chickens (i.e. broilers,<br/>fryers, or roasters)</i> | <i>Hens<br/>and stags</i> | <i>Ducks and<br/>drakes</i> |
|----------------------------|--|---------------------------|-----------------------------|
| 1984                       | 61,503   | 4,249                     | 750                         |
| 1985                       | 75,086   | 3,337                     | 865                         |
| 1986                       | 84,434   | 4,029                     | 1,132                       |
| 1987                       | 84,646   | 3,959                     | 1,202                       |
| 1988                       | 96,279   | 4,655                     | 1,326                       |
| 1989                       | 97,409   | 4,547                     | 1,206                       |

(a) Dressed weight of whole birds, pieces, and giblets intended for sale as reported by producers.

(b) Fresh: sold immediately after slaughter or chilled for sale soon after. Frozen: frozen hard for storage of indefinite duration.

TABLE 6.38 EGGS - TOTAL RECORDED PRODUCTION, VICTORIA

| Year    | Dozens     | Year    | Dozens     |
|---------|------------|---------|------------|
| 1983-84 | 49,960,839 | 1986-87 | 49,369,871 |
| 1984-85 | 49,416,391 | 1987-88 | 50,566,000 |
| 1985-86 | 50,114,360 | 1988-89 | 48,571,000 |

Source: Victorian Egg Marketing Board

TABLE 6.39 BEEHIVES, HONEY, AND BEESWAX, VICTORIA

| Year ended<br>30 June- | Beekeepers | Production |        |         |
|------------------------|------------|------------|--------|---------|
|                        |            | Hives      | Honey  | Beeswax |
|                        | number     | number     | tonnes | tonnes  |
| 1984                   | 381        | 85,596     | 3,603  | 65      |
| 1985                   | 436        | 95,130     | 4,224  | 89      |
| 1986                   | 456        | 101,002    | 4,210  | 81      |
| 1986 (a)               | 107        | 58,116     | 3,022  | 58      |
| 1987                   | 111        | 58,948     | 3,107  | 52      |
| 1988                   | 145        | 59,377     | 3,824  | 64      |
| 1989                   | 130        | 50,561     | 2,886  | 66      |

(a) See footnote (b) to Table 6.7.

## THE ENVIRONMENT

It is generally believed that the quality of life we enjoy is dependent on the preservation of the environment, which not only supports life but provides many of our needs. The preservation of the natural environment including soil, air and water, and the sustainable use of them are the lifeline of humanity.

General awareness of environmental issues has created a demand for statistical data on the environment to provide planners with sufficient information to ensure unhindered growth and development.

The ABS is also responding to the need for environmental data and recently created an Environment Statistics Unit. The publication in 1986 of *Environmental Issues and Usage of National Parks, Australia* (Cat. No 4115.0) is a further example of work in this area. The ABS's paper on natural resource and environment accounting in the March quarter 1990 National Accounts publication attracted favourable comment and created expectations of substantial ABS involvement in environmental statistics issues. A household supplementary survey on Environmental Issues and Conservation is planned for May 1992.

In 1989 statistics were collected on soil salinity in Victoria, whilst in 1990 data was collected on the area of trees for timber production, land degradation, control and windbreaks. Statistics on soil salinity were published in the *"Agricultural Land Use and Selected Inputs"* (Cat. No 7411.2) which was released in May 1990.

### Soil Salinity

Salinity is widely regarded as Victoria's greatest environmental threat. It is already affecting the northern and western parts of the State, including both plains and highlands.



Salinity is caused by salty groundwater rising to within two metres of the surface. Extensive clearing of trees from highlands and plains, together with the introduction of large-scale irrigation are the main causes of increased groundwater level. Dissolved salts in the irrigation water can also gradually lead to a build-up of salt in the soil and shallow groundwater.

The direct cost of salinity damage to Victoria's economy is estimated to be in excess of \$50 million annually, with the indirect cost being considerably greater.

Data on the extent of the area of salt affected lands helps planners to make decisions regarding control and corrective measures and to evaluate their effectiveness. To this end, the Victorian Office of the ABS obtained data on salt affected land via the Agricultural Censuses of 1984 and 1989. In the 1984 census, no distinction was made between irrigated and non-irrigated lands, however the 1989 Census made this distinction.

### Salinity Statistics

Statistics on salinity (Tables 6.40 and 6.41) indicate that more than 2,700 establishments in Victoria reported salt affected land in 1988-89, 7 per cent more than in 1983-84.

The area of salt affected land reported almost doubled since 1984, with 50,097 hectares of dry salt affected land and 32,818 hectares of irrigated salt affected land reported as at March 1989. However, this increase may in part reflect an increased general awareness of the problem throughout the farming community. Almost one third of the total affected land was in the Northern Mallee Statistical Division, while Loddon-Campaspe and Wimmera Statistical Divisions together constitute a further third of the total.

**TABLE 6.40 AREA OF SALT AFFECTED LAND REPORTED, BY STATISTICAL DIVISION, AT 31 MARCH 1984 AND 1989 (a)**  
'000 hectares

| Statistical division  | Area of salt affected land reported |           |           |           |
|-----------------------|-------------------------------------|-----------|-----------|-----------|
|                       | 1983-84                             | 1988-89   |           | Total     |
|                       | Total                               | Irrigated | Dry       |           |
| Melbourne             | -                                   | -         | -         | -         |
| Barwon                | 2                                   | -         | 3         | 3         |
| South Western         | 5                                   | -         | 8         | 8         |
| Central Highlands     | 5                                   | -         | 7         | 7         |
| Wimmera               | 4                                   | -         | 9         | 10        |
| Northern Mallee       | 17                                  | 16        | 11        | 27        |
| Loddon-Campaspe       | 12                                  | 11        | 6         | 18        |
| Goulburn              | 3                                   | 2         | 4         | 6         |
| North Eastern         | -                                   | -         | -         | 1         |
| East Gippsland        | 1                                   | -         | 1         | 1         |
| Central Gippsland     | 1                                   | -         | 1         | 1         |
| East Central          | -                                   | -         | -         | -         |
| <b>Total Victoria</b> | <b>50</b>                           | <b>33</b> | <b>50</b> | <b>83</b> |

(a) Due to limitations in question design to facilitate comparability with 1983-84 data, users are advised that the data in Tables 6.40 and 6.41 should be regarded with caution. The data may provide more of a guide to improve general awareness of salt affected land, than of the level of increase in the land affected.

**TABLE 6.41 NUMBER OF ESTABLISHMENTS REPORTING SALT AFFECTED LAND,  
BY STATISTICAL DIVISION, AT 31 MARCH 1984 AND 1989 (a)**

| Statistical division  | Establishments reporting salt affected land |            |              |              |
|-----------------------|---|------------|--------------|--------------|
|                       | 1983-84                                     |            | 1988-89      |              |
|                       | Total                                       | Irrigated  | Dry          | Total        |
| Melbourne             | 35  | 15         | 16           | 31           |
| Barwon                | 146   | 4          | 130          | 134          |
| South Western         | 321   | 9          | 408          | 417          |
| Central Highlands     | 246   | 10         | 249          | 259          |
| Wimmera               | 284   | 15         | 266          | 281          |
| Northern Mallee       | 565   | 217        | 291          | 508          |
| Loddon-Campaspe       | 542   | 332        | 249          | 581          |
| Goulburn              | 278   | 167        | 164          | 331          |
| North Eastern         | 12  | 6          | 24           | 30           |
| East Gippsland        | 51  | 28         | 37           | 65           |
| Central Gippsland     | 41  | 11         | 44           | 55           |
| East Gippsland        | 23  | 1          | 18           | 19           |
| <b>Total Victoria</b> | <b>2,544</b>                                | <b>815</b> | <b>1,896</b> | <b>2,711</b> |

(a) See footnote to Table 6.40

## REFERENCES

### ABS publications

- Agricultural Industries, Australia, Structure of Operating Units (7102.0)*  
*Australian National Accounts, National Income and Expenditure (5206.0)*  
*Environmental Issues and Usage of National Parks, Australia (4115.0)*  
*Principal Agricultural Commodities, Australia, Preliminary (7111.0)*  
*Principal Agricultural Commodities, Victoria, Preliminary (7111.2)*  
*Selected Agricultural Commodities, Australia, Preliminary (7112.0)*  
*Shearing and Wool Production Forecast, Australia, Preliminary (7210.0)*  
*Sheep Numbers, Shearing and Wool Production Forecast, Australia, Preliminary (7211.0)*  
*Livestock Products, Australia (7215.0)*  
*Livestock and Livestock Products, Victoria (7221.2)*  
*Crops and Pastures, Victoria (7321.2)*  
*Fruit, Victoria (7322.2)*  
*Agricultural Land Use and Selected Inputs, Victoria (7411.2)*  
*Value of Agricultural Commodities Produced, Victoria (7501.2)*  
*Value of Selected Agricultural Commodities Produced, Australia, Preliminary (7502.0)*  
*Value of Agricultural Commodities Produced, Australia (7503.0)*

### Non-ABS source

- Victorian Egg Marketing Board*  
*Australian Wheat Board*