

SECTION IX.

FARMYARD AND DAIRY PRODUCTION.

§ 1. Introductory.

1. **General.**—The introduction of cattle into Australia, and the early history of the dairying industry are referred to in some detail in earlier issues of this work (see Official Year Book No. 6, pp. 430 *et seq.*). It may here be noted that the original stock has been crossed with specially imported stud cattle, while further judicious crossing of strains has resulted in an increased and improved milk supply. In Australia, dairy cattle thrive in the open throughout the year, local climatic conditions demanding no protection other than tree plantations for shelter, and rugging in the coldest weather. Indigenous and imported grasses furnish food during the greater part of the year, and winter fodder, when necessary, is given to the cattle in the fields. With the adoption of scientific methods in the treatment of animals and pasturage and in the processes of manufacture, coupled with effective State supervision, the dairying industry has shewn rapid expansion.

2. **Official Supervision of Industry.**—Dairy experts, under the supervision of the various State Agricultural Departments, give instruction in approved methods of production, and inspect animals, buildings, and marketable produce. A high standard of cleanliness, both of *personnel* and *matériel*, prevails. Financial assistance of a temporary nature is also given, advances made being generally repaid with promptitude.

The export trade is regulated by the terms of the Commonwealth Commerce Act 1905 and regulations thereunder. The provisions of this Act are set out in detail in Official Year Book No. 6, pp. 431–2. It will be sufficient to note here that true trade description, etc., must be marked on all produce intended for export, while official inspection ensures the maintenance of purity and quality. Upon request of the exporter the goods are certificated by the inspector.

3. **Mixed Farming.**—Dairying is not now, as formerly, wholly confined to farmers, since many graziers in a large way of business have lately given it their attention. In non-coastal regions it is generally carried on in conjunction with agriculture and sheep-raising, sufficient fodder being grown to carry the cattle through the winter months. Local wants are thus met, and in many places remote from the metropolis well-equipped factories have been established.

4. **Factory System.**—Cream separation and butter-making are often carried on together under the co-operative system. The creation of large central butter factories, supplied by numerous separating establishments or “creameries,” has resulted in a considerable reduction in the cost of manufacture, since improved appliances, such as refrigerators, may be profitably worked at the larger establishments. The product is also of a more uniform quality. The number of farmers who adhere to hand processes is rapidly diminishing. Formerly the average quantity of milk used per pound of hand-made butter was about 3 gallons, but separator butter requires less than $2\frac{1}{2}$ gallons.

5. **Butter and Cheese Factories.**—The factories in the Commonwealth for the manufacture of butter, cheese, and condensed milk numbered 559 in 1917. These were distributed as regards the various States as follows:—New South Wales, 164; Victoria, 182; Queensland, 135; South Australia, 44; Western Australia, 4; Tasmania, 30.

§ 2. Milk, Butter, and Cheese.

1. **Dairy Herds.**—Following the drought year 1902 there was up to 1911 a general increase in the number of dairy cows; the returns for 1912 and the three years following, however, shew a decrease in all the States, with the exception of Western Australia. During 1917 satisfactory increases have taken place in all the States, the total increase for the year in the number of dairy cows in the Commonwealth amounting to 157,555. In New South Wales, Victoria, South Australia, and Tasmania—as will be seen from the table given below—the proportion of dairy cattle to all cattle is high. In Queensland, the Northern Territory, and Western Australia there is a greatly preponderating number of other cattle, dairying not being firmly established in the tropical regions of the Continent. In southern Queensland, however, the industry has developed remarkably during the last decade. The figures for the Northern Territory are rough estimates only:—

CATTLE AND DAIRY CATTLE, COMMONWEALTH, 1913 TO 1917.

State.		1913.	1914.	1915.	1916.	1917.
New South Wales	{ All Cattle ..	2,815,113	2,472,631	2,400,104	2,757,713	3,148,909
	{ Dairy Cows ..	789,474	769,550	743,058	742,544	776,662
Victoria	{ All Cattle ..	1,328,553	1,362,542	1,043,604	1,175,098	1,371,049
	{ Dairy Cows ..	656,080	610,517	451,088	488,086	534,388
Queensland	{ All Cattle ..	5,322,033	5,455,943	4,780,893	4,765,657	5,316,558
	{ Dairy Cows ..	391,439	387,311	335,243	343,311	399,508
South Australia	{ All Cattle ..	352,905	300,579	226,565	288,887	313,245
	{ Dairy Cows ..	107,879	91,181	78,515	86,311	96,661
Western Australia	{ All Cattle ..	834,265	863,835	821,048	863,930	957,086
	{ Dairy Cows ..	30,680	28,106	28,342	33,788	37,979
Tasmania	{ All Cattle ..	205,743	176,524	169,575	179,360	197,938
	{ Dairy Cows ..	59,380	51,229	47,540	52,522	58,910
Northern Territory	{ All Cattle ..	417,643	414,558	483,961	428,862	638,431
	{ Dairy Cows ..	70	70	70	70	70
Federal Territory	{ All Cattle ..	7,827	4,961	5,666	8,230	13,408
	{ Dairy Cows ..	715	870	537	719	728
Commonwealth	{ All Cattle ..	11,483,882	11,051,573	9,931,416	10,467,737	11,956,024
	{ Dairy Cows ..	2,035,717	1,938,834	1,684,393	1,747,351	1,904,906

2. **Milk.**—The annual quantity of milk produced per dairy cow varies greatly with locality and season, probably reaching as high as 500 gallons, but averaging for the whole of Australia, for all dairy cows and for all seasons, prior to 1916, considerably under 300 gallons per annum. For 1917 the average yield in Victoria, South Australia, and New South Wales was over that quantity; being 391, 353, and 326 gallons respectively, while the average for the Commonwealth as a whole for 1917 was 333 gallons. The best yields over a series of years appear to be in Victoria, New South Wales, and South Australia, while Queensland and Tasmania in normal years are above Western Australia. In the following table the annual average yields per cow for the last five years are taken from the number of dairy cows which were milking during any part of the year. The average given is considerably below that for cows which were yielding during the greater part of the year. The highest averages obtain in those States which have most extensively adopted scientific methods of dairying, such as systematic breeding, culling of herds, milk testing, etc.

PRODUCTION OF MILK, COMMONWEALTH, 1913 TO 1917.

Heading.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Terr.	C'wealth. b
1913—								
Dairy Cows a .. No.	805,395	656,009	383,550	111,306	28,995	59,770	720	2,045,745
Production 1,000 gals.	231,503	216,948	90,545	27,593	5,550	11,557	89	583,785
Aver. per cow .. gals.	287	331	236	248	191	193	124	285
1914—								
Dairy Cows a .. No.	779,512	633,298	389,375	99,530	29,393	55,305	792	1,987,205
Production 1,000 gals.	237,856	193,653	100,190	22,220	5,589	11,568	74	571,150
Aver. per cow .. gals.	305	306	257	223	190	209	93	287
1915—								
Dairy cows a .. No.	756,304	530,802	361,277	84,848	28,224	49,385	704	1,811,544
Production 1,000 gals.	183,935	142,115	70,094	22,185	6,059	10,300	79	434,767
Aver. per cow .. gals.	243	268	194	261	215	209	113	240
1916—								
Dairy cows a .. No.	742,801	469,587	339,277	82,413	31,065	50,031	628	1,715,802
Production 1,000 gals.	225,920	186,593	86,938	29,954	6,826	13,364	84	549,679
Aver. per cow .. gals.	304	397	256	363	220	267	134	320
1917—								
Dairy cows a .. No.	759,603	511,237	371,410	91,486	35,883	55,716	724	1,826,059
Production 1,000 gals.	247,398	199,738	105,384	32,309	7,550	14,843	131	607,353
Aver. per cow .. gals.	326	391	284	353	210	266	182	333

a Mean for the year.

b Exclusive of Northern Territory.

3. Butter and Cheese.—The butter output shews, in general, a tolerably steady increase since the drought year 1902, the most marked development being in Queensland. The production of butter reached its highest figures in 1911, the next highest yields being in 1917 and 1913. The year 1917 marks the highest cheese production, the return being nearly 39 per cent. in advance of the 1913 figure. In both butter and cheese a decrease took place in some of the States in 1907, 1908, 1914, and 1915, due to the dryness of the seasons. For the five years from 1913 to 1917 the figures are :—

PRODUCTION OF BUTTER AND CHEESE, COMMONWEALTH, 1913 TO 1917.

State.	1913.	1914.	1915.	1916.	1917.
BUTTER.					
New South Wales	77,766,703	84,126,893	85,623,885	89,355,639	80,460,225
Victoria	73,381,567	62,421,288	42,345,113	59,568,771	64,405,711
Queensland	35,199,387	37,230,240	25,456,714	28,967,279	38,930,690
South Australia	8,036,274	6,252,961	6,317,613	9,798,142	10,482,895
Western Australia	518,566	451,112	716,408	1,080,466	1,361,484
Tasmania	3,843,247	3,480,531	3,204,922	3,691,649	4,848,227
Federal Territory	12,494	47,387	47,658	48,832	47,782
Commonwealth	198,758,238	193,970,412	137,672,313	182,470,778	200,497,014

CHEESE.

	lbs.	lbs.	lbs.	lbs.	lbs.
New South Wales	6,620,648	6,356,627	6,979,636	7,830,239	7,799,676
Victoria	4,856,321	4,395,502	3,497,278	5,869,562	5,285,003
Queensland	5,395,050	7,931,869	4,383,410	8,495,825	11,142,114
South Australia	2,216,985	2,000,547	1,412,692	2,476,081	2,449,716
Western Australia .. ..	..	1,675	835	665	100
Tasmania	654,411	554,191	555,375	736,500	754,196
Commonwealth	19,743,415	21,240,411	15,829,226	25,408,872	27,430,805

a For year ended 30th June of year following.

4. **Concentrated Milk.**—"Condensed" or "concentrated" milk denotes milk the bulk of which is reduced by evaporation. Small quantities of such milk were made prior to 1911, in which year the output for the Commonwealth was nearly doubled. During the next three years a steady increase was maintained, but in 1915 a considerable falling-off was in evidence in each of the three contributing States; this, however, was more than compensated for during the next two seasons, when substantial increases occurred in each State, the Victorian returns for 1917 shewing an increase of over 100 per cent. on the output for 1915. There is still a considerable import of milk, as will be seen from the tables hereunder; but in each year, with the exception of 1915-16, there was an excess of exports. No condensed or concentrated milk is made in South Australia, Western Australia, or Tasmania. In New South Wales, Victoria, and Queensland the following are the returns for the last five years:—

CONDENSED AND CONCENTRATED MILK MADE, 1913 TO 1917.

Year.	N.S.W.	Victoria.	Queensland.	Commonwealth.
	lbs.	lbs.	lbs.	lbs.
1913	3,682,812	20,942,620	8,059,051	32,684,483
1914	5,991,458 ^a	19,093,750	6,967,486	32,052,694
1915	4,918,064 ^a	16,690,426	5,368,510	26,977,000
1916	5,829,990 ^a	33,280,635 ^a	6,584,272	45,694,897
1917	8,973,916 ^a	37,805,070 ^a	9,409,059	56,188,045

^a For year ended 30th June of year following.

5. **Oversea Trade in Milk, Butter, and Cheese.**—The following tables give the imports, exports, and net exports or imports of butter, cheese, and milk. In each of the five years exports of butter exceeded imports, but there was a net import of cheese and milk in 1915-16.

IMPORTS, EXPORTS, AND NET EXPORTS OF BUTTER, CHEESE, AND MILK, COMMONWEALTH, 1913 TO 1917-18.

Products.	1913.	1914-15.	1915-16.	1916-17.	1917-18.
IMPORTS.					
Butter lbs.	13,844	2,378,893	4,577,332	517,091	8,610
" £	565	180,557	349,110	38,749	592
Cheese lbs.	364,699	230,348	1,532,336	88,035	45,976
" £	17,334	10,554	66,936	5,536	2,940
Milk—concentrated and preserved ^a lbs.	1,150,715	2,596,964	4,191,493	1,607,445	772,987
" £	26,579	90,146	152,051	63,713	42,458
EXPORTS.					
Butter lbs.	75,802,303	54,105,777	18,036,317	75,361,869	72,277,526
" £	3,565,282	2,664,975	1,117,629	5,338,848	4,904,417
Cheese lbs.	1,609,452	2,547,857	159,003	10,586,456	8,427,098
" £	42,421	72,823	9,347	420,600	350,819
Milk—concentrated and preserved ^a lbs.	2,875,030	5,066,169	939,660	16,453,339	25,890,663
" £	75,165	126,556	31,340	553,993	1,029,424
NET EXPORTS.^b					
Butter lbs.	75,788,459	51,726,884	13,458,985	74,844,778	72,268,916
" £	3,564,717	2,484,418	768,519	5,300,099	4,903,825
Cheese lbs.	1,244,753	2,317,509	-1,373,333	10,500,421	8,381,122
" £	25,087	62,274	-57,589	415,064	347,879
Milk—concentrated and preserved ^a lbs.	1,724,315	2,469,205	-3,251,833	14,846,394	24,917,676
" £	48,586	36,410	-120,711	490,280	986,966

Note.—The minus sign (—) signifies net imports.

^a See definition above. ^b i.e., excess of exports over imports.

6. **Local Consumption of Butter and Cheese.**—The total production of butter and cheese, with the net export or import for the corresponding period subtracted or added, gives approximately the quantity available for consumption in the Commonwealth. In the period considered hereunder, with the exception of the year 1915, the local supply of cheese was adequate :—

BUTTER AND CHEESE FOR LOCAL CONSUMPTION, 1913 TO 1917.

Products.	1913.	1914.	1915.	1916.	1917.
	lbs.	lbs.	lbs.	lbs.	lbs.
Butter .. Total ..	122,969,779	137,820,074	124,213,323	107,626,000	128,228,098
" .. Per head of mean population ..	25.6	28.0	25.1	21.93	26.28
Cheese .. Total ..	18,498,662	19,194,818	17,202,559	14,908,451	19,049,633
" .. Per head of mean population ..	4.8	3.9	3.5	3.04	3.90

The quantity available for consumption in 1917 averaged 26 lbs. of butter and nearly 4 lbs. of cheese per head of mean population, an amount probably unsurpassed anywhere. The consumption of butter and cheese in the United Kingdom in normal times is given as about 20 lbs. per head per annum.

§ 3. Pigs, Bacon, etc.

1. **Pigs.**—Attention has been paid, both privately and by the various State Governments, to improving the breed, and consequently the market value of pigs. The number of pigs in the Commonwealth from 1913 to 1917 is shewn below :—

NUMBER OF PIGS, COMMONWEALTH, 1913 TO 1917.

State.	1913.	1914.	1915.	1916.	1917.
New South Wales ..	287,896	286,478 ^b	280,869 ^b	359,504 ^b	395,639 ^b
Victoria <i>a</i> ..	221,277	243,196	192,002	254,436	323,159
Queensland ..	140,045	166,638	117,787	129,733	172,699
South Australia ..	64,119	69,893	66,237	118,542 ^b	110,353 ^b
Western Australia ..	47,966	59,816	58,231	90,756	111,844
Tasmania <i>a</i> ..	37,990	34,960	37,778	53,033	54,653
Northern Territory ..	1,018	1,240	500	124	124
Federal Territory ..	194	226 ^b	289 ^b	259 ^b	518 ^b
Commonwealth ..	800,505	862,447	753,693	1,006,387	1,168,989

a As on 1st March of year following.

b As on 30th June of year following.

An examination of the returns of pigs shews remarkable fluctuations. There was a general increase in 1909–10–11, a heavy decline in 1912 and 1913, an increase in 1914, and again a heavy falling-off during 1915, followed by substantial increases during 1916 and 1917, in which latter year the number of pigs was the highest ever recorded in Australia. The number of pigs per head of population, and the number per square mile, will be found in the tables of live stock, pages 294 and 295.

2. **Bacon and Ham.**—From 1905 to 1908 the production of bacon and ham in the Commonwealth shewed little annual variation. In 1909, however, there was a considerable falling-off, but a large increase took place in subsequent years up to 1912.

During the succeeding three years the production again fell away, more especially in 1915, but a satisfactory increase was recorded in 1916, and again in 1917, when heavy increases took place in all the States, the increase for the Commonwealth amounting to 13,536,271 lbs.

PRODUCTION OF BACON AND HAM, COMMONWEALTH, 1913 TO 1917.

State.	1913.	1914.	1915.	1916.	1917.
	lbs.	lbs.	lbs.	lbs.	lbs.
New South Wales ..	15,180,378	a15,323,528	a13,569,022	a15,779,369	a18,544,053
Victoria ..	19,289,258	18,774,497	13,659,974	a18,115,028	a21,311,876
Queensland ..	13,709,716	13,339,131	12,363,939	10,427,649	14,791,540
South Australia ..	3,265,773	3,409,372	2,432,485	a3,993,137	a6,591,064
Western Australia ..	6100,143	6112,421	b202,824	c2,058,027	c2,362,604
Tasmania ..	1,116,535	1,612,433	895,020	992,779	1,298,819
Federal Territory ..	11,885	3,520	7,619	a8,787	a11,091
Commonwealth ..	52,673,688	52,574,902	43,130,883	51,374,776	64,911,047

a For year ended 30th June of year following. b Made on farms only. c A portion only from pigs slaughtered in the State, balance imported and subsequently cured.

3. **Oversea Trade in Pig Products.**—The oversea trade in pigs and pig products is shewn in the following tables:—

IMPORTS, EXPORTS, AND NET EXPORTS OF BACON AND HAM, FROZEN PORK, PIGS, AND LARD, COMMONWEALTH, 1913 TO 1917-18.

Particulars.	1913.	1914-15.	1915-16.	1916-17.	1917-18.
BACON AND HAM.					
Imports lbs.	126,692	107,520	425,277	90,626	5,097
„ £	6,301	5,412	20,643	4,787	353
Exports lbs.	1,866,894	1,220,426	590,788	1,006,431	5,068,952
„ £	74,718	58,900	35,278	60,414	321,635
Net Exports .. lbs.	1,740,202	1,112,906	165,511	915,805	5,063,855
„ £	68,417	53,488	14,635	55,627	321,282
FROZEN PORK.					
Imports lbs.	..	74,337	862,768	73,294	121
„ £	..	2,601	32,249	2,680	3
Exports lbs.	215,175	48,791	2,783	32,681	262,503
„ £	5,259	1,400	108	1,341	11,915
Net Exports .. lbs.	215,175	- 25,546	- 859,985	- 40,613	262,382
„ £	5,259	- 1,201	- 32,141	- 1,339	11,912
PIGS.					
Imports No.	20	52	12	6	20
„ £	54	535	63	23	438
Exports No.	440	168	64	19	36
„ £	1,336	511	582	146	209
Net Exports .. No.	420	116	52	13	16
„ £	1,282	- 24	519	123	- 229

Note.—The minus sign (—) signifies net imports.

IMPORTS, EXPORTS, AND NET EXPORTS OF BACON AND HAM, FROZEN PORK, PIGS, AND LARD, COMMONWEALTH, 1913 TO 1917-18—continued.

Particulars.		1913.	1914-15.	1915-16.	1916-17.	1917-18.
LARD.						
Imports..	.. lbs.	884,812	268,043	3,873,248	408,552	7,208
" ..	.. £	23,900	7,433	108,985	12,225	380
Exports..	.. lbs.	4,299,987	1,491,149	342,593	1,796,821	1,466,703
" ..	.. £	85,194	31,542	13,736	59,205	56,353
Net Exports	.. lbs.	3,415,175	1,223,106	- 3,530,655	1,388,269	1,459,495
" ..	.. £	61,294	24,109	- 95,249	46,980	55,973

Note.—The minus sign (-) signifies net imports.

From 1901 to 1903 there was a considerable net import of bacon and ham, but for the following years, up to 1917-18, with the exception of 1915-16 when the figure was small, there was a large net export. The local production of pork and lard for each of the years 1911 to 1913 was more than sufficient for the local demand; during 1914-15, 1915-16, and 1916-17, however, the imports of frozen pork exceeded the exports by 25,546 lbs., 859,985 lbs., and 40,613 lbs. respectively, while in 1915-16 the net import of lard amounted to 3,530,655 lbs.

The net exports of pig products have fluctuated considerably during the past five years. In 1913 the net exports amounted to 5,370,552 lbs. In 1914-15 they decreased to 2,310,466 lbs., while the 1915-16 figures shewed the heavy net import of 4,225,129 lbs. During 1916-17 and 1917-18 the net exports amounted to 2,463,461 lbs. and 6,785,732 lbs. respectively.

4. **Local Consumption of Bacon and Ham.**—From 1904 to 1917 the production of bacon and ham was sufficient to meet the local demand, and there was a surplus for export.

BACON AND HAM AVAILABLE FOR LOCAL CONSUMPTION, 1913 TO 1917.

Particulars.	1913.	1914.	1915.	1916.	1917.
	lbs.	lbs.	lbs.	lbs.	lbs.
Total	50,933,486	51,181,876	42,965,372	50,458,971	59,847,192
Per head of mean population	10.6	10.4	8.7	10.3	12.27

5. **Total Dairy Production.**—The total dairy production of the Commonwealth in 1917 is shewn below :—

TOTAL DAIRY PRODUCTION, COMMONWEALTH, 1917.

Where Produced.	N.S.W. <i>a</i>	Victoria. <i>a</i>	Q'land.	S. Aust. <i>a</i>	W. Aust.	Tasmania.	Fed. Terr. <i>a</i>	C'wealth.
MILK.								
Used for—	gallons.	gallons.	gallons.	gallons.	gallons.	gallons.	gallons.	gallons.
Butter ..	183,604,105	148,217,740	82,800,698	23,783,836	3,265,407	12,081,985	16,395	453,770,216
Cheese ..	8,040,450	5,240,950	10,279,849	2,401,570	300	757,937	..	26,721,056
Condensing and concentrating ..	2,366,330	12,023,370	2,802,670	..	..	..	..	17,282,370
Other purposes ..	53,386,665	34,255,870	9,410,822	6,123,475	4,284,558	2,002,638	115,055	6109,589,083
Total ..	247,397,550	199,737,930	105,384,029	32,308,881	7,550,325	14,842,560	131,450	6607,362,725

BUTTER.

In Factories On Dairy and other Farms	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
	75,867,550	59,701,560	36,854,031	6,916,202	483,348	3,478,365	..	183,301,056
	4,592,675	4,704,151	2,076,659	3,566,693	878,136	1,369,862	7,782	17,195,958
Total ..	80,460,225	64,405,711	38,930,690	10,482,895	1,361,484	4,848,227	7,782	200,497,014

a For year ended 30th June, 1918. *b* Including 10,000 gallons, Northern Territory.

TOTAL DAIRY PRODUCTION, COMMONWEALTH, 1917—*continued.*

Where Produced.	N.S.W. <i>a</i>	Victoria. <i>a</i>	Q'land.	S. Aust. <i>a</i>	W. Aust.	Tasmania	F. Ter. <i>a</i>	C'wealth.
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CHEESE.

	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
In Factories ..	6,088,412	3,973,110	10,973,576	2,446,306	..	425,739	..	23,907,143
On Dairy & other Farms ..	1,711,264	1,311,893	168,538	3,410	100	328,457	..	3,523,662
Total ..	7,799,676	5,285,003	11,142,114	2,449,716	100	754,196	..	27,430,805

CONDENSED OR CONCENTRATED MILK.

	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
In Factories ..	8,973,916	37,805,070	9,409,059	..	..	..	..	56,188,045

BACON AND HAM.

	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
In Factories ..	15,602,919	17,908,100	14,031,697	5,013,028	62,010,645	857,129	..	55,423,518
On Dairy & other Farms ..	2,941,134	3,403,776	759,843	1,578,036	351,959	441,690	11,091	9,487,529
Total ..	18,544,053	21,311,876	14,791,540	6,591,064	2,362,604	1,298,819	11,091	64,911,047

a For year ended 30th June, 1918. *b* A portion only from pigs slaughtered in the State, the balance being imported and subsequently cured.

§ 4. Poultry Farming.

1. **Development of the Industry.**—Poultry stocks are largely maintained by farmers, and production therefrom furnishes a considerable addition to the annual agricultural or dairying returns. During recent years, however, poultry-keeping has assumed an independent position among rural industries, while it is also carried on in conjunction with pig farming. Special poultry farms have been instituted for scientific breeding, and poultry experts engaged by the State Governments give lectures and instruction. Poultry for consumption is extensively reared, and the egg-producing qualities of the birds have also been greatly improved by careful breeding. Co-operative egg-collecting circles have been formed in some districts; eggs are also delivered with the milk and cream to the local butter factories, and thence forwarded to market.

2. **Production of Poultry.**—There is some difficulty in obtaining correct figures for the yield of poultry products. The following values are returned:—

ESTIMATED VALUE OF POULTRY AND EGGS, COMMONWEALTH, 1913-14 TO 1917-18.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania <i>a</i>	F. Ter.	C'wealth.
	£	£	£	£	£	£	£	£
1913-14 ..	1,578,000	1,706,700	219,400	569,254	223,713	230,000	1,600	4,528,667
1914-15 ..	1,597,000	1,743,860	234,994	524,347	204,591	230,000	1,180	4,535,972
1915-16 ..	2,144,000	1,747,000	107,370	518,808	184,360	200,000	2,000	4,903,538
1916-17 ..	1,905,500	1,714,770	324,958	618,441	201,284	250,000	2,500	5,017,453
1917-18 ..	2,079,000	2,160,650	295,882	669,105	188,982	250,000	3,000	5,646,619

a Estimated.

3. **Oversea Trade in Poultry Products.**—The imports and exports of eggs shew a considerable balance on the side of imports in each of the years 1901 to 1906 and from 1909 to 1916-17. In 1907 the export greatly exceeded the import, and in 1908 the imports were greater in quantity, but less in value, than the exports, while in 1917-18 the net export of eggs amounted to 6,965 dozen.

The number of eggs imported into the Commonwealth since 1913 amounted to 810,974 dozen. Of this number China has supplied 737,911 dozen; Japan, 30,230 dozen; United States of America, 19,502 dozen; Straits Settlements, 18,630 dozen; and United Kingdom, 2,171 dozen.

There is at present only a small oversea trade in either live or frozen poultry, the values of the net exports during 1917-18 being £440 and £3,510 respectively.

IMPORTS, EXPORTS, AND NET EXPORTS OF EGGS AND OF LIVE AND FROZEN POULTRY, COMMONWEALTH, 1913 TO 1917-18.

Particulars.	1913.	1914-15.	1915-16.	1916-17.	1917-18.
Eggs.					
Imports doz.	53,577	63,065	649,399	35,762	9,171
„ £	1,748	2,431	27,791	1,485	434
Exports doz.	4,872	12,119	3,541	8,651	16,136
„ £	377	735	262	585	1,462
Net Exports .. doz.	- 48,705	- 50,946	- 645,858	- 27,111	6,965
„ £	- 1,371	- 1,696	- 27,529	- 960	1,028
EGG CONTENTS.					
Imports lbs.	13,712	9,665	37,421	20,452	8,669
„ £	1,110	1,138	4,486	3,480	1,708
Exports lbs.	a	a	a	a	a
„ £	15	31	481	14,259	1,508
Net Exports .. lbs.	a	a	a	a	a
„ £	- 1,095	- 1,107	- 4,005	10,779	- 200
LIVE POULTRY.					
Imports No.	1,725	1,262	931	480	753
„ £	913	1,857	1,107	1,127	383
Exports No.	2,480	1,164	1,959	3,105	988
„ £	1,074	603	781	3,523	823
Net Exports .. No.	755	- 98	1,028	2,625	235
„ £	161	- 1,254	- 326	2,396	440
FROZEN POULTRY.					
Imports lbs.	10,328	1,193	6,643	3,096	931
„ £	475	53	293	137	39
Exports pair	25,520	14,765	2,155	5,400	6,541
„ £	10,979	12,496	1,050	3,904	3,549
Net Exports	a	a	a	a	a
„ £	10,504	12,443	757	3,767	3,510

Note.—The minus sign (-) signifies net imports. a Quantity not available.

§ 5. Bee Farming.

1. **The Bee-farming Industry.**—Bee farming, like poultry farming, is ordinarily an adjunct to agricultural or dairying industries. The returns of honey from productive hives during 1917-18 gave an average of 76 lbs. per hive, while the average quantity of wax was a little more than one pound per hive.

The value of the exports of honey from Australia during the five years ended 1916-17 amounted to £19,178, or an annual average of £3,836. This average was considerably exceeded in 1917-18, when the value of the exports equalled £79,225. It is believed that this export could be considerably increased. Australian honey exhibited at the Franco-British Exhibition in London in 1908 obtained the highest award.

2. *Production of Honey and Beeswax.*—The particulars of honey and beeswax production are as given in the following table :—

**NUMBER OF HIVES AND PRODUCTION OF HONEY AND BEESWAX,
SEASON 1917-18.**

State.	Bee Hives.			Honey Produced.		Beeswax Produced.	
	Pro- ductive.	Unpro- ductive.	Total.	Quantity.	Value.	Quantity.	Value.
	No.	No.	No.	lbs.	£	lbs.	£
New South Wales ..	50,563	10,314	60,877	3,863,430	68,415	53,314	4,609
Victoria ..	50,315	7,831	58,146	4,974,888	88,097	64,980	6,769
Queensland ..	13,487	5,235	18,722	771,015	13,044	11,519	784
South Australia ..	21,952	2,490	24,442	1,279,433	25,322	12,942	971
Western Australia ..	6,618	1,284	7,902	358,019	4,878	5,459	365
Tasmania ..	6,323	1,419	7,742	124,482	4,150	2,857	214
Federal Territory ..	105	..	105	12,081	214	28	2
Commonwealth ..	149,363	28,573	177,936	11,383,348	204,120	151,099	13,714

QUANTITY OF HONEY AND BEESWAX PRODUCED, 1913-14 TO 1917-18.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Fed. Ter.	C'wealth.
HONEY.								
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
1913-14	1,862,471	1,961,746	754,760	876,395	156,162	180,472	4,364	5,796,370
1914-15	1,138,925	700,672	542,679	1,033,556	344,054	37,858	4,680	3,802,424
1915-16	1,585,634	933,933	460,599	358,469	122,125	56,468	4,750	3,521,978
1916-17	1,660,518	1,547,023	352,099	961,723	184,910	84,121	4,780	4,795,174
1917-18	3,863,430	4,974,888	771,015	1,279,433	358,019	124,482	12,081	11,383,348
BEESWAX.								
1913-14	39,060	37,323	12,059	11,607	3,910	4,630	184	108,773
1914-15	26,483	20,017	10,859	14,365	5,471	1,354	193	78,742
1915-16	29,874	18,707	8,890	7,410	4,584	1,397	45	70,907
1916-17	29,387	22,131	7,042	9,793	3,985	2,059	47	74,444
1917-18	53,314	64,980	11,519	12,942	5,459	2,857	28	151,099

The quantity of honey and beeswax produced from year to year naturally varies considerably according to the conditions of the seasons. During the last five years New South Wales has produced 10,110,978 lbs. of honey and 178,118 lbs. of beeswax, while the Victorian figures amounted to 10,118,262 lbs. and 163,158 lbs. respectively for honey and beeswax. These two States together accounted for 69 per cent. of the total production of honey, and 70 per cent. of that of beeswax. The States following next in order of importance were South Australia, Queensland, and Western Australia.

400 SUMMARY OF AUSTRALIAN FARMYARD AND DAIRY PRODUCTS.

3. Oversea Trade in Bee Products.—In normal years honey is produced in the Commonwealth in sufficient quantities to supply all local requirements, and a considerable quantity is sent oversea. The more general use of frame hives in recent years has affected the production of wax, and as a result the quantity imported has exceeded that exported during each of the past four years.

IMPORTS, EXPORTS, AND NET EXPORTS OF HONEY AND BEESWAX, COMMONWEALTH, 1913 TO 1917-18.

Particulars.	1913.	1914-15.	1915-16.	1916-17.	1917-18.
HONEY.					
Imports lbs.	636	1,790	59,324	491	382
„ £	19	51	692	18	12
Exports lbs.	284,322	151,405	25,162	333,407	3,199,691
„ £	4,094	2,589	1,045	9,526	79,225
Net Exports .. lbs.	283,686	149,615	- 34,162	332,916	3,199,309
„ £	4,075	2,538	353	9,508	79,213
BEESWAX.					
Imports lbs.	6,059	13,048	38,807	19,195	54,686
„ £	480	1,013	2,868	1,544	4,842
Exports lbs.	10,455	2,173	3,506	7,234	1,471
„ £	657	154	234	548	134
Net Exports .. lbs.	4,396	- 10,875	- 35,301	- 11,961	- 53,215
„ £	177	- 859	- 2,634	- 996	- 4,708

Note.—The minus sign (-) signifies net imports.

Of the exports of honey in 1917-18 the United Kingdom took 2,160,624 lbs., while 809,175 lbs. were sent to the United States of America.

§ 6. Summary of Australian Farmyard and Dairy Products.

The value of the principal farmyard and dairy products raised in the Commonwealth in 1917 was as follows :—

VALUE OF THE PRINCIPAL FARMYARD AND DAIRY PRODUCTS RAISED IN THE COMMONWEALTH DURING THE YEAR 1917.

Produce.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	Fed. Ter.	C'wealth.
	£	£	£	£	£	£	£	£	£
Milk, consumed as such.. ..	2,224,444	1,427,328	392,118	255,145	178,523	83,443	417	4,794	4,566,212
Butter.. ..	5,468,056	4,228,878	2,672,801	698,088	95,061	325,649	..	529	13,489,062
Cheese.. ..	301,614	197,725	412,588	83,175	3	24,998	..	..	1,020,103
Condensed and concentrated milk	206,250	972,648	243,842	..	..	..	..	..	1,422,740
Bacon and ham..	912,583	1,048,792	779,178	285,706	122,864	60,835	..	546	3,210,504
Poultry and eggs	2,079,000	2,160,650	295,882	669,105	188,982	250,000	..	3,000	5,646,619
Honey and wax..	73,024	94,866	13,828	26,293	5,243	4,364	..	216	217,834

§ 7. Summary of Australian Farmyard and Dairy Products Exported, 1913 to 1917-18.

The quantities and values of Australian farmyard and dairy products exported from the Commonwealth during each of the last five years are shewn below :—

QUANTITIES OF AUSTRALIAN FARMYARD AND DAIRY PRODUCTS EXPORTED FROM THE COMMONWEALTH DURING EACH OF THE YEARS 1913 TO 1917-18.

Products.	1913.	1914-15.	1915-16.	1916-17.	1917-18.
Beeswax lbs.	10,455	2,173	3,506	7,234	1,450
Butter "	75,795,642	54,021,523	16,722,010	74,878,634	72,277,526
Cheese "	1,602,809	2,542,478	128,229	10,569,279	8,426,641
Egg albumen and yolk "	a	a	a	a	a
Eggs doz.	4,872	12,119	3,469	8,386	15,922
Feathers, undressed "	a	a	a	a	a
Honey lbs.	284,322	151,381	25,162	333,407	3,199,691
Lard "	4,279,440	1,487,536	342,569	1,681,918	1,465,352
Meats—					
Bacon and ham "	1,846,966	1,219,103	556,251	1,005,171	5,067,946
Frozen poultry pair	25,520	14,765	2,131	5,400	6,541
Frozen pork lbs.	215,175	48,791	2,733	32,681	262,503
Milk, concentrated and preserved "	2,779,963	4,907,395	708,643	15,777,333	25,581,708
Pigs, living No.	440	168	64	19	36
Poultry, living "	2,480	1,154	1,939	3,105	983

a Quantity not available.

VALUE OF AUSTRALIAN FARMYARD AND DAIRY PRODUCTS EXPORTED FROM THE COMMONWEALTH DURING THE YEARS 1913 TO 1917-18.

Products.	1913.	1914-15.	1915-16.	1916-17.	1917-18.
	£	£	£	£	£
Beeswax "	657	154	234	548	133
Butter "	3,564,925	2,659,030	1,022,742	5,301,273	4,904,417
Cheese "	42,030	72,527	7,915	419,628	350,791
Egg albumen and yolk "	3	735	4	8,327	854
Eggs "	377	735	259	573	1,450
Feathers, undressed "	1,576	607	45	..	..
Honey "	4,094	2,588	1,045	9,526	79,225
Lard "	84,737	31,433	13,735	56,126	56,292
Meats—					
Bacon and ham "	73,982	58,823	33,583	60,358	321,573
Frozen poultry "	10,979	12,496	1,033	3,904	3,649
Frozen pork "	5,259	1,400	108	1,341	11,915
Milk, concentrated and preserved "	72,950	122,613	24,589	531,976	1,025,895
Pigs, living "	1,336	511	52	146	209
Poultry, living "	1,074	591	766	3,523	819
Total "	3,863,979	2,963,508	1,106,640	6,397,249	6,757,122

§ 8. British Imports of Dairy Products.

1. Value of Britain's Imports of Dairy Products.—In the following table are given the values of the principal dairy products imported into the United Kingdom during the years 1913 to 1917 :—

PRINCIPAL DAIRY PRODUCTS IMPORTED INTO THE UNITED KINGDOM, 1913 TO 1917.

Products.	1913.	1914.	1915.	1916.	1917.
	£	£	£	£	£
Butter "	24,083,658	24,014,276	27,022,745	18,964,002	18,895,707
Cheese "	7,035,039	7,966,162	11,107,100	12,945,765	19,462,390
Bacon and ham "	20,497,132	21,288,646	30,721,776	41,223,147	48,769,759
Pork "	1,665,495	2,663,199	1,010,284	1,303,117	899,346

2. **Butter.**—Australia in 1911 and 1917 stood second, in 1912, 1913, 1914, and 1916 third, and in 1915 fourth, in regard to value of butter imported into the United Kingdom ; but the import of other Australian dairy products was inconsiderable.

IMPORTS OF BUTTER INTO THE UNITED KINGDOM, 1917.

Country from which Imported.	Quantity.	Value.	Country from which Imported.	Quantity.	Value.
	Cwt.	£		Cwt.	£
Denmark ..	622,160	7,032,600	Iceland and Greenland ..	17	178
Australia ..	529,809	5,213,397	Norway ..	1	9
New Zealand ..	310,925	3,195,608	Foreign Countries n.e.i. ..	16	164
Argentine Republic	142,300	1,407,846	British Possessions n.e.i. ..	2	15
Netherlands ..	75,880	762,958			
France ..	45,707	500,145			
Canada ..	33,057	343,086			
Union of S. Africa	32,526	306,098			
United States ..	10,534	106,084			
British India ..	3,582	27,519			
			Total ..	1,806,516	18,895,707

In January, 1910, the average price of Australian butter in London was 111s. After a fall in 1911, 134s. was reached in the middle of January, 1912. This high average was followed by a rapid decline. Higher prices were again in evidence as 1913 advanced, 128s. being obtained for best unsalted butter in October and November of that year ; from that time till the middle of 1914 prices gradually fell to 108s., when an upward movement commenced, which continued through the latter half of 1914 and, with slight variation, throughout 1915 ; in December of that year 168s. was obtained for best unsalted. A slight fall in January, 1916, was followed by a gradual rise throughout the year, 210s. being obtained for best unsalted in December. Quotations for London prices are only available to end of August, 1917, on which date best Australian butter was listed at 212s. per cwt. At the commencement of March in the same year the price was 220s., this being the highest recorded price for Australian butter. Prices in London during the last nine years have been considerably higher than the average of any previous year since the Australian export trade was instituted over twenty years ago. A marked approach to Danish values has lately been made in the prices of Australian butter, Danish choice at the close of 1916 being 224s., or only three halfpence per pound over Australian.

3. **Cheese.**—The value of the United Kingdom cheese imports in 1917 was £19,462,390, of which eleven and a half million pounds' worth was received from Canada, and four million pounds' worth from New Zealand. Small experimental shipments from Australia were made in 1908 and following years, fair prices being realised. The value of the imports from Australia has increased from £24,568 in 1913 to £482,327 in 1917.

4. **Bacon and Ham.**—Of a total import of bacon and ham valued in 1917 at £48,769,759, the United Kingdom received imports to the value of £7,767,592 from Denmark ; £28,072,659 from the United States ; and £11,623,199 from Canada. The import from Australia was small, experimental shipments only having been made during recent years.

5. **Pork.**—The total value of the United Kingdom imports of pork (including refrigerated, frozen, and salted) was £899,346 in 1917. There was no import from Australia, the chief supplying country being the United States, £707,111.

6. **Other Products.**—There is practically no United Kingdom import from Australia of honey, beeswax, poultry, game, or eggs, but lard to the value of £47,447, and frozen rabbits to the value of £609,562 were received from the Commonwealth in 1917.

§ 9. Graphical Representation of Dairy Production.

Two graphs shewing respectively the development in dairy production and in the exports of butter will be found on page 316.