

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, p. 430). 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 the 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 2½ gallons.

5. **Butter and Cheese Factories.**—The factories in the Commonwealth for the manufacture of butter, cheese, and condensed milk numbered 557 in 1918. These were distributed in the various States as follows:—New South Wales, 159; Victoria, 181; Queensland, 137; South Australia, 44; Western Australia, 5; Tasmania, 31.

§ 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. Satisfactory increases were again noted in 1916 and 1917, followed by a slight decline during 1918. 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, 1914 TO 1918.

State.		1914.	1915.	1916.	1917.	1918.
New South Wales	{ All Cattle ..	2,472,631	2,400,104	2,757,713	3,148,309	3,271,782
	{ Dairy Cows ..	769,550	743,958	742,544	776,662	717,910
Victoria	{ All Cattle ..	1,362,542	1,043,604	1,175,098	1,371,049	1,596,544
	{ Dairy Cows ..	610,517	451,088	483,086	534,388	592,079
Queensland	{ All Cattle ..	5,455,943	4,780,893	4,765,657	5,316,558	5,786,744
	{ Dairy Cows ..	387,311	335,243	343,311	399,508	381,505
South Australia	{ All Cattle ..	300,579	226,565	288,887	313,245	342,768
	{ Dairy Cows ..	91,181	78,515	86,311	96,661	102,230
Western Australia	{ All Cattle ..	863,835	821,048	863,930	957,086	943,847
	{ Dairy Cows ..	28,106	28,342	33,788	37,979	42,133
Tasmania	{ All Cattle ..	176,524	169,575	179,960	197,938	218,234
	{ Dairy Cows ..	51,229	47,540	52,522	58,910	64,511
Northern Territory	{ All Cattle ..	414,558	483,961	428,862	638,431	570,039
	{ Dairy Cows ..	70	70	70	70	70
Federal Territory	{ All Cattle ..	4,961	5,666	8,230	13,408	8,894
	{ Dairy Cows ..	870	537	719	728	598
Commonwealth	{ All Cattle ..	11,051,573	9,931,416	10,467,737	11,956,024	12,738,852
	{ Dairy Cows ..	1,938,834	1,684,393	1,747,351	1,904,906	1,902,036

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. During 1916 and 1917 the average yield exceeded that quantity, amounting to 320 and 333 gallons respectively, but, owing to adverse weather conditions it again failed to reach the 300 gallons mark in 1918, the average being only 293 gallons per cow. The best yields over a series of years appear to be in Victoria, South Australia and New South Wales, 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 in milk 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, 1914 TO 1918.

Heading.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Terr.	C'wealth. b
1914—								
Dairy Cows <i>a</i> .. 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 <i>a</i> .. 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 <i>a</i> .. 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 <i>a</i> .. 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
1918—								
Dairy Cows <i>a</i> .. No.	747,286	563,234	390,507	99,945	40,056	61,710	663	1,903,401
Production 1,000 gals.	206,925	207,102	87,580	32,243	8,544	15,796	170	558,360
Aver. per cow .. gals.	277	368	224	323	213	256	256	293

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. During the past five years the annual production of butter, after allowing for seasonal fluctuations, has practically remained constant, the average for the period amounting to nearly 180,000,000 lbs., which is considerably less than the record yield of 211,573,745 lbs. in 1911.

The manufacture of cheese has been steadily increasing throughout the Commonwealth during recent years, and the production for 1917 was the highest yet recorded. Droughty conditions were responsible for the considerable decline in 1918. For the five years from 1914 to 1918 the figures are:—

PRODUCTION OF BUTTER AND CHEESE, COMMONWEALTH, 1914 TO 1918.

State.	1914.	1915.	1916.	1917.	1918.
BUTTER.					
	lbs.	lbs.	lbs.	lbs.	lbs.
New South Wales	a84,126,893	a59,623,885	a79,355,639	a80,460,225	a65,991,738
Victoria	62,421,288	42,345,113	a59,568,771	a84,405,711	a66,240,403
Queensland	37,230,240	25,456,714	28,967,279	38,980,690	32,371,575
South Australia	6,252,961	6,317,613	a9,798,142	a10,482,895	a10,444,789
Western Australia	451,112	716,408	1,080,466	1,381,484	1,789,390
Tasmania	3,480,581	3,204,922	3,691,649	4,848,227	4,947,560
Federal Territory	a7,387	a7,658	a8,832	a7,782	a17,220
Commonwealth	193,970,412	137,672,313	182,470,778	200,497,014	181,802,675
CHEESE.					
	lbs.	lbs.	lbs.	lbs.	lbs.
New South Wales	a6,356,627	a5,979,636	a7,830,239	a7,799,676	a5,982,120
Victoria	4,395,502	3,497,273	a5,869,562	a5,285,003	a6,055,964
Queensland	7,931,869	4,383,410	8,495,825	11,142,114	8,636,700
South Australia	2,000,547	1,412,692	a2,476,081	a2,449,716	a2,412,388
Western Australia	1,675	835	665	100	200
Tasmania	554,191	555,375	736,500	754,196	702,868
Commonwealth	21,240,411	15,829,226	25,408,872	27,430,805	23,790,240

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. Increasing quantities were annually manufactured till 1915, when a substantial falling off was in evidence in each of the three contributing States. During the next three years however the condensed milk industry developed considerably, particularly in Victoria, where the output for 1918 was nearly 28,500,000 lbs. greater than that 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, 1914 TO 1918.

Year.	N.S.W.	Victoria.	Queensland.	Commonwealth.
	lbs.	lbs.	lbs.	lbs.
1914	5,991,458 <i>a</i>	19,093,750	6,967,486	32,052,694
1915	4,918,064 <i>a</i>	16,690,426	5,368,510	26,977,000
1916	5,829,990 <i>a</i>	33,280,635 <i>a</i>	6,584,272	45,694,897
1917	8,973,916 <i>a</i>	37,805,070 <i>a</i>	9,409,059	56,188,045
1918	11,192,325 <i>a</i>	45,251,710 <i>a</i>	6,845,610	63,289,645

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, 1914-15 TO 1918-19.

Products.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.
IMPORTS.					
Butter	lbs. 2,378,893	4,577,332	517,091	8,610	16,439
"	£ 180,557	349,110	38,749	592	1,087
Cheese	lbs. 230,348	1,532,336	86,035	45,976	13,903
"	£ 10,554	66,936	5,536	2,940	1,098
Milk—concentrated and preserved <i>a</i>	lbs. 2,596,964	4,191,493	1,607,445	772,987	575,934
"	£ 90,146	152,051	63,713	42,458	30,802
EXPORTS.					
Butter	lbs. 54,105,777	18,036,317	75,361,869	72,277,526	41,114,764
"	£ 2,664,975	1,117,629	5,338,848	4,904,417	3,193,086
Cheese	lbs. 2,547,857	159,003	10,586,456	8,427,098	2,303,308
"	£ 72,828	9,347	420,600	350,819	118,855
Milk—concentrated and preserved <i>a</i>	lbs. 5,066,169	939,660	16,453,839	25,690,663	27,962,938
"	£ 126,556	31,340	553,993	1,029,424	1,092,911
NET EXPORTS.^b					
Butter	lbs. 51,726,884	13,458,985	74,844,778	72,268,916	41,098,325
"	£ 2,484,418	768,519	5,300,099	4,903,825	3,191,999
Cheese	lbs. 2,317,509	-1,373,333	10,500,421	8,381,122	2,289,405
"	£ 62,274	- 57,589	415,064	347,879	117,757
Milk—concentrated and preserved <i>a</i>	lbs. 2,469,205	-3,251,833	14,846,394	24,917,676	27,387,004
"	£ 36,410	- 120,711	490,280	986,966	1,062,109

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

a See definition above. *b* 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, 1914 TO 1918.

Products.	1914.	1915.	1916.	1917.	1918.
	lbs.	lbs.	lbs.	lbs.	lbs.
Butter .. Total ..	137,820,074	124,213,328	107,628,000	128,228,098	140,704,350
„ .. Per head of population ..	27.89	25.19	22.08	25.98	27.97
Cheese .. Total ..	19,194,818	17,202,559	14,908,451	19,049,683	21,500,835
„ .. Per head of population ..	3.88	3.49	3.06	3.86	4.27

The quantity available for consumption in 1918 averaged 28 lbs. of butter and about 4½ lbs. of cheese per head of 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 1914 to 1918 is shewn below:—

NUMBER OF PIGS, COMMONWEALTH, 1914 TO 1918.

State.	1914.	1915.	1916.	1917.	1918.
New South Wales <i>b</i> ..	286,478	280,869	359,504	395,639	294,338
Victoria <i>a</i> ..	243,196	192,002	254,436	323,159	267,819
Queensland ..	166,638	117,787	129,733	172,699	140,966
South Australia ..	69,893	66,237	118,542 <i>b</i>	110,353 <i>b</i>	79,078 <i>b</i>
Western Australia ..	59,816	58,231	90,756	111,844	85,863
Tasmania <i>a</i> ..	34,960	37,778	53,033	54,653	44,328
Northern Territory ..	1,240	500	500	500	1,200
Federal Territory <i>b</i> ..	226	289	259	518	310
Commonwealth ..	862,447	753,693	1,006,763	1,169,365	913,902

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 heavy falling off in 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 figures for 1918 reveal considerable decreases in practically all the States, the number of pigs in the Commonwealth being reduced by 255,463. The number of pigs per head of population, and the number per square mile, will be found in the tables of live stock, pages 318 and 319.

2. **Bacon and Ham.**—During the past five years, the production of bacon and ham has increased in all the States, with the exception of Tasmania and the Federal Territory, the Commonwealth total of 66,171,428 lbs. for 1918 being the greatest quantity ever made in Australia.

PRODUCTION OF BACON AND HAM, COMMONWEALTH, 1914 TO 1918.

State.	1914.	1915.	1916.	1917.	1918.
	lbs.	lbs.	lbs.	lbs.	lbs.
New South Wales ..	a15,323,528	a13,569,022	a15,779,369	a18,544,053	a16,801,370
Victoria ..	18,774,497	13,659,974	a18,115,028	a21,311,876	a22,202,605
Queensland ..	13,339,131	12,363,939	10,427,649	14,791,540	16,476,480
South Australia ..	3,409,372	2,432,485	a3,993,137	a6,591,064	a6,567,394
Western Australia ..	b112,421	b202,824	c2,058,027	c2,362,604	c2,813,650
Tasmania ..	1,612,433	895,020	992,779	1,298,819	1,309,633
Federal Territory ..	a3,520	a7,619	a8,787	a11,091	a296
Commonwealth ..	52,574,902	43,130,883	51,374,776	64,911,047	66,171,428

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, 1914-15 TO 1918-19.

Particulars.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.
BACON AND HAM.					
Imports lbs.	107,520	425,277	90,626	5,097	42,624
„ £	5,412	20,643	4,787	353	2,169
Exports lbs.	1,220,426	590,788	1,006,431	5,068,952	5,637,565
„ £	58,900	35,278	60,414	321,635	378,723
Net Exports .. lbs.	1,112,906	165,511	915,805	5,063,855	5,594,941
„ £	53,488	14,635	55,627	321,282	376,554

FROZEN PORK.

Imports lbs.	74,337	862,768	73,294	121	..
„ £	2,601	32,249	2,680	3	..
Exports lbs.	48,791	2,783	32,681	262,503	839,557
„ £	1,400	108	1,341	11,915	40,325
Net Exports .. lbs.	- 25,546	- 859,985	- 40,613	262,382	839,557
„ £	- 1,201	- 32,141	- 1,339	11,912	40,325

Pigs.

Imports No.	52	12	6	20	4
„ £	535	63	23	438	102
Exports No.	168	64	19	36	60
„ £	511	582	146	209	479
Net Exports .. No.	116	52	13	16	56
„ £	- 24	519	123	- 229	377

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

IMPORTS, EXPORTS, AND NET EXPORTS OF BACON AND HAM, FROZEN PORK, PIGS, AND LARD, COMMONWEALTH, 1914-15 TO 1918-19—*continued.*

Particulars.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.
LARD.					
Imports.. .. lbs.	268,043	3,873,248	408,552	7,208	29,575
„ £	7,433	108,985	12,225	380	1,475
Exports.. .. lbs.	1,491,149	342,593	1,796,821	1,466,703	6,016,825
„ £	31,542	13,736	59,205	56,353	205,694
Net Exports .. lbs.	1,223,106	- 3,530,655	1,388,269	1,459,495	5,987,250
„ £	24,109	- 95,249	46,980	55,973	204,219

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 1918-19, 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 1914-15 the net exports amounted to 2,310,466 lbs. The 1915-16 figures shewed the heavy net import of 4,225,129 lbs., while during each of the next three years the net exports amounted to 2,463,461, 6,785,732, and 12,421,748 lbs. respectively.

4. **Local Consumption of Bacon and Ham.**—From 1904 to 1918 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, 1914 TO 1918.

Particulars.	1914.	1915.	1916.	1917.	1918.
	lbs.	lbs.	lbs.	lbs.	lbs.
Total	51,181,876	42,965,372	50,458,971	59,847,192	60,576,487
Per head of population ..	10.36	8.71	10.35	12.13	12.04

5. **Total Dairy Production.**—The total dairy production of the Commonwealth in 1918 is shewn below:—

TOTAL DAIRY PRODUCTION, COMMONWEALTH, 1918.

Where Produced.	N.S.W. a	Victoria. a	Q'land.	S. Aust. a	W. Aust.	Tasmania.	Fed. Terr. a	C'wealth.
MILK.								
Used for—	gallons.	gallons.	gallons.	gallons.	gallons.	gallons.	gallons.	gallons.
Butter ..	150,764,533	152,560,290	68,502,150	23,280,367	4,301,443	11,319,787	43,460	410,772,030
Cheese ..	6,189,514	5,997,700	3,545,705	2,363,364	450	722,368	..	23,519,101
Condensing and concentrating ..	3,110,700	11,276,120	1,222,375	..	..	..	..	15,609,195
Other purposes ..	46,860,382	37,267,600	9,309,868	6,599,032	4,241,902	3,754,005	126,411	108,169,200
Total ..	206,925,129	207,101,710	87,580,098	32,242,763	8,543,795	15,796,160	169,871	658,369,526
BUTTER.								
In Factories On Dairy and other Farms ..	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
Total ..	61,943,210	61,123,670	30,669,112	6,875,351	888,741	3,739,688	..	165,239,772
	4,048,528	5,116,733	1,702,463	3,569,438	900,649	1,207,872	17,220	16,562,903
Total ..	65,991,738	66,240,403	32,371,575	10,444,789	1,789,390	4,947,560	17,220	181,802,675

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

TOTAL DAIRY PRODUCTION, COMMONWEALTH, 1918—*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 ..	4,560,294	5,024,450	8,573,270	2,411,277	..	426,108	..	20,995,399
On Dairy & other Farms ..	1,421,826	1,031,514	63,430	1,111	200	276,760	..	2,794,841
Total ..	5,982,120	6,055,964	8,636,700	2,412,388	200	702,868	..	23,790,240

CONDENSED OR CONCENTRATED MILK.

	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
In Factories ..	11,192,325	45,251,710	6,845,610	..	..	..	..	63,289,645

BACON AND HAM.

	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
In Factories ..	13,929,061	18,343,400	15,703,072	5,275,514	62,335,012	909,403	..	56,495,462
On Dairy & other Farms ..	2,872,309	3,859,205	773,408	1,291,880	478,638	400,230	296	9,675,966
Total ..	16,801,370	22,202,605	16,476,480	6,567,394	2,813,650	1,309,633	296	66,171,428

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. **Poultry Products.**—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, 1914-15 TO 1918-19.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania, <i>a</i>	C'wealth.
	£	£	£	£	£	£	£
1914-15 ..	1,598,180	1,743,860	234,994	524,347	204,591	230,000	4,535,972
1915-16 ..	2,146,000	1,747,000	107,370	518,808	184,360	200,000	4,903,538
1916-17 ..	1,908,000	1,714,770	324,958	618,441	201,284	250,000	5,017,453
1917-18 ..	2,082,000	2,160,650	295,882	669,105	188,982	250,000	5,646,619
1918-19 ..	2,501,000	2,738,620	319,602	690,539	189,471	300,000	6,739,232

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 1914-15 to 1916-17. During the next two years, however, the exports exceeded the imports, the value of the excess amounting to £1,028 and £577 respectively.

The number of eggs imported into the Commonwealth since 1914-15 amounted to 760,030 dozen. Of this number China has supplied 621,281 dozen; Japan, 99,372 dozen; United States of America, 19,504 dozen; Straits Settlements, 12,112 dozen; and United Kingdom, 3,195 dozen.

There is at present only a small oversea trade in either live or frozen poultry, the values of the net exports during 1918-19 being £353 and £4,933 respectively.

IMPORTS, EXPORTS, AND NET EXPORTS OF EGGS AND OF LIVE AND FROZEN POULTRY, COMMONWEALTH, 1914-15 TO 1918-19.

Particulars.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.
Eggs.					
Imports doz.	63,065	649,399	35,762	9,171	2,633
" £	2,431	27,791	1,485	434	169
Exports doz.	12,119	3,541	8,651	16,136	8,409
" £	735	262	585	1,462	746
Net Exports .. doz.	- 50,946	- 645,858	- 27,111	6,965	5,776
" £	- 1,696	- 27,529	- 900	1,028	577
EGG CONTENTS.					
Imports lbs.	9,665	37,421	20,452	8,669	344
" £	1,138	4,486	3,480	1,708	94
Exports lbs.	a	a	a	a	a
" £	31	481	14,259	1,508	1,823
Net Exports .. lbs.	a	a	a	a	a
" £	- 1,107	- 4,005	10,779	- 200	1,729
LIVE POULTRY.					
Imports No.	1,262	931	480	753	693
" £	1,857	1,107	1,127	383	878
Exports No.	1,164	1,959	3,105	988	1,699
" £	603	781	3,523	823	1,231
Net Exports .. No.	- 98	1,028	2,625	235	1,006
" £	- 1,254	- 326	2,396	440	353
FROZEN POULTRY.					
Imports lbs.	1,193	6,643	3,096	931	3,752
" £	53	293	137	39	208
Exports pair	14,765	2,155	5,400	6,541	8,298
" £	12,496	1,050	3,904	3,549	5,141
Net Exports ..	a	a	a	a	a
" £	12,443	757	3,767	3,510	4,933

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 1918-19 gave an average of 49 lbs. per hive, while the average quantity of wax was $\frac{3}{4}$ lb. per hive.

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 1918-19.

State.	Bee Hives.			Honey Produced.		Beeswax Produced.	
	Pro- ductive.	Unpro- ductive.	Total.	Quantity.	Value.	Quantity.	Value.
	No.	No.	No.	lbs.	£	lbs.	£
New South Wales ..	27,625	16,227	43,852	879,356	19,694	19,231	1,843
Victoria ..	29,952	22,830	52,782	1,644,447	41,111	25,286	2,634
Queensland ..	10,061	5,223	15,284	410,182	6,547	9,099	741
South Australia ..	24,176	3,293	27,469	1,683,725	33,324	14,653	1,389
Western Australia ..	7,548	1,578	9,126	415,616	6,073	6,621	465
Tasmania ..	7,100	2,119	9,219	151,605	3,790	3,087	231
Federal Territory ..	4	3	7	420	9	..	..
Commonwealth ..	106,466	51,273	157,739	5,185,351	110,548	77,977	7,303

QUANTITY OF HONEY AND BEESWAX PRODUCED, 1914-15 TO 1918-19.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Fed. Ter.	C'wealth.
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HONEY.

	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
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	353,019	124,482	12,081	11,383,348
1918-19	879,356	1,644,447	410,182	1,683,725	415,616	151,605	420	5,185,351

BEESWAX.

	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
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
1918-19	19,231	25,286	9,099	14,653	6,621	3,087	..	77,977

The quantity of honey and beeswax produced from year to year naturally varies according to the conditions of the seasons. During the last five years New South Wales has produced 9,127,863 lbs. of honey and 158,289 lbs. of beeswax, while the Victorian figures amounted to 9,800,963 lbs. and 151,121 lbs. respectively for honey and beeswax. These two States together accounted for 66 per cent. of the total production of honey, and 68 per cent. of that of beeswax. The States following next in order of importance were South Australia, Queensland, and Western Australia.

418 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. During the past five years the value of the exports amounted to £341,070, or an annual average of £68,214. 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. 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 five years.

IMPORTS, EXPORTS, AND NET EXPORTS OF HONEY AND BEESWAX,
COMMONWEALTH, 1914-15 TO 1918-19.

Particulars.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.
HONEY.					
Imports lbs.	1,790	59,324	491	382	150
" £	51	692	18	12	4
Exports lbs.	151,405	25,162	333,407	3,199,691	8,747,760
" £	2,589	1,045	9,526	79,225	248,685
Net Exports lbs.	149,615	- 34,162	332,916	3,199,309	8,747,610
" £	2,538	353	9,508	79,213	248,681
BEESWAX.					
Imports lbs.	13,048	38,807	19,195	54,686	36,136
" £	1,013	2,868	1,544	4,842	3,493
Exports lbs.	2,173	3,506	7,234	1,471	7,269
" £	154	234	548	134	598
Net Exports lbs.	- 10,875	- 35,301	- 11,961	- 53,215	- 28,867
" £	- 859	- 2,634	- 996	- 4,708	- 2,895

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

Of the exports of honey in 1918-19 the United Kingdom took 7,164,394 lbs., while 630,793 lbs. were sent to Canada, and 308,923 lbs. to New Zealand.

§ 6. Summary of Australian Farmyard and Dairy Products.

The value of the principal farmyard and dairy products raised in the Commonwealth in 1918 was as follows:—

VALUE OF THE PRINCIPAL FARMYARD AND DAIRY PRODUCTS RAISED
IN THE COMMONWEALTH DURING THE YEAR 1918.

Produce.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	Fed. Ter.	C'wealth.
	£	£	£	£	£	£	£	£	£
Milk, consumed as such	2,303,969	1,832,324	457,735	324,452	208,560	184,572	492	6,215	5,318,319
Butter	5,043,618	4,867,846	2,320,117	772,100	133,565	328,354	..	1,316	13,466,916
Cheese	277,205	256,789	347,209	97,068	8	24,446	..	..	1,002,725
Condensed and concentrated milk	289,374	1,301,920	194,844	..	..	..	..	..	1,786,138
Bacon and ham	878,052	1,172,501	941,896	279,038	124,560	67,679	..	15	3,463,741
Poultry and eggs	2,501,000	2,738,620	319,602	690,539	189,471	300,000	..	..	6,739,232
Honey and wax	21,537	43,745	7,288	34,713	6,538	4,021	..	9	117,851

§ 7. Summary of Australian Farmyard and Dairy Products Exported, 1914-15 to 1918-19.

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

QUANTITIES OF AUSTRALIAN FARMYARD AND DAIRY PRODUCTS EXPORTED FROM THE COMMONWEALTH DURING EACH OF THE YEARS 1914-15 TO 1918-19.

Products.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.
Beeswax lbs.	2,173	3,506	7,234	1,450	7,269
Butter "	54,021,523	16,722,010	74,878,634	72,277,526	41,114,764
Cheese "	2,542,478	123,229	10,569,279	8,426,641	2,303,308
Egg albumen and yolk "		a	a	a	a
Eggs doz.	12,119	3,469	8,386	15,922	8,409
Feathers, undressed "	a	a			
Honey lbs.	151,381	25,162	333,407	3,199,691	8,747,760
Lard "	1,487,536	342,569	1,681,918	1,465,352	6,016,825
Meats—					
Bacon and ham "	1,219,103	556,251	1,005,171	5,067,946	5,637,565
Frozen poultry pair	14,785	2,131	5,400	6,541	8,298
Frozen pork lbs.	48,791	2,783	32,681	262,503	839,557
Milk, concentrated and preserved "	4,907,395	708,643	15,777,333	25,581,708	27,962,938
Pigs, living No.	168	64	19	36	60
Poultry, living "	1,154	1,939	3,105	983	1,699

a Quantity not available.

VALUE OF AUSTRALIAN FARMYARD AND DAIRY PRODUCTS EXPORTED FROM THE COMMONWEALTH DURING THE YEARS 1914-15 TO 1918-19.

Products.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.
	£	£	£	£	£
Beeswax "	154	234	548	133	598
Butter "	2,659,030	1,022,742	5,301,273	4,904,417	3,193,086
Cheese "	72,527	7,915	419,628	350,791	118,855
Egg albumen and yolk "		4	8,327	854	1,823
Eggs "	735	259	573	1,450	746
Feathers, undressed "	607	45			61
Honey "	2,588	1,045	9,526	79,225	248,685
Lard "	31,433	13,735	56,126	56,292	205,694
Meats—					
Bacon and ham "	58,823	33,583	60,358	321,573	378,723
Frozen poultry "	12,496	1,033	3,904	3,549	5,141
Frozen pork "	1,400	108	1,341	11,915	40,325
Milk, concentrated and preserved "	122,613	24,589	531,976	1,025,895	1,092,911
Pigs, living "	511	582	146	209	479
Poultry, living "	591	766	3,523	819	1,231
Total "	2,963,508	1,106,640	6,397,249	6,757,122	5,288,358

§ 8. British Imports of Dairy Products.

1. Value of Britain's Imports of Dairy Products.—In the following table are given the quantities and values of the principal dairy products imported into the United Kingdom during the years 1914 to 1918:—

PRINCIPAL DAIRY PRODUCTS IMPORTED INTO THE UNITED KINGDOM, 1914 TO 1918.

Products.	1914.	1915.	1916.	1917.	1918.
Butter cwts.	3,984,204	3,853,855	2,175,415	1,806,516	1,578,658
" £	24,014,276	27,022,745	18,964,002	18,895,707	19,769,738
Cheese cwts.	2,433,864	2,726,536	2,604,124	2,946,066	2,357,103
" £	7,966,162	11,107,100	12,945,765	19,462,390	15,905,858
Milk—Concentrated and preserved cwts.	1,281,341	1,661,321	1,752,292	1,700,511	2,707,761
" £	2,270,945	3,551,592	5,120,879	6,623,666	13,472,544
Bacon and ham cwts.	5,936,910	8,003,835	3,990,791	7,747,740	12,028,505
" £	21,288,646	30,721,776	41,223,147	48,769,759	103,410,221
Pork (a) cwts.	230,605	238,459	334,284	184,177	111,345
" £	356,091	650,783	1,301,209	899,346	763,484

(a) Frozen, chilled, and salted.

2. **Butter.**—Australia has for many years past contributed large quantities of the butter annually imported into the United Kingdom. During the past five years the value of the imports from Australia has considerably increased, amounting in 1918 to £6,722,621, which was the largest sum paid by Great Britain to any country for butter during the year.

IMPORTS OF BUTTER INTO THE UNITED KINGDOM, 1918.

Country from which Imported.	Quantity.	Value.	Country from which Imported.	Quantity.	Value.
	Cwt.	£		Cwt.	£
Australia ..	540,072	6,722,621	France ..	4,770	73,989
New Zealand ..	372,572	4,599,166	British India ..	4,935	51,485
Argentine Republic	313,143	3,797,050	Foreign Countries		
United States ..	196,593	2,436,265	n.e.i. ..	1,238	13,830
Canada ..	61,971	774,150	British Possessions		
Denmark ..	40,327	771,291	n.e.i. ..	4	25
Union of S. Africa	33,148	365,549			
Netherlands ..	9,885	164,317	Total ..	1,578,658	19,769,738

The average price of the best quality Australian butter in London during the past ten years is shewn in the following table:—

AVERAGE PRICE OF AUSTRALIAN BUTTER IN LONDON, 1910 TO 1919.

Year.	Average Top Price per Cwt.	Year.	Average Top Price per Cwt.
	s. d.		s. d.
1910	112 0	1915	144 6
1911	114 0	1916	169 6
1912	119 0	1917	(a) 206 0
1913	114 6	1918	(b) 252 0
1914	119 0	1919	(b) 252 0

(a) Proclaimed price. (b) Flat rate for all imported butter.

The British Government under contract purchased the surplus output of Australian butter during the period from 1st July, 1918, to 31st July, 1920. The price paid was 175s. per cwt. for butter scoring 90 points, a shilling per cwt. being added or deducted as the grading score exceeded or came below that standard. On the 1st August, 1920, this contract was extended for a further period of twelve months, the price of butter having been increased to 240s. per cwt., subsequently raised to 272s., the grading price being likewise increased to 1s. 6d. per cwt.

3. **Cheese.**—The value of the United Kingdom cheese imports in 1918 was £15,905,858, of which seven and a half million pounds' worth was received from Canada, and nearly 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 £57,584 in 1914 to £285,525 in 1918.

4. **Bacon and Ham.**—Of a total import of bacon and ham valued in 1918 at £103,410,221, the United Kingdom received imports to the value of £86,439,948 from the United States, and £15,884,698 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 £763,484 in 1918. There was no import from Australia, the chief supplying country being the United States, £492,382.

6. **Other Products.**—There is practically no United Kingdom import from Australia of beeswax, poultry, game, lard, or eggs, but honey to the value of £201,868, and frozen rabbits to the value of £1,158,692 were received from the Commonwealth in 1918.

§ 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 346.