

SECTION IX.

FARMYARD AND DAIRY PRODUCTION.

§ 1. Introductory.

1. **General.**—Amongst the live stock brought out by Captain Phillip in 1788 were included one bull, four cows, one calf, and twelve pigs, these being established at Farm Cove when Port Jackson was settled. Of the early importations of cattle the greater part was slaughtered to relieve the necessity of the colonists in the famines which several times threatened the existence of the young community. With regard to the existing herds it may be noted that they have sprung not only from the original stock, but have been improved by the introduction of stud cattle and pigs, especially during late years. Stock-raising, with regard to the special requirements of dairying, etc., has in fact been scientifically considered only in comparatively recent times. The technical advances made in the manufacture of butter and cheese in Europe and elsewhere, and the necessity for keeping pace with them in connection with the export trade of Australia, demanded in Australian stock-raising a judicious crossing of strains with a view to improving the quantity and quality of the milk supply. Further, the pasturage was improved by the eradication of grasses and herbage of little or no use, and the planting of suitable grasses and other fodder plants. Much of the indigenous herbage forms, however, excellent food for stock. Although some of the State Governments have made considerable importations for stud purposes, the importation of British and other cattle for breeding purposes is ordinarily under private enterprise, but is safeguarded by Government supervision in order to prevent the introduction of diseases and pests, with the result that Australia is comparatively free from stock diseases. Permanent structures for the shelter of dairy herds are required only to a very small extent in the Commonwealth, the mildness of the climate rendering it possible for stock to thrive in the open throughout the year. Practical experience has, however, demonstrated the wisdom of rugging or otherwise protecting dairy cattle during the colder months, while the provision of shelters in the form of plantations of trees is attended by beneficial results. Where winter fodder must be grown it is given to the cattle in the fields, and consists of lucerne, oats, maize, barley, rye, and mangolds. Ensilage is highly recommended by dairy experts, and increasing use is being made thereof. Continued expansion of the dairying industry, and particularly its extension into non-coastal districts, will involve a more general use of the silo.

Some of the indigenous Australian grasses are particularly suitable for dairy cattle, since they possess milk-producing as well as fattening properties, but many of the holdings are sown with English and other imported grasses, varieties being chosen to suit particular localities. The area of land devoted to green food and permanent artificially-sown grasses is constantly increasing, its produce being, for the most part, devoted to the depasturing of dairy herds. The opinion, long held, that only heavily-grassed country with good rainfall was profitable for dairying has been controverted by experience, it being shown that with proper care more lightly clad regions can be made to yield good milk results.

2. **State Supervision of Industry.**—Each of the State Agricultural Departments exercises considerable supervision in regard to the industry. Dairy experts are employed to give instruction in approved methods of production, to examine animals, to inspect

the buildings used for milking and separating, and to examine the marketable produce. A high standard of dairy hygiene, cleanliness of *personnel* and *matériel*, and purity of produce have also been insisted upon under State laws. Financial assistance has been given to facilitate the economic handling of dairy products, and much benefit has resulted, the advances having generally been promptly repaid.

For the maintenance of the purity and quality of Australian butter, the Commonwealth regulations under the Commerce Act 1905 enact that butter intended for shipment oversea has to be covered with a true trade description, and that at least the following matter should appear in the brand:—The word "Australia," the name of the State in which it was produced, net weight, manufacturer's or exporter's name or registered brand, and the words, "pure creamery butter," "pastry butter," "milled butter," or "re-packed butter," as the case may require. Other matter may be added, but it must be true, and not liable to mislead.

Butter may be shipped at the exporter's discretion in one of three different ways:—

- (i.) On his certifying that the butter contains no fat other than butter fat, not more than 16 per cent. of water, 3 per cent. of casein, 0.5 per cent. of boric acid, 4 per cent. of salt, not less than 82 per cent. of butter fat, any colouring matter deemed harmless by the Minister. The inspector checks the contents to see that they are in conformity with the brands on package and the exporter's declaration, and an export permit is then issued.
- (ii.) The exporter may apply in writing to have his butter classified prior to export, and thus dispense with the written statement regarding its composition. The inspector then examines for quality in addition to checking the trade description, and grades as follows:—95 to 100 points, "superfine"; 90 to 94 points, "first grade"; 83 to 89, "second grade"; 75 to 82, "third grade"; under 75, "pastry" (branded as such). Certificates are issued according to the grade awarded, and the issue necessitates the branding of each box in the consignment with the Commonwealth stamp "approved for export" and the certificate number. In order to facilitate branding, all certificates for a specific grade issued on one day bear the same number, the registered brand on the packages forming the leading feature of each certificate.
- (iii.) A separate written application from the exporter is necessary before a grade stamp is placed on the boxes by the examining officer prior to shipment. This grade stamping, as well as the classification itself, is purely optional with the exporter. Where such an application is received, the grade is stamped on the packages in addition to the Commonwealth stamp and certificate number.

By these means, purity and quality are guaranteed, and trade is also facilitated, since quantities of butter are purchased solely on the certificate issued, without ever being seen.

Regulations fixing standards for other dairy products were also enacted.

New regulations, to come into force on 1st July, 1911, have been approved. They contain important changes in regard to the standard for export dairy products. The new standards will be as follow:—

Butter.—Butter which contains only—No fat other than butter fat; not more than 15 per cent. of water, 3 per cent. of casein, 0.5 per cent. of boric acid, 4 per cent. of salt; not less than 82 per cent. of butter fat; any colouring matter deemed by the Minister to be harmless.

Cheese.—Cheese which does not contain any foreign matter other than rennet, salt, or colouring matter deemed by the Minister to be harmless.

Concentrated Milk.—Pasteurised milk which is concentrated by any process whatever, and not subsequently sterilised, and which contains not less than 9 per cent. of

butter fat and 24 per cent. of milk solids not fat, and no foreign substance other than 0.5 per cent. of boric acid.

Condensed Milk.—Milk which is condensed or concentrated by any process whatever, with or without the addition of cane sugar, and which, when containing such sugar, also contains not less than 9 per cent. of butter fat, and 22 per cent. of milk solids not fat, or which, when not containing such sugar, contains not less than 8 per cent. of butter fat and 20 per cent. of milk solids not fat.

Dried Milk.—Milk from which the water has been removed by a process of heating, without the addition of any extraneous matter, and which, when dissolved in or treated with water, according to any directions supplied by the maker or vendor thereof, produces milk as defined in this Schedule.

Honey.—The ripened, unfermented honey of bees, which does not contain any foreign matter.

Milk.—The milk of cows, whether mixed or not, and containing not less than 3 per cent. of butter fat, nor less than 8.5 per cent. solids not butter fat.

The trade description prescribed must be permanently affixed on the goods or on the containing packages. In the case of butter the trade description must, with additional particulars, be indelibly impressed on the outer covering.

Butter and cheese are to be graded by the examining officer as follows:—

BUTTER.—

Superfine—Pure creamery butter, graded at 95 to 100 points.

First grade—Pure creamery butter, graded at 90 to 94 points.

Second grade—Pure butter, graded at 83 to 89 points.

Third grade—Pure butter, graded at 75 to 82 points.

Pastry butter—Pure butter, graded at less than 75 points.

CHEESE.—

Superfine—Pure cheese, graded at 95 to 100 points.

First grade—Pure cheese, graded at 90 to 94 points.

Second grade—Pure cheese, graded at 83 to 89 points.

Third grade—Pure cheese, graded at 75 to 82 points.

In grading butter and cheese, the maximum points to be awarded are: Flavour and aroma, 50 points; texture, including body, grain, and moisture, 30 points; condition, including colour, salting, packing, and covering, 20 points. An official grade mark is to be applied to all export butter and cheese graded at over 89 or under 75 points, as follows:—

Butter and cheese graded at 95 to 100 points—Superfine.

Butter and cheese graded at 90 to 94 points—First grade.

Butter graded at under 75 points—Pastry.

Cheese graded at under 75 points—Below standard.

Impure butter and cheese are not to be graded at all. The exportation of unsound, inferior, or abnormal dairy products, is prohibited, unless the trade description applied to the goods includes the words, "Below Standard."

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 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 steadily diminishing. Formerly the average quantity of milk used per pound of hand-made butter was about 3 gallons, but separator butter requires only about 2.6 gallons.

5. **Butter and Cheese Factories.**—The establishments in the Commonwealth where the manufacture of butter, cheese, and condensed milk was carried on, numbered 550 in 1909. These were distributed as regards the various States as follows:—New South Wales, 181; Victoria, 211; Queensland, 80; South Australia, 53; Western Australia, 8; Tasmania, 22.

§ 2. Milk, Butter, and Cheese.

1. **Dairy Herds.**—Since the drought year 1902, there has been in each State, a general yearly increase in the number of dairy cows. In New South Wales, Victoria, South Australia proper, and Tasmania—as will be seen from the table of cattle and dairy cattle given below—the proportion of dairy cattle to all cattle is high. In Queensland, the Northern Territory of South Australia, and Western Australia, there is a greatly preponderating number of other cattle, dairying not having been established in the tropical regions of the Continent:—

CATTLE AND DAIRY CATTLE, COMMONWEALTH, 1905 to 1909.

State.		1905.	1906.	1907.	1908.	1909.
New South Wales	All Cattle	2,337,973	2,549,944	2,751,193	2,955,934	3,027,727
	Dairy Cows	597,605	667,708	713,223	736,683	755,879
Victoria	All Cattle	1,737,680	1,804,323	1,842,807	1,574,162	1,549,640
	Dairy Cows	649,100	701,309	709,279	609,166	625,063
Queensland	All Cattle	2,963,695	3,413,919	3,892,232	4,321,600	4,711,782
	Dairy Cows	172,000†	215,000†	282,833	334,281	333,839
South Australia	All Cattle	300,721	325,724	335,155	340,376	344,034
Northern Territory	All Cattle	346,910	354,371	374,199	407,992	414,046
South Australia	Dairy Cows	93,069	97,843	100,743	106,269	110,757
Northern Territory	Dairy Cows	756	680	489	546	464
Western Australia	All Cattle	631,825	690,011	717,377	741,788	793,217
Western Australia	Dairy Cows	35,011	34,822	31,489	31,522	29,176
	All Cattle	206,211	211,117	215,523	205,827	199,945
Tasmania	Dairy Cows	49,618	49,132	54,245	50,931	50,996
Commonwealth	All Cattle	8,525,025	9,349,409	10,128,486	10,547,679	11,040,391
	Dairy Cows	1,597,159	1,766,494	1,892,351	1,839,398	1,906,174

† Statistics not collected: figures estimated.

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, something under 250 gallons per annum. The best yields over a series of years appear to be in South Australia, New South Wales, Victoria, and Tasmania, while Western Australia is below Queensland. In the following table the average yields per cow for 1908 and 1909 are taken from the number of dairy cows who were, during any part of the year, milking. The average given is considerably below that for cows which were yielding during the greater part of the year.

PRODUCTION OF MILK, COMMONWEALTH, 1908 and 1909.

Heading.		N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
1908—								
Dairy cows	No.	736,633	609,166	304,281	106,815	31,522	50,931	1,839,398
Production of milk	gals.	188,518,562	148,122,200	63,934,402	28,883,000	4,531,212	13,520,000	447,509,376
Aver. yield per cow	gals.	257	243	210	270	144	265	243
1909—								
Dairy cows	No.	755,879	625,063	333,839	111,221	29,176	50,996	1,906,174
Production of milk	gals.	201,183,337	162,994,658	70,642,888	29,778,032	4,893,446	11,600,000*	481,092,361
Aver. yield per cow	gals.	266	261	212	268	168	227	252

* Estimated.

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 1906. In both butter and cheese a falling-off is shewn in some of the States in 1907 and 1908, due to the dryness of the season. There was a recovery in 1909, the cheese production reaching its highest figure. For the five years from 1905 to 1909 the figures are:—

PRODUCTION OF BUTTER AND CHEESE, COMMONWEALTH,

1905 TO 1909.

State.	1905.	1906.	1907.	1908.	1909.
BUTTER.					
	lbs.	lbs.	lbs.	lbs.	lbs.
New South Wales	53,040,250	58,941,137	60,041,429	61,380,876	62,865,608
Victoria	57,606,821	68,088,168	63,746,354	45,461,396	55,166,555
Queensland	20,319,976	22,746,593	22,789,158	23,838,357	24,592,711
South Australia	8,226,805	8,873,632	8,519,340	8,130,560	8,482,168
Western Australia	423,270	380,157	436,529	365,593	414,453
Tasmania*	1,281,604	904,930	847,860	3,140,573	2,751,757
Commonwealth†	140,898,726	159,934,617	156,380,670	145,317,357	154,273,252
CHEESE.					
	lbs.	lbs.	lbs.	lbs.	lbs.
New South Wales	4,625,980	5,458,645	4,586,857	4,753,360	4,775,268
Victoria	4,297,350	4,877,593	4,397,909	4,328,644	5,025,834
Queensland	2,682,089	2,921,140	2,634,588	3,199,510	3,662,497
South Australia	1,174,867	1,398,785	1,335,790	1,556,894	1,578,378
Western Australia	4,831	1,314	580	980	1,570
Tasmania*	369,913	190,481	327,839	910,400	731,290
Commonwealth†	13,155,030	14,847,958	13,383,563	14,759,788	15,774,837

* Prior to 1908 Tasmanian statistics relate only to the quantities made in factories. † The totals for the Commonwealth here given prior to 1908 are exclusive of Tasmanian butter and cheese made elsewhere than in factories.

4. **Concentrated Milk.**—“Condensed” or “concentrated” milk denotes milk the bulk of which is reduced by evaporation, no sweetening agent being added. When a sweetening agent is added it is called “preserved” milk. Small quantities of such milk have been made, but the industry is at present by no means a large one. No condensed or concentrated milk is made in South Australia, Western Australia, or Tasmania. In New South Wales, Victoria, and Queensland the following quantities are returned for 1908 and 1909:—

CONDENSED AND CONCENTRATED MILK MADE, 1908 and 1909.

Year.	N.S.W.	Victoria.	Queensland.	Commonwealth.
	lbs.	lbs.	lbs.	lbs.
1908	2,399,673	3,308,854	3,935,024	9,643,551
1909	2,400,687	3,487,312	7,038,202	12,926,201

5. **Oversea Trade in Milk, Butter, and Cheese.**—The tables following 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; in four the cheese import was heavier than the export, and this was the case each year with milk.

**IMPORTS, EXPORTS, AND NET IMPORTS OF BUTTER, CHEESE AND MILK,
COMMONWEALTH, 1905 TO 1909.**

IMPORTS.

Products.		1905.	1906.	1907.	1908.	1909.
		Butter lbs.	592,201	70,143	20,885	40,874	80,111
	£	25,509	3,133	910	2,368	4,078
Cheese lbs.	384,718	304,951	299,711	566,808	367,504	
	£	12,494	11,533	12,371	20,433	14,720
Milk—concentrated and preserved ¹ lbs.	10,943,788	10,672,265	9,279,091	9,145,306	7,439,232	
" " " " £	196,471	189,316	170,478	180,194	145,736	

EXPORTS.

Butter lbs.	56,477,536	75,802,856	66,076,915	51,206,359	55,700,937
" " " " £	2,354,399	3,240,063	2,890,261	2,387,450	2,402,619
Cheese lbs.	193,638	252,115	495,530	153,589	203,477
" " " " £	5,291	6,832	12,896	5,237	5,771
Milk—concentrated and preserved ¹ lbs.	495,089	311,540	322,119	309,789	360,821
" " " " £	9,319	6,375	6,305	7,013	7,852

NET EXPORTS.²

Butter lbs.	55,885,335	75,732,713	66,056,030	51,165,485	55,620,876
" " " " £	2,328,890	3,236,930	2,889,351	2,385,082	2,398,541
Cheese lbs.	191,110	52,836	195,819	413,219	164,027
" " " " £	7,203	4,701	525	15,196	8,949
Milk—concentrated and preserved ¹ lbs.	10,448,699	10,360,725	8,956,972	8,835,517	7,078,411
" " " " £	187,152	182,941	164,173	173,181	137,884

1. See definition on page 447.

2. — signifies net imports.

The large quantities of concentrated and preserved milk imported for local use indicate room for development in this industry.

6. Interstate Trade in Milk, Butter, and Cheese.—The extent of interstate trade in dairy products, naturally of considerable magnitude, is worthy of statistical presentation. That for butter, cheese, and milk is as follows:—

INTERSTATE TRADE IN BUTTER AND CHEESE, 1909.

State.	Imports from other States of the C ^o wealth.		Exports to other States of the Commonwealth.		Net Interstate Exports. ¹	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
BUTTER.						
	lbs.	£	lbs.	£	lbs.	£
New South Wales ...	1,971,174	95,543	6,474,469	305,825	4,503,295	210,282
Victoria ...	3,228,836	147,024	5,199,113	255,604	1,970,277	108,580
Queensland ...	5,680	269	1,822,028	85,870	1,816,348	85,601
South Australia ...	1,416,603	68,107	1,262,038	59,647	154,565	8,460
Western Australia ...	7,053,279	339,590	1,120	55	7,052,159	339,535
Tasmania ...	1,546,582	76,117	463,386	19,649	1,083,196	56,468
CHEESE.						
	lbs.	£	lbs.	£	lbs.	£
New South Wales ...	927,070	24,183	323,383	9,561	603,687	14,622
Victoria ...	495,281	12,709	986,885	31,431	491,604	18,722
Queensland ...	20,492	701	1,050,293	25,728	1,029,801	25,027
South Australia ...	21,444	774	172,350	5,012	150,906	4,238
Western Australia ...	1,174,974	36,227	18,134	580	1,156,840	35,647
Tasmania ...	124,693	3,271	212,909	5,553	88,216	2,282

1. — signifies net imports.

It will be observed from the column of net exports that in 1909 New South Wales occupied the leading position as supplier of butter, and Queensland as supplier of cheese, whilst Western Australia was the chief interstate importer of these products.

INTERSTATE TRADE IN MILK AND CREAM, 1909.

State.	Imports from other States of the Commonwealth.		Exports to other States of the Commonwealth.		Net Interstate Exports. ¹	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.

MILK AND CREAM—CONCENTRATED.²

	lbs.	£	lbs.	£	lbs.	£
New South Wales	33,868	911	255,367	4,492	221,499	3,581
Victoria	124,883	2,801	533,096	9,401	408,213	6,600
Queensland	12,275	249	85,058	1,998	72,783	1,749
South Australia	58,188	1,288	30,687	833	27,501	455
Western Australia	384,499	6,364	9,156	219	375,343	6,145
Tasmania	300,359	5,344	708	14	299,651	5,330

MILK AND CREAM—PRESERVED.²

	lbs.	£	lbs.	£	lbs.	£
New South Wales	2,583,040	51,522	849,120	7,158	2,233,920	44,364
Victoria	616,051	12,504	1,796,630	36,457	1,180,579	23,953
Queensland	94,571	1,856	3,883,696	75,188	3,789,125	73,332
South Australia	600,292	11,638	437,899	9,356	162,393	2,282
Western Australia	2,203,607	42,865	34,679	721	2,168,928	42,144
Tasmania	420,862	8,831	16,399	336	404,463	8,495

1. — signifies net imports.

2. See definition on page 447.

New South Wales and Western Australia are large importers of preserved milk from other States of the Commonwealth, Queensland and Victoria being the chief suppliers. There was practically no interstate trade in fresh milk and cream in 1909.

7. **Local Consumption of Butter and Cheese.**—The total production of butter and cheese, with the net export or import subtracted or added, gives approximately the consumption in the Commonwealth. In the period considered hereunder, 1907 was the only year in which the local supply of cheese was adequate:—

BUTTER AND CHEESE LOCALLY CONSUMED, 1905 to 1909.

Product.		1905	1906.	1907.	1908.	1909.
		lbs.	lbs.	lbs.	lbs.	lbs.
Butter	... Total	85,013,391	84,201,904	90,324,640	94,151,872	93,652,376
"	... Per head of mean population	21.2	20.6	21.7	22.2	22.8
Cheese	... Total	13,346,140	14,900,794	13,579,382	15,173,007	15,938,864
"	... Per head of mean population	3.3	3.6	3.3	3.6	3.7

The consumption in 1909 was, therefore, equal to 22.8 lbs. of butter and 3.7 lbs. of cheese per head of mean population, an amount probably unsurpassed anywhere. The consumption of butter and cheese in the United Kingdom is given as 19 lbs. per head, and is therefore only equal to about three-fourths of that of the Commonwealth.

§ 3. Pigs, Bacon, etc.

1. **Pigs.**—The pigs in Australasia numbered 43 in 1792; 4017 in 1800; 8992 in 1810; 33,906 in 1821; 66,086 in 1842; and 121,035 in 1851. The figures for each State in subsequent census years, and in the last five years, were as follows:—

NUMBER OF PIGS, COMMONWEALTH, 1861 to 1909.

State.	1861.	1871.	1881.	1891.	1905.	1906.	1907.	1908.	1909.
New South Wales ...	146,091	213,193	213,916	253,189	310,702	243,370	216,145	215,822	237,849
Victoria ...	43,480	177,447	239,926	286,780	273,682	220,452	211,002	179,358	217,921
Queensland ...	7,465	32,707	56,438	122,673	164,087	138,282	133,246	124,749	124,803
South Australia ...	69,286	95,542	120,718	83,797	119,005	112,277	93,605	81,165	81,797
Western Australia ...	11,984	14,265	22,530	25,930	74,567	56,203	53,399	46,652	47,062
Tasmania ...	40,841	52,863	49,660	73,520	72,810	42,985	46,704	47,943	55,705
Commonwealth ...	319,147	586,017	703,188	845,888	1,014,853	813,569	754,101	695,689	765,137

The number of pigs was highest in 1904, when for the first time it was over a million; prior to 1899 it had never reached 900,000. That year, the two immediately following, and 1904 and 1905 mark the highest totals. An examination of the States' returns shews remarkable fluctuations. It will be noticed that in no State was the number as high in 1906 as in the preceding year, and in Tasmania alone was the figure for 1907 higher than that for 1906. A similar experience was met in 1908. In several States the falling-off over the three years is very marked. In 1909 a remarkable recovery in the figures is shewn, increases over 1908 being large in New South Wales, Victoria, and Tasmania. The number of pigs per head of population, and the number per square mile, will be found in the tables of live stock, pages 335 and 336.

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. It will be noticed from the table above that the number of pigs in Australia in 1903 was much below the average.

PRODUCTION OF BACON AND HAM, COMMONWEALTH, 1905 to 1909.

State.	1905.	1906.	1907.	1908.	1909.
	lbs.	lbs.	lbs.	lbs.	lbs.
New South Wales ...	11,652,440	11,843,595	10,358,526	9,488,299	9,931,377
Victoria ...	16,433,665	18,051,166	17,545,720	14,411,401	13,620,485
Queensland ...	10,500,335	10,846,959	10,015,008	11,324,323	9,228,317
South Australia ...	†	†	2,311,004	3,392,162	3,348,050
Western Australia ...	401,447	272,494	209,419	152,896	120,623
Tasmania* ...	446,714	151,700	279,504	1,333,856	1,526,115
Commonwealth† ...	39,434,601	41,165,914	40,719,181	40,102,937	37,774,967

* Prior to 1908 Tasmanian statistics relate only to quantities made in factories. † The totals for the Commonwealth here given are exclusive of Tasmanian bacon and ham made elsewhere than in factories, prior to 1908, and of all South Australian bacon and ham prior to 1907. ‡ Information not available.

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, 1905 to 1909.**

Particulars.				1905.	1906.	1907.	1908.	1909.
BACON AND HAM.								
Imports ...	...	...	lbs.	162,715	194,059	237,644	273,922	244,903
" ...	...	...	£	5,807	7,171	9,625	10,013	9,384
Exports ...	...	...	lbs.	492,076	532,851	420,819	391,820	403,801
" ...	...	...	£	15,262	18,467	17,579	18,860	18,979
Net Exports	...	...	lbs.	329,361	338,792	183,175	117,898	158,898
"	...	...	£	9,455	11,296	7,954	8,347	9,595
FROZEN PORK.								
Imports ...	...	...	lbs.	154,052	139,363	187,479	110,647	109,620
" ...	...	...	£	4,039	3,717	5,312	3,329	3,301
Exports ...	...	...	lbs.	2,324,016	3,472,224	1,446,758	826,102	394,559
" ...	...	...	£	47,596	60,936	28,406	20,446	9,318
Net Exports	...	...	lbs.	2,669,964	3,332,861	1,259,279	715,455	284,939
"	...	...	£	43,557	57,219	23,094	17,117	6,017
PIGS.								
Imports ...	...	...	No.	64	24	7	39	31
" ...	...	...	£	814	1,269	69	968	1,177
Exports ...	...	...	No.	322	220	185	117	229
" ...	...	...	£	399	263	393	297	460
Net Exports ¹	...	...	No.	258	196	178	78	198
"	...	...	£	415	1,006	314	671	717
LARD.								
Imports ...	...	...	lbs.	45,702	64,561	36,625	313,060	358,213
" ...	...	...	£	924	1,294	980	7,681	9,148
Exports ...	...	...	lbs.	1,064,562	551,268	458,327	511,774	1,618,995
" ...	...	...	£	16,163	8,373	8,554	10,906	28,948
Net Exports	...	...	lbs.	1,018,860	486,707	421,702	198,714	1,260,782
"	...	...	£	15,239	7,079	7,574	3,225	19,800

1. — signifies net imports.

From 1901 to 1903 there was a considerable net import of bacon and ham, but for the following years there was a large net export. The local production of frozen pork and lard was for each of the years shewn more than sufficient for the local demand.

4. Interstate Trade in Pig Products.—The interstate trade in pigs, bacon and ham, frozen pork, lard, etc., in 1909 was as follows:—

INTERSTATE TRADE IN PIG PRODUCTS, 1909.

State.	Imports from other States of the C'wealth.		Exports to other States of the Commonwealth.		Net Interstate Exports. ¹	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
PIGS.						
New South Wales ...	No. 64	£ 198	No. 1,866	£ 3,206	No. 1,802	£ 3,008
Victoria ...	1,852	3,103	67	334	1,785	2,769
Queensland ...	29	189	16	103	13	36
South Australia ...	7	76	32	28	25	48
Western Australia ...	...	...	...	...	...	...
Tasmania ...	34	174	5	19	29	155

BACON AND HAM.

	lbs.	£	lbs.	£	lbs.	£
New South Wales ...	2,662,930	101,745	414,794	14,955	2,248,136	86,790
Victoria ...	149,607	5,674	2,578,095	105,951	2,428,488	100,277
Queensland ...	137,411	5,415	2,557,907	90,910	2,420,496	85,495
South Australia ...	66,309	2,628	561,255	17,877	494,946	15,249
Western Australia ...	2,897,045	107,747	2,403	100	2,894,642	107,647
Tasmania ...	285,042	10,042	83,890	3,458	201,152	6,584

FROZEN PORK.

	lbs.	£	lbs.	£	lbs.	£
New South Wales ...	98,511	2,328	35,094	881	63,417	1,447
Victoria ...	26,496	615	26,455	637	41	22
Queensland ...	1,700	31	72,606	1,699	70,906	1,668
South Australia ...	4,263	130	30	1	4,233	129
Western Australia ...	20,287	499	722	23	19,565	476
Tasmania ...	...	...	16,350	362	16,350	362

LARD AND LARD OIL AND REFINED FATS.

	lbs.	£	lbs.	£	lbs.	£
New South Wales ...	1,168,135	24,460	219,576	4,604	948,559	19,856
Victoria ...	275,200	4,333	565,071	13,795	289,871	9,462
Queensland ...	20,921	423	1,041,987	20,967	1,021,066	20,544
South Australia ...	66,489	1,716	342,569	7,029	276,080	5,313
Western Australia ...	563,898	12,338	2,482	48	561,416	12,290
Tasmania ...	185,878	4,149	108,836	976	77,042	3,173

1. — signifies net imports.

5. **Local Consumption of Bacon and Ham.**—From 1904 to 1909 the production of bacon and ham was sufficient to meet the local demand, and there was a surplus for export, but in 1901, 1902, and 1903 this was otherwise, and considerable quantities were imported.

BACON AND HAM LOCALLY CONSUMED, 1905 to 1909.

Consumption. ¹	1905.	1906.	1907.	1908.	1909.
Total ...	lbs. 39,105,240	lbs. 40,827,122	lbs. 40,536,006	lbs. 39,985,039	lbs. 37,616,069
Per head of mean population ...	10.7	11.0	9.8	9.4	8.7

1. This excludes South Australia in 1905 and 1906, for which no figures of production were available.

The total dairy production of the Commonwealth in 1909 is shown below:—

TOTAL DAIRY PRODUCTION, COMMONWEALTH, 1909.

Where Produced.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
MILK.							
On Dairy & other Farms	gallons. 201,183,337	gallons. 162,994,658	gallons. 70,642,888	gallons. 29,778,032	gallons. 4,893,446	gallons. 11,600,000*	gallons. 481,092,361
BUTTER.							
In Factories ...	lbs. 58,025,559	lbs. 49,554,628	lbs. 22,385,065	lbs. 4,815,322	lbs. †	lbs. 1,226,757	lbs. 136,007,354§
On Dairy & other Farms	4,840,049	5,611,927	2,207,623	3,666,846	414,453†	1,525,000*	18,265,896¶
Total ...	62,865,608	55,166,555	24,592,711	8,482,168	414,453	2,751,757*	154,273,252
CHEESE.							
In Factories ...	lbs. 3,248,515	lbs. 3,167,955	lbs. 3,523,749	lbs. 1,573,275	lbs. ...	lbs. 342,290	lbs. 11,855,754
On Dairy & other Farms	1,526,753	1,837,879	138,748	5,133	1,570	389,000*	3,919,083
Total ...	4,775,268	5,025,834	3,662,497	1,578,378	1,570	731,290*	15,774,837
CONDENSED OR CONCENTRATED MILK.							
In Factories ...	lbs. 2,400,687	lbs. 3,487,312	lbs. 7,038,202	lbs. ...	lbs. ...	lbs. ...	lbs. 12,926,201
BACON AND HAM.							
In Factories ...	lbs. 7,856,466	lbs. 11,245,195	lbs. 8,330,406	lbs. 2,346,681	lbs. ...	lbs. 671,115	lbs. 30,449,863
On Dairy & other Farms	2,074,911	2,375,290	897,911	1,001,369	120,623	855,000*	7,325,104
Total ...	9,931,377	13,620,485	9,228,317	3,348,050	120,623	1,526,115*	37,774,967

* Estimated. † Not available for publication. ‡ Including factory butter. § Exclusive of Western Australia. ¶ Including Western Australian factory butter.

§ 4. Poultry Farming.

1. **Development of the Industry.**—Until recently, poultry farming as a well-organised industry could scarcely be said to exist, although in metropolitan and suburban districts poultry has of course long been kept for the table and egg supplies. The aggregate output, though considerable, represented relatively little value beyond the cost of production, owing to imperfect management. Many farmers also, both wheat-growers and dairymen, have maintained a large poultry stock, erecting poultry yards constructed on modern principles, and feeding from the stubble fields and waste grain with a minimum expenditure in tending. This brought about a considerable addition to the net agricultural or dairying return. The poultry industry during recent years has assumed an independent position among rural industries, notwithstanding that large numbers of poultry runs on wheat and dairy farms are still maintained; poultry farming is also carried on in conjunction with pig farming. In special poultry farms, breeding on scientific principles and a proper arrangement of the runs is secured, feeding and reproduction are technically attended to, and proper shelter is provided either by means of trees or sheds. Poultry experts are engaged by the State Governments to instruct in matters that will amplify the returns. Poultry for consumption is extensively reared, and the egg-producing qualities of the birds have also been greatly improved by careful breeding. Egg collecting circles have been formed in some country districts, to develop, under Government supervision and with Government aid until the organisation is self-supporting, the industry on co-operative lines. A member of the circle is elected to act as

secretary, and he receives all the eggs from the members, tests, packs, and forwards them to the metropolitan depôt for shipment. Only clean and fresh eggs are to be delivered to the secretary under penalty of fine and expulsion from the circle. Another method of collecting and marketing the eggs is through the local butter factories, where eggs are delivered by the suppliers of milk and cream a number of times each week.

2. **Production of Poultry.**—Figures for the yield of poultry products are difficult to obtain. The following values are returned :—

ESTIMATED VALUE OF POULTRY AND EGGS. COMMONWEALTH, 1908-9 and 1909-10.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	C'wealth.
	£	£	£	£	£	£	£
1908-9 ...	1,202,000	1,547,000	*	399,349	133,544	*	3,281,893†
1909-10 ...	1,309,000	1,570,000	185,000	431,575	160,562	*	3,656,137‡

* Not available. † Excluding Queensland and Tasmania. ‡ Excluding Tasmania.

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 in 1909. In 1907 the export considerably exceeded the import, and in 1908 the imports were greater in quantity, but less in value, than the exports. In 1909, the balance, both in number and value, was on the side of exports. The figures for frozen poultry shew that a considerable oversea trade is carried on.

IMPORTS, EXPORTS, AND NET EXPORTS OF EGGS AND LIVE AND FROZEN POULTRY, COMMONWEALTH, 1905 TO 1909.

Particulars.	1905.	1906.	1907.	1908.	1909.
EGGS.					
Imports doz.	84,517	83,925	60,114	31,247	38,981
" £	1,943	2,184	1,791	856	1,007
Exports doz.	23,041	38,090	88,684	17,261	10,527
" £	1,199	1,718	3,421	1,082	713
Net exports ¹ doz.	— 61,476	— 45,835	28,570	— 13,986	— 28,404
" " £	— 744	— 466	1,630	226	— 294
LIVE POULTRY.					
Imports No.	1,417	3,220	2,883	2,372	1,862
" £	1,984	1,747	957	633	944
Exports No.	4,000	2,806	3,280	2,290	4,708
" £	1,863	1,767	1,248	1,043	1,475
Net exports ¹ No.	2,583	— 414	397	— 82	2,846
" " £	— 121	20	291	410	531
FROZEN POULTRY.					
Imports lbs.	22,628	8,949	1,452	2,242	3,565
" £	899	331	43	75	100
Exports pair	46,987	34,655	31,261	22,444	5,828
" £	11,765	9,506	8,556	7,335	3,127
Net exports	10,866	9,175	8,513	7,260	3,027

1. — signifies net imports.

2. Quantity not available.

4. **Interstate Trade in Poultry Products.**—South Australia is the largest supplier to the other States of the Commonwealth of poultry products generally, but Victoria has the largest interstate market for frozen poultry. New South Wales and Western Australia are the chief interstate importers.

INTERSTATE TRADE IN POULTRY AND POULTRY PRODUCTS, 1909.

State.	Imports from other States of the Commonwealth.		Exports to other States of the Commonwealth.		Net Interstate Exports. ¹	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.

LIVE POULTRY.

	No.	£	No.	£	No.	£
New South Wales	40,017	3,634	1,308	798	38,709	2,836
Victoria ...	790	624	825	440	35	184
Queensland ...	834	527	195	133	639	394
South Australia ...	64	75	40,309	3,909	40,245	3,834
Western Australia	665	249	39	65	626	184
Tasmania ...	393	275	87	39	306	236

FROZEN POULTRY.

	lbs.	£	lbs.	£	lbs.	£
New South Wales	16,175	478	4,405	263	11,770	215
Victoria ...	3,818	251	92,510	3,786	88,692	3,535
Queensland ...	...	...	1,902	58	1,902	58
South Australia ...	1,553	40	2,618	92	1,065	52
Western Australia	79,929	3,431	...	...	79,929	3,431
Tasmania ...	...	...	40	1	40	1

EGGS.

	Dozen.	£	Dozen.	£	Dozen.	£
New South Wales	1,012,840	43,563	20,364	905	992,476	42,658
Victoria ...	649,951	27,447	31,399	1,700	618,552	25,747
Queensland ...	34	6	176,160	6,671	176,126	6,665
South Australia ...	1,332	112	2,394,397	110,414	2,393,065	110,302
Western Australia	933,919	47,311	...	...	933,919	47,311
Tasmania ...	27,859	1,390	3,615	139	24,244	1,251

1. — signifies net imports.

§ 5. Bee Farming.

1. **The Bee-farming Industry.**—Bee farming, like poultry farming, has ordinarily been an adjunct to agricultural or dairying industries, and can hardly yet be said to have been organised as a distinct industry. The returns collected shew that, while production varies greatly, there is on the whole a fair improvement, to which the large increase in the Western Australian product since 1902 has considerably contributed. The annual average returns of honey from the hives range between 20 lbs. and 600 lbs. per hive.

The value of the export of honey from Australia was only £1541 in 1907, £3361 in 1908, and £2675 in 1909. It is believed that this export could be considerably increased. Australian honey exhibited in the Franco-British Exhibition in London in 1908, obtained

the highest award. It has been proved that there is no eucalyptus flavour in Australian honey, and the prejudice against it on that account is ill-founded.

2. *Production of Honey and Beeswax.*—The particulars of honey production, available up to 1907 for only three States, are as given below :—

NUMBER OF HIVES AND PRODUCTION OF HONEY AND BEESWAX, 1905 to 1907.

Particulars.					1905.	1906.	1907.
New South Wales	...	...	Hives	No.	64,730	48,632	...
"	"	...	Honey	lbs.	3,023,468	1,841,236	1,907,744
"	"	...	Beeswax	lbs.	58,610	39,620	34,690
Victoria	...	...	Hives	No.	49,120	41,780	48,005
"	...	...	Honey	lbs.	1,906,188	1,209,144	2,965,299
"	...	...	Beeswax	lbs.	28,653	21,844	46,780
Western Australia	...	...	Hives	No.	12,837	12,825	...
"	"	...	Honey	lbs.	287,498	555,079	382,584
"	"	...	Beeswax	lbs.	6,211	9,303	8,302

The figures for the years ended 31st March, 1908, 1909, and 1910 for all States except Tasmania, where the information was not collected, are as follows :—

HIVES, etc., 1908, 1909 and 1910.

State.	Bee Hives.			Honey Produced.		Beeswax Produced	
	Productive	Un-productive.	Total.	Quantity.	Value.	Quantity.	Value.
1908.	No.	No.	No.	lbs.	£	lbs.	£
New South Wales	53,240	15,148	68,388	2,660,363	27,700	48,427	2,700
Victoria	27,505	15,707	43,212	1,138,992	13,050	24,521	1,330
Queensland	10,366	3,956	14,322	442,827	3,993	8,554	402
South Australia	18,529	5,101	23,630	953,395	8,938	12,854	696
Western Australia	9,881	2,140	12,021	255,489	3,726	6,454	565
Commonwealth*	119,521	42,052	161,573	5,451,066	57,407	100,810	5,693
1909.							
New South Wales	53,602	16,344	69,946	3,064,526	31,920	58,697	3,420
Victoria	†	†	40,595	2,373,628	26,544	38,674	1,934
Queensland	10,999	3,283	14,282	445,432	4,119	9,707	492
South Australia	19,549	4,471	24,020	1,007,717	10,497	12,063	603
Western Australia	13,928	2,631	16,559	309,109	3,122	6,217	466
Commonwealth*	†	†	165,402	7,200,412	76,202	125,358	6,915
1910.							
New South Wales	46,813	17,986	64,799	2,066,330	25,800	53,006	3,100
Victoria	32,914	9,718	42,632	1,611,284	18,463	22,369	1,305
Queensland	11,322	3,135	14,457	548,171	5,224	11,849	605
South Australia	17,551	6,450	24,001	812,487	8,463	10,059	503
Western Australia	10,902	2,837	13,739	409,345	4,264	9,841	574
Commonwealth*	119,502	40,126	159,628	5,447,617	62,214	107,124	6,087

* Exclusive of Tasmania.

† Not available.

3. **Oversea Trade in Bee Products.**—Both honey and beeswax are produced in the Commonwealth in sufficient quantities to supply all local requirements, and a considerable quantity of each is sent oversea.

**IMPORTS, EXPORTS, AND NET EXPORTS OF HONEY AND BEESWAX,
COMMONWEALTH, 1905 TO 1909.**

Particulars.	1905	1906.	1907	1908.	1909.
HONEY.					
Imports lbs.	12,086	2,618	2,716	9,315	9,842
" " " " " £	138	27	35	98	249
Exports lbs.	112,039	58,297	102,047	226,465	168,953
" " " " " £	1,333	1,001	1,541	3,361	2,675
Net exports lbs.	100,003	55,679	99,331	217,150	159,111
" " " " " £	1,195	974	1,506	3,263	2,426
BEESWAX.					
Imports lbs.	9,767	13,725	14,070	7,527	19,041
" " " " " £	593	787	978	460	1,112
Exports lbs.	86,720	30,570	27,086	41,177	35,540
" " " " " £	4,863	1,768	1,618	2,479	2,064
Net exports lbs.	76,953	16,845	13,016	33,650	16,499
" " " " " £	4,270	981	640	2,019	952

4. **Interstate Trade in Bee Products.**—The interstate trade in honey and beeswax in 1909 is given below:—

INTERSTATE TRADE IN BEE PRODUCTS, 1909.

State.	Imports from other States of the C ^w wealth.		Exports to other States of the Commonwealth.		Net Interstate Exports. ¹	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
HONEY.						
New South Wales ...	lbs. 175,380	£ 2,179	lbs. 21,089	£ 283	lbs. 154,291	£ 1,896
Victoria	57,060	748	244,657	4,492	187,597	3,744
Queensland	40,371	812	16,434	213	23,937	599
South Australia ...	4,222	62	202,069	2,619	197,847	2,557
Western Australia ...	115,190	2,265	9,701	106	105,489	2,159
Tasmania	101,947	1,650	220	3	101,727	1,647
BEESWAX.						
New South Wales ...	lbs. 4,250	£ 264	lbs. 5,574	£ 272	lbs. 1,324	£ 8
Victoria	6,104	286	2,932	205	3,172	81
Queensland	262	24	604	29	342	5
South Australia ...	66	3	1,326	106	1,760	103
Western Australia ...	334	21	...	...	334	21
Tasmania	218	19	298	5	80	14

1. — signifies net imports.

§ 6. Summary of Australian Farmyard and Dairy Products Exported, 1905 to 1909.

The quantities and values of Australian farmyard and dairy products exported from the Commonwealth during each of the years 1905 to 1909 are shown below:—

QUANTITIES OF AUSTRALIAN FARMYARD AND DAIRY PRODUCTS EXPORTED FROM THE COMMONWEALTH DURING EACH OF THE YEARS 1905 to 1909.

Products.	1905.	1906.	1907.	1908.	1909.
Beeswax lbs.	85,541	30,471	27,058	41,177	35,540
Butter "	55,904,151	75,765,536	66,076,915	51,193,311	55,644,925
Cheese "	172,696	246,631	491,209	131,001	193,204
Eggs, albumen and yolk "	*	*	*	*	*
Eggs doz.	21,293	37,900	88,615	17,113	10,359
Feathers, undressed "	*	*	*	*	*
Honey lbs.	112,039	58,297	102,047	226,465	168,953
Lard "	1,062,966	550,021	458,059	511,016	1,617,442
Meats—					
Bacon and ham "	484,616	530,459	415,251	389,718	396,342
Frozen poultry pair	45,757	33,833	31,261	22,444	5,828
" pork lbs.	2,824,016	3,472,224	1,446,758	826,102	394,559
Milk, concentrated and preserved "	310,797	171,639	162,367	139,165	169,310
Pigs, living No.	322	220	185	117	229
Poultry, living "	3,993	2,806	3,250	2,290	4,708

* Quantity not available.

VALUE OF AUSTRALIAN FARMYARD AND DAIRY PRODUCTS EXPORTED FROM THE COMMONWEALTH DURING EACH OF THE YEARS 1905 to 1909.

Products.	1905.	1906.	1907.	1908.	1909.
	£	£	£	£	£
Beeswax "	4,791	1,761	1,617	2,479	2,064
Butter "	2,331,595	3,238,304	2,890,261	2,386,548	2,399,693
Cheese "	4,703	6,662	12,733	4,305	5,337
Eggs, albumen and yolk "	*	*	*	535	4
Eggs "	1,138	1,710	3,419	1,074	706
Feathers, undressed "	3,332	1,002	2,610	2,636	2,244
Honey "	1,333	1,001	1,541	3,361	2,675
Lard "	16,120	8,346	8,547	10,884	28,876
Meats—					
Bacon and ham "	14,943	18,374	17,348	18,258	18,682
Frozen poultry "	11,515	9,291	8,556	7,335	3,127
" pork "	47,596	60,936	28,406	20,446	9,318
Milk, concentrated and preserved "	5,296	3,386	2,924	3,139	3,319
Pigs, living "	399	263	383	297	460
Poultry, living "	1,851	1,767	1,248	1,043	1,475
Total "	2,444,612	3,352,803	2,979,593	2,462,340	2,477,980

§ 7. British Imports of Dairy Products.

1. Value of Britain's Imports of Dairy Products.—Great Britain pays annually considerably more than £22,000,000 for imported butter; £7,000,000 for imported cheese; £17,000,000 for bacon and ham; and £1,000,000 for pork.

2. Butter.—Australia in 1909 stood fourth in the 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, 1909.

Country from which Imported.	Quantity.	Value.	Country from which Imported.	Quantity.	Value.
	Cwt.	£		Cwt.	£
Denmark ...	1,764,027	10,233,370	Argentine Republic	73,553	392,014
Russia ...	601,712	3,001,764	Norway...	29,476	163,866
France ...	413,306	2,318,887	Canada ...	22,522	120,083
Australia ...	396,986	2,007,677	Other Countries ...	21,940	116,825
Sweden ...	312,142	1,801,095			
New Zealand ...	278,581	1,472,219			
Netherlands ...	148,567	797,162	Total ...	4,062,812	22,424,962

In October, 1907, a falling-off of imports of Australian butter into Great Britain was noticed, with the result that, three months later, there was a heavy shortage, and a "butter boom" ensued in London, prices rising rapidly, until a limit was reached with 156s. per cwt., the highest recorded for Australasian butter. After a short period of high values in February, 1908, prices steadied at 116s., and then gradually fell to 104s. in the middle of May, when European grass-fed butter was ready for the British market. Prices in London in 1909 were of higher average than in any previous year since the Australian export trade was instituted twenty years ago.

3. **Cheese.**—The value of the British cheese import in 1909 was £6,800,000, of which four and a-half million pounds worth was received from Canada. The import from Australia was practically *nil*. Small experimental shipments were, however, made in 1908 and 1909, and a fair price was realised.

4. **Bacon and Ham.**—Of a total import of bacon and ham valued in 1909 at £16,914,600, Great Britain received goods to the value of £9,010,000 from the United States; £5,802,000 from Denmark; and £1,518,000 from Canada. The British import from Australia was *nil*.

5. **Pork.**—The total value of British imports of fresh pork (including refrigerated and frozen) was £1,023,000 in 1909. Of this the value of Australian products was *nil*, whilst from the Netherlands pork valued at nearly £1,000,000 was imported.

6. **Other Products.**—There is practically no British import from Australia of honey, beeswax, poultry, game, lard, or eggs, but rabbits to the value of £506,000 were received from the Commonwealth in 1909.

§ 8. Graphical Representation of Dairy Production.

Two graphs shewing respectively the increase in dairy production and in the exports of butter will be found on page 360.