

CHAPTER XXI.

FARMYARD, DAIRY AND BEE PRODUCTS.

§ 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 crossings of strains have 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 wider application of scientific methods in the treatment of animals and pasturages and in the processes of manufacture, coupled with herd testing and effective State supervision, the dairying industry has shown rapid expansion. An investigation into the problems of the dairying industry was instituted by the Commonwealth Government in 1929, and the first report, which relates to farm production, was completed in 1930. It was proposed to issue additional reports, but the investigation was discontinued. Investigation by the British Medical Research Council into the vitamin content of Australian, New Zealand and British butter respectively showed high and uniform results for the Australian product, the figures being on a par with those for the United Kingdom and other European countries. It was demonstrated also that Australian production and marketing methods do not adversely affect the vitamin content of the butter and that the loss during cold storage even for as long as two years is insignificant.

2. **Official Supervision of Industry.**—Dairy experts 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 *materiel*, prevails. Financial assistance of a temporary nature is also given.

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 state 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 given a certificate by the inspector.

3. **Stabilization Scheme.**—(i) *Voluntary Plan.* During the period from January, 1926 to May, 1934, a voluntary scheme known as the "Paterson Plan" was in operation, and had the effect of stabilizing the price of butter in Australia. The scheme provided for the payment of a levy on all butter produced in Australia sufficient to pay a bounty on export which ranged from 3d. to 4½d. per lb. The local price was raised by the amount of the bounty per unit while the return to the producer on all butter produced was increased by approximately the difference between the rate of bounty paid and the rate of levy charged.

The scheme, however, did not receive the full support of all manufacturers of butter and was superseded by a system of compulsory control of sales.

(ii) *Compulsory Plan.* Legislation known as the Dairy Produce Act was passed by the Commonwealth Parliament towards the end of 1933, and at the same time complementary legislation was passed by the States of New South Wales, Victoria, Queensland and Tasmania. In the latter State, however, as a result of a referendum among producers held in 1936, Tasmania withdrew from the plan and the State Act expired. In the Commonwealth Act power was given to regulate interstate trade whilst the State Acts were designed to regulate trade within the respective States. The authority set up by each State Act fixed the proportion of the State's production to be sold within the State, whilst the Commonwealth Act protected this allocation by regulating the movement of butter and cheese from one State to another and so ensured the removal from the Australian market of the surplus production.

The compulsory plan was invalidated by the decision of the Privy Council which declared in the James (Dried Fruits) Case that no power existed in the Commonwealth Constitution to regulate trade between the States; the marketing of dairy produce is now being continued on a voluntary basis.

4. *Mixed Farming.*—Dairying is not now, as formerly, wholly confined to agriculturists, 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. The extent to which dairy cows and pigs are run in conjunction with the growing of wheat is referred to in Chapter XX.—Agriculture.

5. *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, etc., may be profitably worked at the larger establishments. The product is also of a more uniform quality and the number of farmers who prefer to convert the cream rather than send it to the factory 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.

6. *Butter and Cheese Factories.*—The factories in Australia for the manufacture of butter, cheese and condensed milk numbered 517 in 1935-36 as compared with 563 in 1927-28. The factories were distributed among the States as follows:—New South Wales, 130; Victoria, 176; Queensland, 98; South Australia, 42; Western Australia, 24; and Tasmania, 47. Fuller details regarding numbers of factories, output, etc., are given in Chapter XXIV.

7. *Ottawa Conference.*—The agreement reached at the Imperial Economic Conference at Ottawa in August, 1932, has materially assisted the dairying, bee and poultry industries. Under its terms free entry into the United Kingdom of eggs, poultry, butter, cheese and other milk products of Australian origin was allowed for the three years to 15th November, 1935, and thereafter pending further arrangements, while similar goods imported from foreign countries were subjected to customs duties. The rates imposed on the undermentioned items were as follows:—butter, 15s. per cwt.; cheese, 15 per cent. *ad valorem*; eggs in shell, 1s. 6d. to 1s. 9d. per great hundred; honey, 7s. per cwt.; milk powder, unsweetened, 6s. per cwt.; and condensed milk, 5s. and 6s. per cwt. The review of these preferences is reserved to the Government of the United Kingdom. The Agreement at the Ottawa Conference regarding the regulation of imports of bacon has been superseded by the introduction of a Bacon Marketing Scheme by the British Government. Under this scheme foreign supplies are adjusted according to the quantities furnished by British and Dominion producers. Details of imports into the United Kingdom are given in § 9 hereafter.

8. **Employment.**—The number of persons employed in the dairying industry is ascertained at the annual census of dairy production. The particulars collected are in respect of those persons who are permanently engaged in the actual work of the farm and include owner, occupier or manager, members of the family and other permanent employes. Casual hands are excluded; so are females whose duties are mainly domestic although they may assist in the outdoor work of the farm. In the earlier years, however, these females were in many cases included as farm workers.

EMPLOYMENT IN DAIRYING INDUSTRY.

Year and Sex.		N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
		No.	No.	No.	No.	No.	No.	No.
1915-16	Males	21,979	18,450	12,474	1,284	521	1,033	55,741
	Females	15,404	13,249	11,336	8,342	434	2,056	50,821
1925-26	Males	30,351	31,934	21,583	2,084	1,840	2,242	89,734
	Females	15,027	14,391	15,016	2,848	546	2,008	49,836
1931-32	Males	36,601	40,630	27,349	3,220	3,838	3,565	115,203
	Females	7,923	8,407	18,123	2,398	1,123	1,163	39,137
1932-33	Males	38,196	40,895	28,602	3,531	4,437	3,830	119,491
	Females	7,788	10,433	18,587	2,602	1,296	1,576	42,282
1933-34	Males	38,358	41,433	29,808	4,087	5,142	3,542	122,370
	Females	7,246	8,466	19,539	2,987	1,305	2,125	41,668
1934-35	Males	38,231	41,833	32,132	4,339	5,089	3,138	124,762
	Females	6,823	8,531	20,493	3,244	1,189	1,916	42,196
1935-36	Males	38,150	42,072	31,457	4,500	5,165	3,539	125,183
	Females	6,481	7,790	21,080	2,756	1,249	2,462	41,818

The employment of males shown in the above table gives some indication of the expansion of the dairying industry since 1915-16. This is further exemplified in the following table:—

DAIRYING INDUSTRY—AUSTRALIA.

Year.	Number of Dairy Cows.	Production of Butter.	Value of Machinery employed on Dairy Farms.	Number of Males employed.
	No.	lb.	£	No.
1915-16	1,684,393	137,672,313	1,024,000	55,741
1925-26	2,382,002	273,313,685	2,470,000	89,734
1935-36	3,437,224	433,722,475	4,265,000	125,183

§ 2. Dairy Cattle and Dairy Products.

1. **Dairy Herds.**—The dairy herds of Australia were severely depleted during the drought of 1914-15, when the number was reduced to 1,684,393. Following that year there has been a steady expansion in the number of dairy cattle until in 1935 there were 3.4 million, the number having doubled in the course of two decades. In New South Wales, Victoria, South Australia and Tasmania 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, the main object in these areas being the production of beef. Dairying, however, has developed greatly in Southern Queensland since 1914-15, and the largest contribution to the Australian increase previously mentioned has been made by this State. The number of dairy cows shown in the following table includes heifers intended for milking and being within three months of calving. These heifers, however, are not collected in Tasmania, but in the other States they numbered 145,176.

CATTLE AND DAIRY CATTLE.—NUMBER.

State.		1931.	1932.	1933.	1934.	1935.
New South Wales	All Cattle ..	2,993,586	3,141,174	3,351,771	3,482,831	3,388,538
	Dairy Cows ..	1,020,947	1,068,605	1,097,842	1,112,861	1,091,562
Victoria	All Cattle ..	1,637,530	1,900,922	2,002,235	2,085,080	2,091,216
	Dairy Cows ..	775,538	887,996	910,187	951,849	987,676
Queensland	All Cattle ..	5,550,399	5,535,065	5,731,170	6,052,641	6,033,004
	Dairy Cows ..	775,301	792,943	877,409	939,254	955,746
South Australia	All Cattle ..	265,324	312,942	352,728	345,479	335,351
	Dairy Cows ..	127,756	140,172	163,875	170,250	173,706
Western Australia	All Cattle ..	826,532	857,473	885,669	911,940	882,761
	Dairy Cows ..	99,287	114,022	121,818	120,375	130,132
Tasmania	All Cattle ..	232,444	250,807	262,256	261,588	270,035
	Dairy Cows ..	81,800	87,854	94,375	91,223	97,350
Northern Territory	All Cattle ..	749,745	780,121	859,867	899,679	900,535
	Dairy Cows ..	(a)	(a)	(a)	(a)	(a)
Federal Capital Territory	All Cattle ..	5,395	4,643	6,790	8,433	10,186
	Dairy Cows ..	643	411	426	1,019	1,052
Australia	All Cattle ..	12,260,955	12,783,137	13,512,486	14,048,671	13,911,659
	Dairy Cows ..	2,881,272	3,101,003	3,265,932	3,396,331	3,437,224

(a) Not available.

2. Milk.—The annual quantity of milk produced per dairy cow varies greatly with breed, locality and season, reaching as high as 1,000 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. In recent years not only has there been an improvement in the quality of the cattle, but the application of scientific methods is being continually extended, and the 300 gallon average has been exceeded in each year since 1924, the yield of 302 gallons in 1931 constituting a record. The average annual yields per cow given in the following table for the last five years are based on the number of dairy cows which were in milk during any part of the year. The average given is, therefore, below that for cows which were yielding during the greater part of the year. It should be noted that there are many difficulties attending the collection of the total quantity of milk obtained during any year. In addition, there is the further difficulty of ascertaining with any degree of accuracy the average number of cows in milk during the same period. The average yield per cow shown hereunder may be accepted as sufficiently reliable to show the general trend:—

MILK PRODUCTION.

Heading.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia. (b)
1931-32—								
Dairy Cows (a) .. No.	935,438	722,335	718,677	107,075	87,275	79,312	614	2,650,726
Production 1,000 gals.	332,293	362,868	231,688	50,001	29,890	31,306	280	1,038,326
Aver. per cow .. gal.	355	502	322	466	342	395	456	392
1932-33—								
Dairy Cows (a) .. No.	992,343	831,767	751,938	122,710	100,755	84,827	460	2,884,800
Production 1,000 gals.	320,659	396,716	237,130	58,499	33,634	33,847	255	1,080,740
Aver. per cow .. gal.	323	477	315	477	334	399	554	375
1933-34—								
Dairy Cows (a) .. No.	1,028,874	878,972	799,537	139,482	112,005	91,115	400	3,050,385
Production 1,000 gals.	368,691	368,806	289,065	54,400	34,904	29,160	277	1,145,303
Aver. per cow .. gal.	358	420	362	390	312	320	693	375
1934-35—								
Dairy Cows (a) .. No.	1,052,644	887,841	870,637	150,745	120,045	92,799	683	3,175,391
Production 1,000 gals.	357,459	403,039	302,173	53,359	36,758	31,840	297	1,184,925
Aver. per cow .. gal.	340	454	347	354	306	343	435	373
1935-36—								
Dairy Cows (a) .. No.	1,055,539	925,295	910,760	156,122	123,932	94,286	988	3,266,922
Production 1,000 gals.	345,346	399,742	261,266	59,042	38,138	33,737	272	1,137,543
Aver. per cow .. gal.	327	432	287	378	308	358	275	348

(a) Mean for the year.

(b) Exclusive of Northern Territory.

3. Butter and Cheese.—Although the quantity of dairy production is affected by the nature of the season, the large increase in the output of butter has been maintained in recent years despite the unfavourableness of some seasons. The average annual production rose from 263,000,000 lb. for the quinquennium 1921-1925 to 433,000,000 lb. for the latest five years. The largest production of butter in Australia was recorded

in 1934-35, when, as a result of a specially favourable season, 469,000,000 lb. were manufactured. In 1935-36 seasonal conditions reduced the yield to 433,700,000 lb. and indications point to a further reduction to 393,000,000 lb. in 1936-37.

The total output of cheese is likewise dependent upon seasonal conditions. The production in 1935-36 was 38,600,000 lb. compared with the maximum output of 39,975,000 lb. in 1934-35.

The development in dairy production since 1896, and in the exports of butter from 1901 onwards, is shown in the graphs on pages 652 and 653. The production of butter and cheese for the last five years was as follows:—

BUTTER AND CHEESE PRODUCTION.

State.	1931-32.	1932-33.	1933-34	1934-35.	1935-36.
BUTTER.					
	lb.	lb.	lb.	lb.	lb.
New South Wales	123,252,722	128,210,092	147,963,411	145,277,595	125,169,296
Victoria	132,131,812	144,564,666	134,942,177	147,651,179	148,132,507
Queensland	98,013,043	103,032,474	127,343,160	133,621,597	115,920,415
South Australia	17,663,029	21,310,006	19,755,685	18,513,229	20,964,395
Western Australia	10,109,798	11,469,661	11,911,912	13,308,003	12,908,745
Tasmania	9,462,866	11,071,631	9,003,800	10,689,043	10,613,358
Federal Capital Territory	20,803	16,273	16,283	15,086	13,849
Australia	390,654,070	410,674,803	450,936,428	469,078,732	433,722,475
CHEESE.					
	lb.	lb.	lb.	lb.	lb.
New South Wales	6,593,357	7,193,806	9,072,508	8,415,468	7,350,203
Victoria	7,723,328	9,180,018	8,363,233	10,095,139	10,973,804
Queensland	11,021,963	13,083,959	13,887,320	12,192,385	9,149,283
South Australia	5,096,731	6,003,170	5,316,971	6,640,661	8,103,663
Western Australia	909	138,051	285,461	643,571	805,452
Tasmania	989,685	1,235,302	1,551,000	1,918,963	2,150,281
Australia	31,422,973	36,933,306	38,476,493	39,975,185	38,598,716

4. **Condensed or Concentrated Milk.**—The manufacture of this product is of comparatively recent growth, the quantity of milk treated in 1901 being negligible, but production increased annually until in 1911 the output reached 23 million lb., nearly doubling that of the previous year. Thenceforward rapid progress was made, the greatest development taking place in Victoria. The output of condensed, concentrated and powdered milk in this State amounted in 1931-32 to 41,409,540 lb.; in 1932-33 to 44,186,979 lb.; in 1933-34 to 41,899,267 lb.; in 1934-35 to 51,390,856 lb. and in 1935-36 to 38,598,154 lb. Production in New South Wales during 1935-36 was 5,528,911 lb. No condensed or concentrated milk is made in Tasmania. Information regarding production in the remaining States is not available for publication, but the volume is not very large. Imports of milk into Australia consist almost entirely of malted or otherwise medicated milk.

5. **Oversea Trade in Butter, Cheese and Milk.**—The following tables give the imports exports and net exports of butter, cheese and condensed milk. In each of the five years dealt with the exports of these commodities exceeded the imports:—

BUTTER, CHEESE AND MILK, IMPORTS AND EXPORTS.—AUSTRALIA.

Australian Currency Values.

Products.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.
IMPORTS.					
Butter	£ 2,359	2,471	2,096	3,826	2,658
"	150	199	113	309	167
Cheese	86,892	58,453	74,791	88,511	130,749
"	8,205	5,283	5,949	7,052	10,225
Milk—concentrated and preserved	£ 312,730	260,311	60,289	12,861	116,343
"	12,016	9,408	2,342	912	3,565

BUTTER, CHEESE AND MILK, IMPORTS AND EXPORTS.—AUSTRALIA—contd.

Products.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.
EXPORTS.					
Butter	lb. 226,329,334	244,299,732	262,518,906	212,646,177	174,309,146
	£ 9,264,665	8,194,220	9,586,776	9,028,243	7,716,473
Cheese	lb. 11,799,265	9,314,529	16,829,780	12,972,627	13,924,572
	£ 320,084	229,388	404,024	337,467	384,027
Milk—concentrated and preserved	lb 24,452,610	19,773,041	16,593,664	16,961,023	22,219,935
	£ 927,558	739,031	711,242	722,301	850,231
NET EXPORTS.					
Butter	lb. 226,326,975	244,297,261	262,516,810	212,642,351	174,306,468
	£ 9,264,515	8,194,021	9,586,663	9,027,934	7,716,306
Cheese	lb. 11,712,373	9,256,070	16,754,989	12,881,116	13,793,823
	£ 317,879	224,105	398,075	330,415	373,802
Milk—concentrated and preserved	lb. 24,139,880	19,512,730	16,533,375	16,948,162	22,103,592
	£ 915,542	729,623	708,900	721,359	846,666

6. Local Consumption of Butter and Cheese.—The local production of butter and cheese, with the subtraction therefrom or the addition thereto of the net export or import for the corresponding period, represents approximately the quantity available for consumption in Australia. The figures for the five years ended 1935-36 are as follows:—

BUTTER AND CHEESE.—LOCAL CONSUMPTION.

Products.	1931-32.	1932-33.	1933-34.	1934-35.	1935-36.
	lb.	lb.	lb.	lb.	lb.
Butter .. Total .. .	189,016,191	193,347,828	206,639,167	206,561,922	221,080,124
.. Per head of population ..	28.96	29.27	31.05	30.82	32.75
Cheese .. Total .. .	24,168,941	25,220,933	29,220,417	23,220,196	25,714,600
.. Per head of population ..	3.70	3.82	4.39	3.46	3.81

Consumption in 1935-36 averaged 32.75 lb. of butter and 3.81 lb. of cheese per head of population. The consumption of butter in the United Kingdom, Canada and New Zealand is given at 24.8 lb., 31.4 lb., and 40.0 lb. per head per annum respectively, while that of cheese amounted to 8.8 lb., 3.4 lb., and 5.5 lb. respectively.

§ 3. Pigs and Pig Products.

1. Pigs.—The number of pigs in Australia has varied considerably since the commencement of the present century. In 1904 the total amounted to 1,062,703, but after a period of fluctuations it declined to 695,968 in 1919. In 1921 the number increased to 960,000 and from that year it remained fairly constant up to 1928. Since that year more than 1,000,000 pigs have been recorded annually in Australia, with the maximum figure of 1,293,964 in 1935. The distribution of pigs among the States and Territories in the latter year was—New South Wales, 436,944; Victoria, 314,301; Queensland, 304,588; South Australia, 93,458; Western Australia, 98,026; Tasmania, 45,163; Northern Territory, 555; Federal Capital Territory, 629. Total, 1,293,964. The figures for New South Wales, Victoria and the Federal Capital Territory represent the number as on the 31st March, 1936.

A more accurate index of the development of pig raising in Australia is provided in the following table which combines the number of slaughterings with the numbers returned each year from 1926. The table discloses substantial increases in the number of pigs raised over the period under review:—

NUMBER OF PIGS AND NUMBER SLAUGHTERED.—AUSTRALIA.

Year.	Number of Pigs.	Number Slaughtered.	Year.	Number of Pigs.	Number Slaughtered.
1926	989,009	1,395,563	1931	1,167,845	1,510,635
1927	878,207	1,302,402	1932	1,162,407	1,585,133
1928	910,181	1,300,388	1933	1,046,867	1,636,974
1929	1,018,324	1,337,001	1934	1,158,274	1,763,332
1930	1,071,679	1,469,718	1935	1,293,964	1,983,745

2. **Bacon and Ham.**—The highest production of bacon and ham was reached in 1935-36 with an output of 77,655,178 compared with 72,000,000 lb., the average for the last five years. The production in the several States in 1935-36 was as follows:—New South Wales, 22,057,458 lb.; Victoria, 18,165,168 lb.; Queensland, 23,198,346 lb.; South Australia, 6,783,216 lb.; Western Australia, 5,465,098 lb.; Tasmania, 1,984,722 lb.; Federal Capital Territory, 1,170 lb.; Total, 77,655,178 lb. Practically the whole of the bacon and ham produced is consumed locally. On the experience of the last five years the local consumption was about 70,000,000 lb. per year, or 10.5 lb. per unit of population. The bacon and ham exported from Australia is consigned chiefly to the Pacific Islands and the East.

3. **Pork Consumption.**—Particulars available regarding the consumption of pork (excluding bacon and ham) give an average for Australia of 8.95 lb. per head of population. Including bacon and ham, the average consumption amounted to 20.25 lb. compared with 17 lb. in New Zealand, 67.75 lb. in Canada, and 68 lb. in the United States of America.

4. **Oversea Trade in Pig Products.**—The oversea trade in pigs and pig products for the last five years is shown in the following table:—

PIG PRODUCTS.—OVERSEA TRADE, AUSTRALIA.

Australian Currency Values.

Particulars.		1932-33.	1933-34.	1934-35.	1935-36.	1936-37.
Pigs.						
Imports	No.	6	12	11	39	10
"	£	242	291	257	2,124	413
Exports	No.	28	201	239	131	164
"	£	192	809	799	798	607
Net Exports	No.	22	189	228	92	154
"	£	-50	518	542	-1,416	194
BACON AND HAM.						
Imports	lb.	7,135	11,014	11,712	5,168	2,760
"	£	468	803	774	313	209
Exports	lb.	1,598,106	1,664,501	1,562,498	1,701,575	1,736,118
"	£	95,128	96,579	98,825	109,760	112,680
Net Exports	lb.	1,590,971	1,653,487	1,550,786	1,696,407	1,733,358
"	£	94,660	95,776	98,051	109,447	112,471
LARD.						
Imports	lb.	24,644	17,973	25,718	6,963	29,644
"	£	694	481	493	301	941
Exports	lb.	1,620,590	1,483,680	2,523,749	2,792,008	4,049,826
"	£	27,385	25,969	41,758	53,603	69,382
Net Exports	lb.	1,595,946	1,465,707	2,498,031	2,785,045	4,020,182
"	£	26,691	25,488	41,265	53,302	68,441
FROZEN PORK.						
Imports	lb.	180	..	150,032	85,942	7,746
"	£	10	..	6,703	3,513	210
Exports	lb.	6,703,234	8,663,864	15,636,132	23,577,743	26,716,453
"	£	154,163	210,793	401,306	587,410	687,043
Net Exports	lb.	6,703,054	8,663,864	15,486,100	23,491,801	26,708,707
"	£	154,153	210,793	394,603	583,897	686,833

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

Hitherto the output of pig products in Australia was usually sufficient to meet local requirements and provide a small surplus for export. During the five years ended 1935-36, however, overseas exports of frozen pork showed a remarkable increase averaging

12.3 million lb. as compared with an average of 373,000 lb. for the five years ended 1930-31. The chief pig product consumed in the United Kingdom is bacon and ham, the imports of which during 1936 amounted to 7.2 million cwt., valued at £30,300,000, the supplies being obtained chiefly from Denmark.

The agreement at the Ottawa Conference regarding the regulation of supplies from foreign countries and the Dominions has been superseded by the institution of a Bacon Marketing Scheme by the British Government. The scheme aims at creating a regular market for home producers of bacon pigs and necessitates adjustment of foreign supplies to conform with British bacon factories' requirements after estimated home and Dominion production is provided for. The estimated share of Australian production in this market was allocated at 8 million lb. in 1935, 14½ million lb. in 1936, and 22 million lb. in 1937, figures which indicate a steady expansion of this trade in bacon pigs.

§ 4. Total Dairy Production.

The total dairy production for each State in 1935-36 is shown below :—

PRINCIPAL DAIRY PRODUCTION.—1935-36.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Fed. Cap. Ter.	Total.
MILK.								
Used for—	gallons.	gallons.	gallons.	gallons.	gallons.	gallons.	gallons.	gallons.
Butter ..	269,432,176	320,579,016	236,159,826	42,494,389	28,162,604	25,952,034	51,648	922,831,693
Cheese ..	7,571,601	11,152,655	9,005,847	7,736,750	812,637	2,171,454	..	38,450,944
Condensing and concentrating	..	..	..	..	..	..	..	..
Other purposes ..	8,052,761	10,522,736	..	..	..	..	..	18,575,497
Total ..	345,346,254	399,742,201	261,266,206	59,042,060	38,138,058	33,736,767	271,671	1,137,543,217
BUTTER.								
In factories	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.
On Dairy and other Farms ..	119,123,337	143,161,374	112,499,567	17,017,490	10,967,662	8,016,634	..	410,786,064
Total ..	6,045,959	4,971,133	3,420,848	3,946,815	1,941,083	2,596,724	13,849	22,936,411
Total ..	125,169,296	148,132,507	115,920,415	20,964,305	12,908,745	10,613,358	13,849	433,722,475
CHEESE.								
In Factories	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.
On Dairy and other Farms ..	7,060,100	10,798,199	9,149,113	8,103,243	863,289	2,109,551	..	38,083,495
Total ..	296,103	175,605	170	420	2,193	40,730	..	515,221
Total ..	7,356,203	10,973,804	9,149,283	8,103,663	865,482	2,150,281	..	38,598,716
CONDENSED, CONCENTRATED, OR POWDERED MILK.								
In Factories	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.
Total ..	9,528,911	38,598,154	(a)	(a)	(a)	..	..	(b)52,114,854

(a) Figures not available for publication. milk used for condensing and concentrating.

(b) Including States marked (a).

(c) Includes

PRINCIPAL DAIRY PRODUCTION, 1935-36—*continued.*

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Fed. Cap. Ter.	Total.
BACON AND HAM.								
In Factories On Dairy and other Farms	lb. 21,155,600	lb. 17,099,550	lb. 23,017,074	lb. 6,274,041	lb. 5,315,841	lb. 1,416,643	lb. ..	lb. 74,278,818
	901,780	1,065,618	181,272	500,175	149,257	568,079	1,170	3,376,360
Total	22,057,458	18,165,168	23,198,346	6,783,216	5,465,098	1,984,722	1,170	77,655,178

Particulars in regard to the production of other milk products are not available for all the States, but casein amounting to 3,730,978 lb., valued at £69,745, was manufactured in Victoria during 1935-36.

§ 5. Value of Dairy Production.

The values of dairy production on a gross, local and net basis are shown in the following table. The presentation of these values has become possible by the adoption in the several States of uniform principles in determining production and marketing costs. Production values for this and other industries are dealt with more fully in Chapter XXVIII.—Miscellaneous.

GROSS, LOCAL AND NET VALUE OF DAIRY PRODUCTION, 1935-36.

State.	Gross Production valued at Principal Markets.	Marketing Costs.	Gross Production valued at Farm.	Farm Costs.		Net Value of Production (a).
				Fodder fed to Farm Stock.	Value of Other Materials used in process of Production.	
	£	£	£	£	£	£
New South Wales	12,060,000	1,455,000	10,605,000	1,401,000	9,000	9,195,000
Victoria	11,376,004	460,988	10,915,016	1,470,874	100,000	9,344,742
Queensland	7,221,000	217,000	6,974,000	962,000	143,000	5,869,000
South Australia	1,898,531	61,027	1,834,507	384,496	56,870	1,393,141
Western Australia	1,335,480	46,757	1,288,723	664,728	118,594	505,401
Tasmania	787,120	37,840	749,280	188,500	20,180	540,600
Total	{ 1935-36 34,678,738	2,311,612	32,367,126	5,071,598	447,644	26,847,884
	{ 1934-35 31,373,771	2,215,442	29,158,329	4,566,888	231,201	24,360,240
	{ 1933-34 27,430,149	1,962,017	25,468,132	4,467,143	238,737	20,762,252

(a) No account has been taken of maintenance costs and depreciation.

§ 6. Poultry Farming.

I. General.—Poultry is kept in varying numbers by farmers, and production therefrom furnishes a considerable addition to the annual agricultural or dairying returns. For many years, however, poultry-keeping has been carried on as a separate industry, while it is also practised in conjunction with other rural industries. Special poultry farms have been instituted by the State Governments for scientific breeding, experts have been appointed to advise and instruct in the care and management of the various kinds of poultry, and exhibitions of leading breeds have been arranged, as well as egg-laying competitions. Co-operative egg-collecting circles have been formed in some districts; eggs are also delivered with milk and cream to the local butter factories, and thence forwarded to market.

2. **Number of Principal Kinds.**—The number of principal kinds of poultry is included in the annual census of live stock in all States except Victoria and Tasmania. The former State completed a census at 30th June, 1933, and the numbers at that date are shown in the table below. The details for Tasmania have been estimated. In 1913 a complete census was also taken and these data have been included for comparative purposes in the following table:—

POULTRY.—NUMBER OF PRINCIPAL KINDS—AUSTRALIA.

State.	Fowls.	Ducks.	Geese.	Turkeys.
1913.				
	No.	No.	No.	No.
New South Wales ..	3,351,629	261,075	23,948	216,274
Victoria ..	3,855,538	288,413	59,851	(a) 100,000
Queensland ..	841,630	35,337	7,457	27,192
South Australia ..	1,440,385	55,659	18,245	49,066
Western Australia ..	999,452	100,828	6,243	49,588
Tasmania (a) ..	350,000	35,000	12,000	8,000
Total ..	10,838,634	776,312	127,744	450,120
1935-36.				
	No.	No.	No.	No.
New South Wales ..	5,263,271	201,844	29,630	232,229
Victoria (b) ..	5,496,969	292,882	39,283	113,966
Queensland ..	1,182,343	38,719	4,339	10,132
South Australia ..	2,040,025	57,522	19,560	60,799
Western Australia ..	1,386,035	28,293	2,395	25,586
Tasmania (a) ..	450,000	35,000	10,000	10,000
Total ..	15,818,643	654,260	105,207	452,712

(a) Estimated.

(b) 30th June, 1933.

3. **Value of Poultry Products.**—Difficulty is experienced in obtaining complete figures for the production of poultry products. Arising from a series of Conferences of Australian Statisticians uniform procedure has been established for the valuation of these products. The following table sets out the values accruing to the poultry industry for Australia on a gross, local and net basis, and has been compiled from data actually collected or carefully estimated by the State Statistical Bureaux:—

GROSS, LOCAL AND NET VALUE OF POULTRY PRODUCTS, 1935-36.

State.	Gross Production valued at Principal Markets.	Marketing Costs.	Gross Production valued at Farm.	Feed and Other Costs.	Net Value of Production (a)
	£	£	£	£	£
New South Wales ..	3,702,000	263,000	3,439,000	1,236,000	2,203,000
Victoria ..	3,600,671	270,051	3,330,620	997,000	2,333,620
Queensland ..	555,000	92,000	463,000	164,000	299,000
South Australia ..	752,945	96,250	656,695	399,607	257,088
Western Australia ..	600,769	108,305	492,464	222,050	270,414
Tasmania ..	364,370	27,330	337,040	31,600	305,440
Total {					
1935-36	9,575,755	856,936	8,718,819	3,050,257	5,668,562
1934-35	8,955,815	857,091	8,098,724	2,837,065	5,261,659
1933-34	8,542,275	801,683	7,740,592	2,561,232	5,179,360

(a) No account has been taken of maintenance costs and depreciation.

4. **Oversea Trade in Poultry Products.**—The Australian oversea export of poultry products is confined chiefly to eggs in shell and egg contents which are mainly consigned to the United Kingdom; New South Wales, Victoria and South Australia are the largest exporters, the total exports in 1936-37 amounting to £974,334. The levying in accordance with the Ottawa Conference Agreement of a customs duty varying between 1s. and 1s. 9d. per 10 dozen by the Government of the United Kingdom on imported eggs of foreign origin has assisted Australia to obtain a larger share in this valuable market. Exports from Australia rose from less than 3 million dozen valued at £219,000 in 1928-29 to 21.7 million dozen valued at more than £1.1 million in 1934-35, but declined during the past two years to 15.5 million dozen in 1936-37. The exports of frozen poultry have also increased. The oversea trade during the last five years was as follows:—

POULTRY PRODUCTS, TRADE.—AUSTRALIA.

Australian Currency Values.

Particulars.		1932-33.	1933-34.	1934-35.	1935-36.	1936-37.
LIVE POULTRY.						
Imports	No.	253	77	137	154	2,780
"	£	788	239	401	605	1,256
Exports	No.	1,742	2,047	1,233	1,733	1,099
"	£	896	986	799	973	572
Net Exports ..	No.	1,489	1,970	1,096	1,579	-1,681
"	£	108	747	398	368	-684
FROZEN POULTRY.						
Imports	lb.	20,486	13,290	3,129	11,671	11,589
"	£	809	919	147	467	616
Exports	pair	60,921	33,538	39,310	52,377	40,734
"	£	40,266	16,798	20,490	36,078	35,432
Net Exports ..	(a)	(a)	(a)	(a)	(a)	(a)
"	£	39,457	15,879	20,343	35,611	34,816
Eggs.						
Imports	doz.	6,722	6,003	7,002	7,311	7,610
"	£	397	333	408	397	356
Exports	doz.	16,844,288	19,617,032	21,718,740	17,365,132	15,459,027
"	£	958,065	1,058,164	1,148,254	910,892	954,578
Net Exports ..	doz.	16,837,566	19,611,029	21,711,738	17,357,821	15,451,417
"	£	957,668	1,057,831	1,147,846	910,495	954,222
EGG-CONTENTS.						
Imports	lb.	9,470	24,173	31,257	46,917	32,729
"	£	1,755	3,491	3,388	3,957	4,004
Exports	lb.	(a)	(a)	(a)	290,612	652,858
"	£	60,549	8,484	3,479	7,170	19,756
Net Exports ..	lb.	(a)	(a)	(a)	243,695	620,129
"	£	58,794	4,993	91	3,213	15,752

(a) Quantity not available.

§ 7. Bee Farming.

1. **General.**—Although practised to some extent as a separate industry, bee-farming is frequently carried on in conjunction with agriculture or dairying. The returns of honey from productive hives during 1935-36 gave an average of 62.2 lb. per hive, while the average quantity of wax was 0.75 lb. per hive.

2. **Production of Honey and Beeswax.**—The number of hives and the production of honey and beeswax during the year 1935-36 are given in the following table. As these details have been collected from holdings of one acre and upwards, any production from smaller areas is omitted and consequently the production to that extent is understated. In Victoria and South Australia, however, the compulsory registration of beekeepers enables the collection to cover all producers and the production for these States is considered to be complete.

BEE-HIVES, HONEY AND BEESWAX, 1935-36.

State.	Bee Hives.			Honey Produced.		Beeswax Produced.	
	Pro- ductive.	Unpro- ductive.	Total.	Quantity.	Gross Value.	Quantity.	Gross Value.
	No.	No.	No.	lb.	£	lb.	£
New South Wales ..	76,481	19,875	96,356	4,577,097	70,564	62,886	4,884
Victoria ..	85,071	14,579	99,650	5,901,463	92,210	61,849	4,123
Queensland ..	12,484	3,704	16,188	584,288	7,912	8,056	613
South Australia ..	68,591	14,388	82,979	4,160,006	34,667	46,570	2,814
Western Australia ..	15,342	1,273	16,615	916,929	11,389	13,952	748
Tasmania ..	5,509	2,072	7,581	238,055	4,216	3,416	214
Fed. Cap. Territory ..	60	72	132	7,000	108	26	2
Australia ..	263,538	55,963	319,501	16,384,838	221,066	197,355	13,398

The table hereunder gives the production of honey and beeswax for the latest available five years :—

HONEY AND BEESWAX PRODUCTION.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Fed. Cap. Ter.	Australia.
HONEY.								
	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.
1931-32	2,123,233	2,159,770	283,022	1,240,525	250,146	52,559	1,480	6,110,735
1932-33	2,921,242	3,543,103	531,075	4,791,526	438,209	127,896	2,976	12,356,027
1933-34	1,397,426	1,133,279	610,330	2,561,057	621,275	168,334	..	6,491,701
1934-35	5,539,677	2,779,791	761,209	4,155,450	811,449	67,717	10,120	14,125,413
1935-36	4,577,097	5,901,463	584,288	4,160,006	916,929	238,055	7,000	16,384,838
BEESWAX.								
	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.
1931-32	27,933	26,239	6,082	17,253	4,251	644	80	82,482
1932-33	38,715	41,827	9,948	52,273	7,343	2,741	50	152,897
1933-34	27,069	15,102	8,727	31,891	8,643	2,038	..	93,470
1934-35	70,564	30,351	9,745	45,515	11,222	1,475	22	168,894
1935-36	62,886	61,849	8,656	46,570	13,952	3,416	26	197,355

The production of honey and beeswax varies greatly from year to year according to the favourableness or otherwise of the seasons. During the last five years New South Wales produced on the average 3,312,000 lb. of honey and 45,400 lb. of beeswax; Victoria produced 3,103,000 lb. of honey and 35,100 lb. of wax; and South Australia 3,382,000 lb. of honey and 38,700 lb. of wax. These States together accounted for 88.3 per cent. of the total Australian production of honey and 85.7 per cent. of the beeswax. Next in order of importance were Queensland, Western Australia and Tasmania.

3. **Value of Production.**—The following table shows the gross, local and net values of production which have been compiled by the Statisticians of the several States on uniform methods. These data are based upon actual records but as previously explained it is known that the production in some States is understated. No production costs are taken into account and consequently the gross production valued at the farm and net values are identical.

GROSS, LOCAL AND NET VALUE OF BEE PRODUCTS, 1935-36.

State.	Gross Production Valued at Principal Markets.	Marketing Costs.	Gross Production Valued at Farm.	Net Value of Production.(a)
	£	£	£	£
New South Wales	75,000	7,000	68,000	68,000
Victoria	96,333	18,828	77,505	77,505
Queensland	8,525	2,500	6,025	6,025
South Australia	37,481	6,114	31,367	31,367
Western Australia	12,137	..	12,137	12,137
Tasmania	4,430	220	4,210	4,210
Total { 1935-36	233,006	34,662	199,244	199,244
{ 1934-35	235,027	31,520	203,507	203,507
{ 1933-34	99,757	13,871	85,886	85,886

(a) No account has been taken of maintenance costs and depreciation.

4. **Oversea Trade in Bee Products.**—In normal years the production of honey exceeds Australian requirements, and a small quantity is available for export. The imports into the United Kingdom average 80,000 cwt. annually, of which Australia supplies approximately 1,200 cwt. At the Imperial Economic Conference at Ottawa in 1932 the representatives of the United Kingdom, on behalf of their Government, agreed to the imposition of an import duty of 7s. per cwt. on foreign honey. For the two years ended 1936-37 the exports from Australia amounted to £43,220 compared with a total of £30,578 for the previous five years. The more general use of frame hives has reduced the production of wax, and as a result the quantity imported has exceeded that exported during each of the last five years.

For the years 1935-36 and 1936-37, the imports of honey amounted to 7,697 lb. and 4,852 lb., respectively, and the exports to 764,696 lb. and 1,934,162 lb. The imports of beeswax amounted to 74,389 lb. in 1935-36 and 74,168 lb. in 1936-37, and the exports to 395 lb. and 48,656 lb. respectively for the same years.

§ 8. Exports of Australian Farmyard, Dairy and Bee Products.

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

AUSTRALIAN FARMYARD, DAIRY AND BEE PRODUCTS.—EXPORTS.

Particulars.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.
QUANTITY.					
Beeswax lb.	2,081	1,451	957	395	48,656
Butter "	226,329,334	244,299,732	262,518,906	212,646,177	174,369,146
Cheese "	11,785,156	9,313,714	16,829,351	12,972,627	13,924,572
Eggs not in shell "	(a)	(a)	(a)	290,612	652,858
Eggs doz.	16,844,288	19,617,032	21,718,740	17,365,132	15,459,027
Feathers, undressed "	(a)	(a)	(a)	(a)	(a)
Honey lb.	406,851	351,674	388,761	764,696	1,934,162
Lard "	1,620,590	1,483,456	2,523,749	2,792,008	4,049,826
Meats—					
Bacon and Ham "	1,596,706	1,664,501	1,562,498	1,701,575	1,736,118
Frozen Poultry pair	60,921	33,538	39,310	52,377	40,734
Frozen Pork lb.	6,703,234	8,663,864	15,636,132	23,577,743	26,716,453
Milk, concentrated and preserved "	24,452,509	19,771,958	16,553,864	16,961,023	22,219,935
Pigs, living No.	28	201	239	131	164
Poultry, living "	1,738	2,047	1,233	1,733	1,099
VALUE.					
	£	£	£	£	£
Beeswax "	143	94	76	28	2,940
Butter "	9,264,665	8,194,220	9,586,776	9,028,243	7,716,473
Cheese "	318,895	229,313	493,977	337,467	384,027
Eggs not in shell "	60,549	8,484	3,309	7,170	19,756
Eggs "	958,065	1,058,164	1,148,254	910,892	954,578
Feathers, undressed "	400	694	1,491	2,257	3,110
Honey "	8,014	6,458	6,828	12,840	30,380
Lard "	27,385	25,963	41,758	53,603	69,382
Meats—					
Bacon and Ham "	95,093	96,579	98,825	109,760	112,680
Frozen Poultry "	40,266	16,798	20,490	36,078	35,432
Frozen Pork "	154,163	210,793	401,306	587,410	687,043
Milk, concentrated and preserved "	927,546	739,000	710,166	722,301	850,231
Pigs, living "	192	809	899	708	607
Poultry, living "	846	986	799	973	572
Total "	11,856,222	10,588,355	12,425,014	11,809,730	10,867,211

(a) Quantity not available.

Butter figures most largely in the list of exports shown above, and is consigned mainly to the United Kingdom. During the latest year under review 160,674,000 lb. were shipped thereto, representing 92 per cent. of the total exports. Shipments to the principal Eastern countries were approximately 12,000,000 lb., or nearly 7 per cent. of the total.

§ 9. British Imports of Dairy Products.

1. Quantities and Values.—The following table gives the quantities and values of the principal dairy products imported into the United Kingdom during the years 1932 to 1936:—

DAIRY PRODUCTS.—IMPORTS, UNITED KINGDOM.

Products.	1932.	1933.	1934.	1935.	1936.
Butter cwt.	8,364,367	8,831,686	9,605,394	9,608,016	9,752,043
" £	41,055,142	34,340,921	33,271,706	39,328,128	44,424,184
Cheese cwt.	3,003,113	3,030,450	2,988,539	2,714,351	2,676,489
" £	9,089,757	7,611,726	7,014,517	6,640,093	7,789,591
Milk, concentrated and preserved cwt.	3,073,980	2,730,385	2,344,678	2,005,528	1,926,803
" £	4,252,202	3,549,210	3,269,918	2,435,822	2,407,277
Bacon and ham cwt.	12,192,188	9,953,167	8,326,535	7,603,672	7,241,397
" £	32,913,045	32,993,984	33,172,222	30,162,249	30,255,502
Pork (a) cwt.	375,259	643,777	1,105,420	915,098	1,025,212
" £	983,548	1,620,323	2,926,863	2,500,315	2,779,906

(a) Frozen, chilled and salted.

2. *Butter.*—(i) *Imports.* Australia has for many years supplied a large proportion of the butter imported into the United Kingdom. The quantity in 1936 amounted to 1,694,222 cwt., or 17 per cent. of the total importation. The Australian contribution was valued at £7,673,015 and was exceeded only by that received from New Zealand and Denmark. These three countries combined supplied 68 per cent. of the total imports compared with 72 per cent. in 1935 :—

BUTTER IMPORTS.—UNITED KINGDOM, 1936.

Country from which Imported.	Quantity.	Value.	Country from which Imported.	Quantity.	Value.
	cwt.	£		cwt.	£
New Zealand ..	2,791,914	13,445,227	Argentine Republic	142,528	559,000
Denmark ..	2,170,542	10,770,929	Estonia ..	116,329	492,855
Australia ..	1,694,222	7,673,015	Union of South		
Netherlands ..	746,101	3,011,217	Africa ..	75,498	322,218
Irish Free State ..	468,272	1,694,339	British Possessions,		
Soviet Union ..	415,955	1,648,040	n.e.i. ..	107,119	503,886
Lithuania ..	210,842	883,801	Foreign Countries,		
Latvia ..	196,396	827,358	n.e.i. ..	119,067	480,687
Poland ..	188,954	710,768			
Finland ..	159,761	713,079			
Sweden ..	149,443	687,759	Total ..	9,752,043	44,424,184

(ii) *London Prices.* The average price of first quality Australian salted butter in London during the last ten years is shown in the following table :—

AUSTRALIAN BUTTER.—LONDON PRICES.

Year.	Average Price, first quality, per cwt.	Year.	Average Price, first quality, per cwt.
	s. d.		s. d.
1927	169 6	1932	105 0
1928	171 0	1933	87 0
1929	175 0	1934	75 6
1930	135 6	1935	94 0
1931	116 6	1936	104 0

3. *Cheese.*—The value of cheese imported into the United Kingdom in 1936 was £7,789,591, of which £4,773,989 was received from New Zealand, and £1,926,353 from Canada. Small experimental shipments from Australia were made in 1908 and following years, fair prices being realized. The value of the imports from Australia during 1936 amounted to £239,154.

4. *Bacon and Ham.*—Of a total import of bacon and ham valued in 1936 at £30,256,502, the United Kingdom received imports to the value of £14,954,598 from Denmark, £5,536,479 from Canada, £2,061,544 from the Netherlands, £1,676,019 from Poland and £1,638,798 from the Irish Free State. The import from Australia was small.

5. *Pork.*—The value of the United Kingdom imports of pork (frozen and chilled) was £2,779,906 in 1936. Imports from Australia were valued at £622,275, showing a marked increase over the imports in previous years. The bulk of the supplies were received from New Zealand, namely £1,500,208.

6. *Other Products.*—The imports to the United Kingdom from Australia of beeswax, poultry, game, lard and honey in 1936 were unimportant, but frozen rabbits to the value of £161,646 and eggs in shell to the value of £948,376 representing 77 per cent. and 10 per cent. respectively of the total imports were imported during the year.