

SECTION VII.

PASTORAL PRODUCTION.

§ 1. Initiation and Growth of Pastoral Industry.

1. **Early Statistics.**—In earlier issues of the Year Book will be found a brief reference to the pastoral industry in Australia prior to the year 1860. (See Year Book No. 6, page 330.)

2. **Subsequent Statistics.**—While the statistical records of live stock in Australia prior to the year 1860 are somewhat defective, from that year onwards fairly complete particulars are available in most of the States. At the present time, statistics of live stock are collected annually in all the States, principally through the agency of the police, but in the years 1885 to 1888 inclusive, and 1893 to 1895 inclusive, these particulars were not collected in South Australia, and similar gaps occur in the Victorian records for the periods 1895 to 1899 inclusive, and 1901 to 1903. In order to obtain totals for the Commonwealth for these years the missing numbers have been supplied by interpolation. The results so obtained probably differ but slightly from the actual numbers for the respective years.

3. **Increase in Numbers.**—Particulars concerning the numbers of each of the principal kinds of live stock in the Commonwealth at quinquennial intervals from 1860 to 1910, and from 1913 onwards in single years, are given in the following table, and are shewn continuously in the graphs hereinafter.

During the fifty-seven years covered by the table the live stock of the Commonwealth increased considerably, horses by 479 per cent., cattle 202 per cent., sheep 322 per cent., and pigs 233 per cent. The average annual increases which these aggregates represent are as follows:—Horses, 3.13 per cent.; cattle, 1.96 per cent.; sheep, 2.56 per cent.; and pigs, 2.13 per cent.

COMMONWEALTH LIVE STOCK, 1860 TO 1917.

Year.	Horses.	Cattle.	Sheep.	Pigs.
1860	431,525	3,957,915	20,135,286	351,096
1865	566,574	3,724,813	29,539,928	345,704
1870	716,772	4,276,326	41,593,612	543,388
1875	835,393	6,389,610	53,124,209	549,808
1880	1,061,078	7,523,000	62,176,027	815,776
1885	1,143,064	7,397,847	67,491,976	748,908
1890	1,521,588	10,299,913	97,881,221	891,138
1895	1,680,419	11,767,488	90,689,727	822,750
1900	1,609,654	8,640,225	70,602,995	950,349
1905	1,674,790	8,528,331	74,540,916	1,014,977
1910	2,165,866	11,744,714	92,047,015	1,025,850
1913	2,522,776	11,483,882	85,057,402	800,505
1914	2,522,172	11,051,573	78,600,334	862,447
1915	2,377,920	9,931,416	69,257,189	753,693
1916	2,437,157	10,467,737	76,668,604	1,006,387
1917	2,498,940	11,956,024	84,965,012	1,168,989

4. **Fluctuations.**—The increases referred to, however, have not been continuous, marked fluctuations having taken place during the period, mainly on account of the droughts which have from time to time left their impress on the pastoral history of Australia. These were in evidence in 1869, 1877, 1884, 1895 and subsequent years, 1902, to some extent in 1908, and in a severer form during the earlier half of 1912, and again during 1914 and 1915. The falling-off in the number of sheep in 1915 was 9,343,145, of cattle 1,120,157, of horses 144,252, and of pigs 108,754, being 11.91, 10.14, 5.72, and 12.61 per cent. respectively. The number of horses for the year 1913 was the highest ever recorded in the Commonwealth. The winter of 1913 was dry over Southern Australia, though the crops subsequently recovered under the influence of fine spring rains, but in 1914 and 1915, very pronounced drought conditions developed—enveloping the whole of sub-tropical Australia (except the New South Wales coast) during 1914, and all the Central and North-eastern parts of the continent in 1915. Throughout many parts of Western Australia, South Australia, the Riverina, Victoria, and Tasmania, the year 1914 was the driest on record, and similarly throughout a large part of Queensland and North-eastern New South Wales, 1915 was the worst year ever experienced. The result was a general failure of the crops throughout the wheat belt in 1914, heavy stock losses, the failure of the sugar crops of the East Coast and of a large proportion of the cereal crops on the Downs in Queensland.

The extraordinary recuperative power of Australia is reflected in the large increases in the numbers of stock which occurred in the good seasons supervening on the various droughts. Thus, in the nine years from 1902 to 1911, horses increased by 754,426, cattle by 4,766,212, and sheep by 39,335,174, the corresponding increases per cent. per annum being horses 4.57 per cent., cattle 5.90 per cent., and sheep 6.30 per cent.

The years in which the numbers of live stock attained their maxima are as follows :—Horses, 1913, 2,521,983 ; cattle, 1894, 12,311,617 ; sheep, 1891, 106,421,068 ; and pigs, 1917, 1,168,989.

5. **Live Stock in Relation to Population.**—The number of each kind of live stock per head of the population of the Commonwealth has varied during the past fifty-seven years in the manner shewn in the succeeding table :—

NUMBER OF AUSTRALIAN LIVE STOCK PER HEAD OF POPULATION, 1860 TO 1917.

Year.	Horses.	Cattle.	Sheep.	Pigs.	Year.	Horses.	Cattle.	Sheep.	Pigs.
1860 ..	0.38	3.45	17.58	0.31	1900 ..	0.43	2.29	18.75	0.25
1865 ..	0.41	2.68	21.25	0.25	1905 ..	0.42	2.11	18.48	0.25
1870 ..	0.43	2.60	25.24	0.33	1910 ..	0.49	2.65	20.80	0.23
1875 ..	0.44	3.37	27.99	0.29	1913 ..	0.52	2.36	17.46	0.16
1880 ..	0.48	3.37	27.87	0.37	1914 ..	0.51	2.24	15.91	0.17
1885 ..	0.42	2.75	25.05	0.28	1915 ..	0.48	2.01	14.04	0.15
1890 ..	0.48	3.27	31.06	0.28	1916 ..	0.51	2.14	15.68	0.21
1895 ..	0.48	3.36	25.93	0.24	1917 ..	0.50	2.41	17.13	0.24

Considered in relation to population, the live stock attained its maximum for the period 1860–1917 in the quinquennium 1890–5, and its minimum in the year 1902. During the period under review, the number of horses varied but slightly in proportion to population, the range for the years shewn above being from 0.38 to 0.52 per head. In the case of cattle, the corresponding limits of variation were 2.01 and 3.45 ; sheep, 14.04 and 31.06 ; and pigs, 0.15 and 0.37.

6. Live Stock in Relation to Area.—The numbers of live stock per square mile in the several States and Territories of the Commonwealth are given in the following table:—

NUMBER OF LIVE STOCK PER SQUARE MILE.

States and Territories.	Date.	Horses.	Cattle.	Sheep.	Pigs.
New South Wales ..	30th June, 1918 ..	2.39	10.17	124.35	1.28
Victoria ..	1st March, 1918 ..	5.85	15.60	167.95	3.68
Queensland ..	31st Dec., 1917 ..	1.09	7.93	25.66	0.26
South Australia ..	30th June, 1918 ..	0.69	0.82	16.39	0.29
Western Australia ..	31st Dec., 1917 ..	0.18	0.98	6.54	0.11
Tasmania ..	1st March, 1918 ..	1.62	7.55	65.27	2.08
Northern Territory ..	31st Dec., 1917 ..	0.05	1.22	0.10	..
Federal Territory ..	30th June, 1918 ..	1.58	14.70	152.12	0.57
Commonwealth ..	1917-18 ..	0.84	4.02	28.56	0.39

7. Minor Classes of Live Stock.—The numbers of minor classes of live stock returned for 1917-18 were as follows:—Goats, 232,421; camels, 12,734; mules and donkeys, 12,016; and ostriches, 1,079. Of these, goats were most numerous in Queensland; camels, mules, and donkeys in Western Australia; and ostriches in South Australia. In the raising of goats, considerable attention has in recent years been devoted to the angora goat and its product (mohair), and over 20,000 angora goats are included in the total of 232,421 goats shewn above. Of these, 8,015 were in New South Wales, 4,080 in Western Australia, and 3,774 in Queensland, while the quantity of mohair produced in the latter State in 1917 was set down at 3,114 lbs., and the number of skins placed on the market was returned as 441.

8. Net Exports of Principal Pastoral Products.—The quantities by which the exports of the principal pastoral products of the Commonwealth exceeded the imports for the years 1913 to 1917-18 are as follows:—

QUANTITIES OF NET EXPORTS OF PRINCIPAL PASTORAL PRODUCTS OF THE COMMONWEALTH, 1913 TO 1917-18.

Products.	Unit of Quantity.	1913.	1914-15. (b)	1915-16. (b)	1916-17. (b)	1917-18. (b)
Animals (Living)—						
Cattle ..	No.	14,548	10,121	5,417	2,743	1,117
Horses ..	"	7,761	23,655	14,589	14,228	23,876
Sheep ..	"	33,322	10,749	728	3,198	9,080
Bones ..	cwt.	37,848	33,802	16,378	26,884	20,363
Glue Pieces and Sinews ..	"	38,297	30,689	23,222	26,973	11,015
Glycerine ..	lb.	(a)	(a)	(a)	(a)	(a)
Hair ..	"	279,108	206,602	554,971	514,752	324,528
Hoofs ..	cwt.	12,476	11,012	8,347	10,497	8,618
Horns ..	"	(a)	(a)	(a)	(a)	(a)
Meats—						
Frozen Beef ..	lb.	218,911,159	292,056,035	114,654,569	242,040,115	180,222,185
Frozen Mutton and Lamb ..	"	204,919,042	193,263,877	38,332,651	66,811,253	19,174,231
Frozen Rabbits and Hares ..	pair	9,366,290	10,290,016	11,367,538	12,674,472	13,164,307
Frozen, Other ..	lb.	7,685,149	13,107,560	3,004,290	10,773,154	8,200,193
Potted and Extract of ..	"	(a)	(a)	(a)	(a)	(a)
Preserved in Tins, &c. ..	"	51,731,741	57,326,295	13,059,238	21,922,630	43,036,310
Other ..	"	1,154,580	298,019	130,672	35,833	206,640
Sausage Casings ..	"	(a)	(a)	(a)	(a)	(a)
Skins—						
Hides ..	No.	10,037,882	1,134,483	453,691	99,154	15,873
Sheep ..	"	10,997,873	10,396,987	7,254,642	4,753,464	2,907,431
Rabbit and Hare ..	cwt.	86,998	56,437	51,857	48,403	71,991
Other, including Undressed Furs ..	No.	(a)	(a)	(a)	(a)	(a)
Tallow ..	cwt.	1,435,156	1,106,023	250,519	555,427	345,849
Wool—Greasy ..	lb.	531,248,798	443,812,275	408,461,233	331,776,079	243,784,651
Scoured ..	"	60,873,478	60,846,240	74,880,215	51,727,629	62,860,373
Tops ..	"	3,561,722	4,095,966	4,981,975	4,869,452	4,571,357

(a) Quantity not available. (b) For year ended 30th June.

The values of the net exports for the same five years are furnished in the next table, and amount to no less a total than £190,844,051 for the period, or an average of £38,168,810 per annum, of which wool represents 67 per cent. Meats, skins, and tallow rank next in order of importance.

VALUE OF NET EXPORTS OF PRINCIPAL PASTORAL PRODUCTS OF THE COMMONWEALTH, 1913 TO 1917-18.

Products.	1913.	1914-15.(a)	1915-16.(a)	1916-17.(a)	1917-18.(a)
	£	£	£	£	£
Animals (living)—					
Cattle	50,229	19,558	10,089	4,582	-10,993
Horses	63,389	378,505	185,183	306,200	453,616
Sheep	46,565	14,204	-17,507	8,474	15,049
Bones	22,021	20,918	10,009	20,783	21,806
Gluc Pieces and Sinews	23,328	17,641	12,815	21,416	15,196
Glycerine	13,769	13,900	16,078	26,459	41,256
Hair	28,160	26,445	26,684	26,802	21,243
Hoofs	6,178	4,156	2,361	6,363	7,848
Horns	30,444	15,300	6,379	4,191	13,309
Meats—					
Frozen Beef	2,652,144	4,989,810	2,175,343	4,945,716	3,697,957
Frozen Mutton and Lamb	2,896,292	3,413,848	769,434	1,540,546	452,627
Frozen Rabbits and Hares	497,568	531,920	724,624	913,142	985,190
Frozen, Other	99,509	180,841	30,248	195,846	190,954
Potted and Extract of	203,412	347,471	31,467	65,471	224,464
Preserved in Tins, &c.	1,062,618	1,829,601	438,881	952,399	2,308,989
Other	17,677	4,375	3,195	1,151	5,713
Sausage Casings	32,133	25,872	-21,726	1,210	-29,089
Skins—					
Hides	1,418,191	1,234,871	266,674	184,886	211,449
Sheep	2,480,900	1,743,209	1,242,358	1,137,832	808,782
Rabbit and Hare	620,487	230,139	261,868	433,546	1,155,824
Other, including Undressed Furs	746,023	106,319	253,458	190,738	276,537
Tallow	2,157,610	1,566,907	436,225	1,241,219	886,128
Wool—Greasy	21,472,360	17,470,385	20,172,243	21,870,113	16,981,347
Scoured	4,380,184	4,113,951	5,841,054	5,394,259	6,094,040
Tops	415,670	511,021	680,656	1,204,570	1,510,799
Total Values	41,436,861	38,811,167	33,558,093	40,697,889	36,340,041

(a) For year ended 30th June.

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

§ 2. Horses.

1. **Suitability of Australia for Horse-breeding.**—From the earliest times the suitability of the climate and pastures of Australia for the production of serviceable breeds of horses has been fully recognised. By the importation of high-class sires, and the careful selection of breeding mares, these natural advantages were utilised to the fullest extent, all classes of horses being bred. As a consequence of this combination of advantages, the Australian horse, whether of the heavy draught, medium weight, or light saddle and carriage variety, compares more than favourably with the product of other lands. The Australian horse has been found suitable for the army in India, and large numbers are obtained annually for remount purposes.

2. **Distribution throughout the Commonwealth.**—As regards numbers, the State of New South Wales, the earliest settled of the group, established a lead, which it retained up to the end of 1913. For some years past Queensland has made rapid progress in this regard, and in 1914 there were 743,059 horses in that State, as compared with

731,735 in New South Wales, and 552,053 in Victoria. The figures for the past three years, however, shew that New South Wales has regained the lead. Particulars for the several States for a series of years are as follows:—

**NUMBER OF HORSES IN STATES, TERRITORIES, AND COMMONWEALTH,
1860 TO 1917.**

Year.	N.S.W.	Vic. (a)	Q'land.	S. Aust.	W. Aust.	Tas. (a)	N.T.	F.T.	C'wealth.
1860 ..	251,497	76,536	23,504	49,399	9,555	21,034	..	..	431,525
1865 ..	282,587	121,051	51,091	73,993	15,700	22,152	..	..	566,574
1870 ..	337,597	167,220	83,358	83,744	22,174	22,679	..	..	716,772
1875 ..	357,696	196,184	121,497	107,164	29,379	23,473	..	..	835,393
1880 ..	395,984	275,516	179,152	148,219	34,568	25,267	c2,372	..	1,061,078
1885 ..	344,697	304,093	260,207	164,753	34,392	28,610	6,307	..	1,143,064
1890 ..	444,163	436,459	365,812	187,686	44,384	31,165	11,919	..	1,521,588
1895 ..	499,943	424,995	468,743	181,839	58,506	31,580	14,813	..	1,680,419
1900 ..	481,417	392,237	456,788	166,790	68,253	31,607	12,562	..	1,609,654
1905 ..	506,884	385,513	430,565	197,099	97,397	37,101	20,231	..	1,674,790
1910 ..	650,636	472,080	593,813	249,326	134,114	41,388	24,509	..	2,165,866
1913 ..	744,458	562,331	707,265	283,641	156,636	43,941	22,792	1,712	2,522,776
1914 ..	b731,735	552,053	743,059	267,877	161,625	42,232	21,985	b1,606	2,522,172
1915 ..	b718,232	493,779	686,871	253,333	163,016	41,422	19,957	b1,310	2,377,920
1916 ..	b732,334	514,403	697,517	b257,422	169,730	42,620	21,674	b1,457	2,437,157
1917 ..	b740,806	514,061	733,014	b262,840	178,151	42,396	26,231	b1,441	2,498,940

(a) 1st March year following. (b) 30th June year following. (c) Statistics not collected prior to 1880.

3. Proportion in the Several States and Territories.—The percentages of the number of horses in the several States and Territories on the total for the Commonwealth for 1901 and the past five years are as follows:—

**PERCENTAGE OF HORSES IN EACH STATE AND TERRITORY ON THE TOTAL
FOR COMMONWEALTH, 1901 AND 1913 TO 1917.**

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	F.T.	C'wealth.
	%	%	%	%	%	%	%	%	%
1901 ..	30.03	23.90	28.52	10.20	4.55	2.00	0.80	..	100.00
1913 ..	29.51	22.29	28.04	11.24	6.21	1.74	0.90	0.07	100.00
1914 ..	29.01	21.89	29.46	10.62	6.41	1.68	0.87	0.06	100.00
1915 ..	30.20	20.77	28.89	10.65	6.86	1.74	0.84	0.05	100.00
1916 ..	30.05	21.11	28.62	10.56	6.96	1.75	0.89	0.06	100.00
1917 ..	29.64	20.57	29.33	10.52	7.13	1.70	1.05	0.06	100.00

During the period under review, the proportion in Western Australia has increased, that in Victoria has diminished, while in the case of the other States the proportion in 1917 differed little from that in 1901.

4. Oversea Export Trade in Horses.—Australia's export trade in horses is fairly considerable, though somewhat fluctuating. During the past five years it has varied in number between 8,562 for the year 1913 and 24,172 in 1917-18, and in value between £163,730 in the former and £502,557 during the latter year. The total number of horses exported during the five years, exclusive of those shipped for military purposes, amounted to 88,563, an average of 17,713 per annum. The total value of the exports for the period was £1,746,273, or £349,255 per annum. The average export value per head for the period was £19 14s. 4d. The numbers exported to the principal countries concerned in this trade are as follows:—

**NUMBER AND DESTINATION OF HORSES EXPORTED FROM THE
COMMONWEALTH, 1913 TO 1917-18.**

Country to which Exported.	1913.	1914-15.	1915-16.	1916-17.	1917-18.	Total for 5 years.
	No.	No.	No.	No.	No.	No.
India	6,775	21,162	14,405	15,744	23,890	81,976
Java	799	65	280	148	..	1,292
Straits Settlements	436	24	174	224	21	879
Fiji	106	117	257	223	150	853
New Zealand	90	52	37	40	26	245
Japan	59	16	35	16	15	141
Papua	57	9	2	35	30	133
Philippine Islands	88	..	8	5	20	121
Mauritius	95	..	..	..	..	95
Siam .. .. .	..	..	..	34	..	34
Ceylon	3	..	..	15	..	18
Union of South Africa	8	3	..	1	..	12
Other Countries	46	2,659	11	28	20	2,764
Total	8,562	24,107^a	15,209^a	16,513^a	24,172^a	88,563^a

(a) Exclusive of shipment for military purposes.

The corresponding particulars relative to the value of the horses exported are given in the next table :—

VALUE OF HORSES EXPORTED FROM THE COMMONWEALTH, 1913 TO 1917-18.

Country to which Exported.	1913.	1914-15.	1915-16.	1916-17.	1917-18.	Total for 5 years.
	£	£	£	£	£	£
India	107,925	387,046	250,710	312,271	479,520	1,537,472
New Zealand	5,319	9,765	7,232	11,190	16,360	49,866
Java	21,465	1,243	5,352	3,818	..	31,878
Straits Settlements	11,614	555	3,755	6,427	900	23,251
Fiji	3,215	3,337	6,653	5,814	3,765	22,784
Japan	2,836	875	1,900	850	750	7,211
Philippine Islands	2,061	..	1,200	60	200	3,521
Mauritius	3,229	..	..	..	..	3,229
Papua	1,271	171	65	663	538	2,708
Ceylon	840	..	..	450	..	1,290
Siam .. .. .	..	..	..	541	..	541
Union of South Africa	211	60	..	160	..	431
Other Countries	3,744	56,926	244	653	524	62,091
Total	163,730	459,978^a	277,111^a	342,897^a	502,557^a	1,746,273^a

(a) Exclusive of shipment for military purposes.

Consequent on the greater demand for remounts for the Indian Army, a large increase took place in the number of horses exported to that country during the last four years. Of the 2,659 horses exported to "Other Countries" during 1914-15—2,270, valued at £50,075, were shipped to France. In addition to the exports shewn in the above tables, there were 39,348 horses, valued at £815,300, shipped from the Commonwealth for military purposes from the commencement of the war to 30th June, 1918.

The number of horses imported into the Commonwealth is comparatively small, consisting mainly of valuable animals introduced for breeding purposes, and imported principally from New Zealand and the United Kingdom. The average value per head of the horses imported during the last five years was £146 8s. 11d., as compared with £19 14s. 4d. per head for the exports for the same period. The average number imported per annum was, however, only 491, and the average annual value £71,876. The following table furnishes a comparison of imports and exports of horses during 1901 and each of the five years 1913 to 1917-18 :—

**COMMONWEALTH IMPORTS AND EXPORTS OF HORSES,
1901 AND 1913 TO 1917-18.**

Year.	Imports.		Exports.		Net Exports.	
	No.	Value.	No.	Value.	No.	Value.
		£		£		£
1901	246	19,601	32,474	438,248	32,228	418,647
1913	801	100,341	8,562	163,730	7,761	63,389
1914-15	452	81,473	24,107	459,978	23,655	378,505
1915-16	620	91,928	15,209	277,111	14,589	185,183
1916-17	285	36,697	16,513	342,897	16,228	306,200
1917-18	296	48,941	24,172	502,557	23,876	453,616

5. **Comparison with other Countries.**—The numbers of horses in some of the leading horse-breeding countries of the world, according to the latest available returns, are as follows :—

**NUMBER OF HORSES IN SOME OF THE LEADING HORSE-BREEDING
COUNTRIES IN THE WORLD.**

Country.	Date.	Number of Horses. (,000 omitted.)	Country.	Date.	Number of Horses. (,000 omitted.)
Russian Empire (a) ..	1914	35,846	Sweden	1916	701
U.S. of America	1916	21,126	Uruguay	1908	556
Argentine Republic ..	1914	8,324	Denmark	1917	538
Brazil	1916	6,065	Spain	1916	489
Austria-Hungary (b)	1910-13	4,380	Bulgaria	1910	478
Germany (c)	1915	3,342	Chile	1914	458
Canada	1917	3,035	New Zealand	1917	378
Australia	1917	2,499	Finland	1910	361
France (d)	1917	2,283	Netherlands	1913	334
Italy (e)	1914	2,235	Belgium	1913	267
United Kingdom	1917	2,190	Philippine Islands	1915	223
British India	1914-15	1,653	Algeria	1913	216
Japan	1915	1,580	Norway	1916	189
Rumania	1916	1,219	Serbia	1910	153
Mexico	1902	859	Switzerland	1916	137
Cuba	1916	750	Portugal	1906	88
Union of S. Africa ..	1911	719	Egypt	1916	34

(a) Including Poland, Caucasus and Siberia. (b) Austria 1910, Hungary 1913, Croatia-Slavonia 1911, Bosnia-Herzegovina 1910. (c) Exclusive of army horses. (d) Exclusive of invaded area. (e) Includes mules and asses.

6. **Relation to Population.**—In proportion to population, horses are much more numerous in the Northern Territory than in any other of the principal divisions of the Commonwealth. Queensland is next in order, while Tasmania has the smallest number of horses per head. In all cases the number of horses per head of population was somewhat higher in 1917 than in 1901. Particulars for 1901 and the past five years are as follows :—

NUMBER OF HORSES PER HEAD OF POPULATION,
1901 AND 1913 TO 1917.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Terr.	F. Terr.	C'wealth.
1901 ..	0.35	0.32	0.91	0.46	0.38	0.18	2.76	..	0.42
1913 ..	0.41	0.40	1.07	0.64	0.49	0.22	6.21	0.86	0.52
1914 ..	0.39	0.39	1.10	0.61	0.50	0.21	5.53	0.62	0.51
1915 ..	0.39	0.35	1.01	0.58	0.51	0.21	4.37	0.53	0.48
1916 ..	0.39	0.37	1.04	0.60	0.55	0.21	4.55	0.66	0.51
1917 ..	0.39	0.36	1.08	0.60	0.58	0.21	5.34	0.58	0.50

§ 3. Cattle.

1. **Purposes for which Raised.**—In all the States of the Commonwealth, cattle raising is carried out on a more or less extensive scale, the main object in certain districts being the production of stock suitable for slaughtering purposes, and in others the raising of profitable dairy herds. The great impetus which the development of the export trade in Australian butter gave to the dairying industry in the Commonwealth led to a considerable increase in numbers and improvement in quality of the dairy herds of Victoria, New South Wales, and Southern Queensland in particular, the sub-tropical portion of Australia being apparently the best adapted to this industry. On the other hand, by far the finest specimens of beef-producing cattle are those raised in the tropical districts of the Commonwealth, *i.e.*, in the northern parts of Queensland, in the Northern Territory, and in the Kimberley districts in the north of Western Australia.

2. **Distribution throughout Commonwealth.**—Until 1880 New South Wales occupied the leading position in the Commonwealth group as a cattle-raising State, but in that year Queensland forged ahead and obtained a lead which it has since maintained. The extent of this lead has, however, varied considerably, owing principally to the effects produced by the tick fever and droughts, from both of which causes the Queensland herds suffered more severely than those of the other States. In fact, during the period from 1894, when the number of cattle in Queensland attained its maximum of rather more than 7,000,000, to 1903, when the number recorded was less than 2,500,000, an uninterrupted decline was experienced. During the eleven years ended 1914, however, a rapid improvement took place, and the total reached on 31st December, 1914, was over 5,450,000. Owing to drought conditions the number at the end of 1915 had fallen to 4,780,893, with a further decline to 4,765,657 at the end of 1916. An increase was again in evidence in all the States in the 1917 figures, and the Commonwealth total of 11,956,024 was the largest since the record year 1894, when an aggregate of 12,311,617 was attained.

The number of cattle in the several States and Territories at quinquennial intervals from 1860 to 1910 and for each of the last five years are as follows :—

NUMBER OF CATTLE IN STATES, TERRITORIES, AND COMMONWEALTH,
1860 TO 1917.

Year.	N.S.W.	Victoria. (a)	Q'land.	S. Aust.	W. Aust.	Tas. (a)	Nor. Ter.	Fed. Ter.	C'wealth.
1860	2,408,586	722,332	432,890	278,265	32,476	83,366	..	..	3,957,915
1865	1,961,905	621,337	848,346	158,057	45,148	90,020	..	..	3,724,813
1870	2,195,096	721,096	1,076,630	136,832	45,213	101,459	..	..	4,276,326
1875	3,134,086	1,054,598	1,812,576	219,240	50,416	118,694	..	..	6,389,610
1880	2,580,040	1,286,267	3,162,752	283,315	63,719	127,187	c19,720	..	7,523,000
1885	1,317,315	1,290,790	4,162,652	271,478	70,408	138,642	146,562	..	7,397,847
1890	2,091,229	1,782,978	5,558,264	359,938	130,970	162,440	214,094	..	10,299,913
1895	2,150,057	1,795,314	6,822,401	355,867	200,091	162,801	280,957	..	11,767,488
1900	1,983,116	1,602,384	4,078,191	214,761	338,590	165,516	257,667	..	8,640,225
1905	2,337,973	1,737,690	2,963,695	304,027	631,825	206,211	346,910	..	8,528,331
1910	3,140,307	1,547,569	5,131,699	384,862	825,040	201,854	513,383	..	11,744,714
1913	2,815,113	1,528,553	5,322,033	352,905	834,265	205,743	417,643	7,627	11,483,882
1914	2,472,631b	1,362,542	5,455,943	300,579	863,835	176,524	414,558	4,961b	11,051,573
1915	2,400,104b	1,043,604	4,780,893	226,565	821,048	169,575	483,961	5,666b	9,931,416
1916	2,757,713b	1,175,098	4,765,657	288,887b	863,930	179,360	428,862	8,230b	10,467,737
1917	3,148,309b	1,371,049	5,316,558	313,245b	957,086	197,938	638,431	13,408b	11,956,024

(a) 1st March year following. (b) 30th June year following. (c) Statistics not collected prior to 1880.

3. Proportion in each State.—During the period elapsing between 1901 and 1917 the proportion of cattle in the several States and the Northern Territory has varied considerably, as shewn hereunder :—

PERCENTAGE OF CATTLE IN EACH STATE AND TERRITORY ON TOTAL FOR
COMMONWEALTH, 1901 AND 1913, TO 1917.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Fed. Ter.	C'wealth.
	%	%	%	%	%	%	%	%	%
1901 ..	24.11	19.12	44.43	2.65	4.69	1.99	3.01	..	100.00
1913 ..	24.51	13.31	46.34	3.07	7.27	1.79	3.64	0.07	100.00
1914 ..	22.37	12.33	49.37	2.72	7.82	1.60	3.75	0.04	100.00
1915 ..	24.17	10.51	48.14	2.28	8.27	1.71	4.87	0.05	100.00
1916 ..	26.34	11.23	45.53	2.76	8.25	1.71	4.10	0.08	100.00
1917 ..	26.33	11.47	44.47	2.62	8.01	1.65	5.34	0.11	100.00

A comparison of the positions of the several States in 1901 and 1917 shews that, while Victoria's proportion of the Commonwealth herds suffered considerable diminution, and those for Tasmania a falling-off to a slight extent, fairly large increases have taken place in Western Australia. New South Wales and the Northern Territory also shewed an upward tendency.

4. Imports and Exports of Cattle.—Although the various products of the cattle-raising industry bulk largely in the export trade of the Commonwealth, the export of live cattle from Australia has never been considerable. The number of cattle imported is also small, consisting, as in the case of horses, mainly of valuable animals for breeding. Details are as follows :—

**COMMONWEALTH IMPORTS AND EXPORTS OF CATTLE,
1901 AND 1913 TO 1917-18.**

Year.	Imports.		Exports.		Net Exports.	
	No.	Value.	No.	Value.	No.	Value.
		£		£		£
1901	114	3,591	2,413	22,088	2,299	18,497
1913	57	5,572	14,605	55,801	14,548	50,229
1914-15 ..	221	21,090	10,342	40,648	10,121	19,558
1915-16 ..	440	19,169	5,857	29,258	5,417	10,089
1916-17 ..	234	14,254	2,977	18,836	2,743	4,582
1917-18 ..	222	23,570	1,339	12,577	1,117	-10,993

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

The average value of the cattle imported into the Commonwealth during the last five years was £71 5s. 1d. per head, while the average value of the cattle exported during the same period was £4 9s. 6d. As stated previously, the imported cattle were principally for stud purposes.

The comparatively large exports for the year 1913 were due to shipments to Java and Philippine Islands valued at £23,033 and £25,842 respectively. The bulk of these cattle were exported from Western Australia.

5. Cattle Slaughtered.—Complete returns of the number of cattle slaughtered annually in the Commonwealth are not obtainable, as these particulars were collected in Tasmania prior to 1911 for Hobart and Launceston only, and were collected in South Australia for the first time in 1908 in respect of the year 1907. Estimates for these States have, however, been made, and the results are included in the following table :—

**CATTLE (INCLUDING CALVES) SLAUGHTERED IN STATES, TERRITORIES, AND
COMMONWEALTH, 1901 AND 1913 TO 1917.**

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas. (a)	N. Ter.	F. Ter.	C'wealth.
1901	335,823	251,477	377,433	c72,000	39,424	34,000	d	..	1,110,157
1913	679,901	410,694	703,367	116,282	62,613	30,038	e4,061	276	2,007,232
1914	b635,196	470,011	776,869	112,183	61,387	30,064	c4,000	b142	2,089,852
1915	b384,977	356,174	653,015	82,070	65,121	28,586	c4,000	b 55	1,573,998
1916	b393,400	247,781	578,203	b63,167	59,038	26,972	c4,000	b122	1,372,683
1917	b377,936	217,480	582,954	b69,789	50,781	23,521	c22,911	b 87	1,345,459

(a) Partly estimated prior to 1913. (b) For year ended 30th June of year following.
(c) Estimated. (d) Not available. (e) 1910 figures.

6. **Export of Beef Preserved by Cold Process.**—A large export trade in beef preserved by cold process is carried on by the Commonwealth in normal times, mainly with the United Kingdom and the Philippine Islands. The quantities so exported during the five years 1913 to 1917-18 are as follows :—

QUANTITY OF BEEF PRESERVED BY COLD PROCESS EXPORTED FROM THE COMMONWEALTH, 1913 TO 1917-18.

Country to which Exported.	1913.	1914-15.	1915-16.	1916-17.	1917-18.	Total for 5 years.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
United Kingdom ..	169,963,291	253,396,440	108,906,118	239,384,893	145,300,631	916,951,373
Egypt ..	3,990,804	4,281,049	109,969	..	30,359,072	38,740,894
Philippine Islands ..	14,535,447	11,352,425	4,089,865	548,398	1,368,713	31,894,848
United States ..	5,037,769	15,974,209	..	..	..	21,011,978
Straits Settlements ..	2,053,514	2,260,587	1,411,876	1,691,256	1,535,005	8,952,238
Italy ..	6,356,514	170,159	..	..	..	6,526,673
Union of South Africa ..	5,656,346	194,588	..	..	..	5,850,934
Hawaiian Islands ..	2,356,115	1,538,997	..	200,396	502,067	4,597,575
Canada ..	3,352,675	60,540	..	..	..	3,413,215
Malta ..	1,142,092	1,338,439	..	..	..	2,480,531
Germany ..	1,813,799	..	..	..	..	1,813,799
Hong Kong ..	423,659	216,350	38,859	90,000	98,058	866,926
Gibraltar ..	353,582	487,289	..	..	..	840,871
Ceylon ..	221,521	210,903	1,330	83,752	203,823	721,329
Other Countries ..	1,661,478	584,514	118,087	82,991	881,932	3,329,002
Total ..	218,918,606	292,066,480	114,676,104	242,081,686	180,240,301	1,047,992,186

The value of the beef preserved by cold process exported from the Commonwealth during the same years is as follows :—

VALUE OF BEEF PRESERVED BY COLD PROCESS EXPORTED FROM THE COMMONWEALTH, 1913 TO 1917-18.

Country to which Exported.	1913.	1914-15.	1915-16.	1916-17.	1917-18.	Total for 5 years.
	£	£	£	£	£	£
United Kingdom ..	2,037,978	4,430,370	2,055,045	4,890,927	2,976,301	16,390,621
Egypt ..	49,134	71,040	2,520	..	616,627	739,321
Philippine Islands ..	183,047	169,327	86,011	11,139	31,449	480,973
United States ..	66,838	209,938	..	..	..	276,776
Straits Settlements ..	25,576	33,447	28,040	34,397	31,819	153,279
Hawaiian Islands ..	38,003	24,498	..	4,358	17,968	84,827
Italy ..	75,130	2,130	..	..	..	77,260
Union of South Africa ..	65,906	2,500	..	..	..	68,406
Canada ..	44,456	1,272	..	..	..	45,728
Malta ..	13,214	22,349	..	..	..	35,563
Germany ..	23,388	..	..	..	..	23,388
Ceylon ..	2,643	3,003	25	2,352	4,582	12,605
Hong Kong ..	4,392	2,924	764	1,850	2,032	11,982
Gibraltar ..	3,595	6,691	..	..	..	10,286
Other Countries ..	18,975	10,565	3,489	2,047	17,915	52,991
Total ..	2,652,275	4,990,054	2,175,894	4,947,070	3,698,693	18,463,986

During the five years under review, the largest of Australia's customers for beef preserved by cold process has been the United Kingdom, while the second largest customer has been Egypt; the Philippine Islands, the United States, and the Straits Settlements ranked next in order of importance. Consequent on the war over 90 per cent. was absorbed by the United Kingdom during the last four years, while most of the balance was shipped to Egypt, the Philippine Islands, and the Straits Settlements. The exporting States and Territories during 1917-18 were :—Queensland, 169,798,883 lbs., valued at £3,455,308; Northern Territory, 5,053,719 lbs., valued at £116,464; New South Wales, 4,084,003 lbs., valued at £95,689; South Australia, 1,177,674 lbs., valued at £25,268; and Victoria, 135,022 lbs., valued at £5,964.

7. *Comparison with other Countries.*—In the following comparison of the herds of Australia with those of some of the principal cattle-raising countries of the world, the latest available figures have been inserted in each case :—

NUMBER OF CATTLE IN VARIOUS COUNTRIES.

Country.	Date.	No. of Cattle. (,000 omitted.)	Country.	Date.	No. of Cattle. (,000 omitted.)
British India (a)	.. 1914-15	128,310	Sweden	1916	2,913
U.S. of America	.. 1916	63,617	New Zealand	1917	2,869
Russian Empire (b)	.. 1914	52,052	Denmark	1916	2,453
Brazil (c)	.. 1916	28,962	Netherlands	1917	2,304
Argentine Republic	.. 1914	25,867	Chile	1915	1,969
Germany .. ..	.. 1915	20,317	Belgium	1913	1,849
Austria-Hungary (d)	.. 1910-13	17,648	Switzerland	1916	1,616
France (e)	.. 1917	12,443	Bulgaria	1910	1,603
United Kingdom	.. 1917	12,382	Ceylon (c)	.. 1915	1,501
Australia	.. 1917	11,956	Japan	1915	1,388
Uruguay .. ..	.. 1916	7,803	Norway	1916	1,119
Italy (c)	.. 1914	6,646	Algeria	1913	1,108
Canada .. ..	.. 1917	5,968	Serbia	1910	957
Union of South Africa	1911	5,797	Portugal	1906	703
Mexico .. ..	.. 1902	5,142	Philippine Islands	.. 1915	534
Cuba .. ..	.. 1916	3,962	Egypt	1916	493
Spain .. ..	.. 1916	3,071	Tunis	1916	240
Rumania (c)	.. 1916	2,938			

(a) Including young buffaloes. (b) Including Poland, Caucasus and Siberia. (c) Including buffaloes. (d) Austria 1910, Hungary 1913, Croatia-Slavonia 1911, and Bosnia-Herzegovina 1911. (e) Exclusive of invaded area.

8. *Relation to Population.*—The number of cattle per head of population differs considerably in the several States, and is also subject to marked variation from year to year in the same State. Particulars for 1901 and the past five years are as follows :—

NUMBER OF CATTLE PER HEAD OF POPULATION, 1901 AND 1913 TO 1917.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Terr.	F. Terr.	C'wealth.
1901 ..	1.49	1.34	7.44	0.63	2.06	0.96	54.68	..	2.22
1913 ..	1.54	1.08	8.06	0.82	2.60	1.02	113.74	3.84	2.36
1914 ..	1.33	0.95	8.06	0.68	2.67	0.88	104.34	3.57	2.24
1915 ..	1.29	0.74	7.04	0.52	2.58	0.84	106.06	2.30	2.01
1916 ..	1.47	0.84	7.12	0.67	2.80	0.90	89.96	3.70	2.14
1917 ..	1.65	0.97	7.84	0.71	3.09	0.97	130.08	5.42	2.41

For the Commonwealth as a whole the ratio of cattle to population is nearly 9 per cent. greater for 1917 than for 1901, an excess of the 1917 figures over those for 1901 being in evidence in every State with the exception of Victoria.

§ 4. Sheep.

1. *The Founding of the Commonwealth Pastoral Industry.*—Fortunately for Australia, the suitability of its climate and general conditions for the production of a high class of wool was, at an early date in the history of its settlement, surmised and tested by Captain Macarthur, one of the pioneer sheep-breeders of New South Wales. To the energy of this enterprising pastoralist is due in large measure the rapid and extremely satisfactory development of Australia as a producer of fine wool, and though

it would appear that the introduction of the Merino sheep into Australia was not due to Macarthur, a great deal of the credit for having successfully established the pastoral industry in Australia must certainly be his.

2. **Distribution throughout Commonwealth.**—With the exception of a short period in the early sixties, when the flocks of Victoria outnumbered those of the mother State, New South Wales has maintained amongst the Commonwealth group the lead in sheep production which naturally attached to it as the portion of the Commonwealth in which settlement was first effected. From 1878 to 1901, the number of sheep in New South Wales represented more than half the total for the Commonwealth. In subsequent years it has rarely fallen much below that proportion, and has on several occasions exceeded it.

The number of sheep in the several States and Territories at quinquennial intervals from 1860 to 1910, and for each year from 1913 to 1917, is as follows:—

**NUMBER OF SHEEP IN STATES, TERRITORIES, AND COMMONWEALTH,
1860 TO 1917.**

Year.	New South Wales.	Victoria. (a)	Queens-land.	South Australia.	Western Australia.	Tasmania. (a)	Nor. Terr.	Fed. Terr.	Total C'wealth.
1860	6,119,163	5,780,896	3,449,350	2,824,811	260,136	1,700,930	..	..	20,135,286
1865	8,132,511	8,835,380	6,594,966	3,779,308	445,044	1,752,719	..	..	29,539,928
1870	16,308,585	10,761,887	8,163,818	4,400,655	608,892	1,349,775	..	..	41,593,612
1875	25,353,924	11,749,532	7,227,774	6,179,395	881,861	1,731,723	..	..	53,124,209
1880	35,398,121	10,360,285	6,935,967	6,443,904	1,231,717	1,796,715	99,318	..	62,176,027
1885	37,820,906	10,681,837	8,994,322	6,593,648	1,702,719	1,648,627	49,917	..	67,491,976
1890	55,986,431	12,692,827	18,007,234	7,004,642	2,524,913	1,619,256	45,902	..	97,881,221
1895	47,617,687	12,791,094	19,856,959	6,531,006	2,295,832	1,523,846	73,313	..	90,689,727
1900	40,020,506	10,841,790	10,339,185	5,235,220	2,434,311	1,683,956	48,027	..	74,540,916
1905	39,506,764	11,455,115	12,535,231	6,277,812	3,120,703	1,583,561	61,730	..	74,540,916
1910	45,560,969	12,882,665	20,331,838	6,267,477	5,158,516	1,788,310	57,240	..	92,047,015
1913	39,701,348	12,113,682	21,786,600	5,073,057	4,421,375	1,745,356	67,109	148,875	85,057,402
1914	632,874,359	12,051,685	23,129,919	4,208,461	4,456,186	1,674,845	70,200	6134,679	78,600,334
1915	632,498,046	10,545,632	15,950,154	3,674,547	4,803,850	1,624,450	57,827	6102,683	69,257,189
1916	636,086,241	12,576,587	15,524,293	65,091,282	6,529,960	1,702,579	47,520	6110,142	76,668,604
1917	638,482,465	14,760,013	17,204,268	66,229,519	6,384,191	1,711,116	54,709	6138,731	84,965,012

(a) 1st March year following. (b) 30th June of year following.
(c) Statistics not collected prior to 1880.

3. **Proportion in the Several States and Territories.**—Particulars concerning the relative positions of the several States and Territories with respect to the total flocks of Australia during the years 1901 and 1913 to 1917, and the variations in such positions which have taken place during those years, are as hereunder:—

**PERCENTAGE OF SHEEP IN EACH STATE AND TERRITORY ON TOTAL FOR
COMMONWEALTH, 1901 AND 1913 TO 1917.**

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Terr.	F. Terr.	C'wealth.
	%	%	%	%	%	%	%	%	%
1901 ..	58.10	14.82	13.92	6.95	3.65	2.49	0.07	..	100.00
1913 ..	46.68	14.24	25.61	5.96	5.20	2.05	0.08	0.18	100.00
1914 ..	41.83	15.33	29.43	5.35	5.67	2.13	0.09	0.17	100.00
1915 ..	46.92	15.23	23.03	5.30	6.94	2.35	0.08	0.15	100.00
1916 ..	47.07	16.41	20.25	6.64	7.21	2.22	0.06	0.14	100.00
1917 ..	45.29	17.37	20.25	7.33	7.52	2.01	0.07	0.16	100.00

During the period, the proportion of total Commonwealth flocks declined considerably in the case of New South Wales, and in a less marked degree in Tasmania, while in the cases of Queensland, Western Australia, and Victoria substantial advances in proportion were experienced.

4. **Oversea Imports and Exports of Sheep.**—As in the case of cattle, the oversea exports of live sheep from Australia are of comparatively small importance. The principal countries to which such exports have been consigned during recent years are the Straits Settlements, Union of South Africa, and Pacific Islands; Western Australia being the principal exporting State. The following are the particulars of the imports and exports for the years 1901 and 1913 to 1917—18 :—

COMMONWEALTH IMPORTS AND EXPORTS OF SHEEP, 1901 AND 1913 TO 1917—18.

Year.	Imports.		Exports.		Net Exports.	
	No.	Value.	No.	Value.	No.	Value.
		£		£		£
1901	553	12,134	12,094	12,104	11,541	—30
1913	8,448	28,508	41,770	75,073	33,322	46,565
1914—15 ..	6,140	23,622	16,889	37,826	10,749	14,204
1915—16 ..	6,597	36,511	7,325	19,004	728	—17,507
1916—17 ..	3,809	24,470	7,007	32,944	3,198	8,474
1917—18 ..	1,719	8,850	10,799	24,899	9,080	16,049

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

5. **Sheep Slaughtered.**—The numbers of sheep slaughtered in the several States during 1901 and from 1913 to 1917 are as follows :—

SHEEP (INCLUDING LAMBS) SLAUGHTERED, 1901 AND 1913 TO 1917.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania. (a)	Nor. Ter.	Fed. Ter.	C'wealth.
1901	4,519,133	2,469,797	554,705	678,000	428,534	322,000	..	..	8,972,169
1913	6,420,810	4,742,231	1,375,827	1,222,315	602,383	315,726	d516	4,765	14,684,573
1914	66,006,190	4,550,272	1,351,145	1,156,957	588,342	312,275	e500	64,351	13,970,032
1915	64,173,511	2,973,803	1,316,152	918,526	564,535	288,419	e500	63,376	10,238,822
1916	63,756,477	2,647,200	909,615	668,612	547,041	283,313	e500	62,975	8,833,233
1917	63,198,465	2,499,002	689,905	6808,914	590,244	259,287	e500	63,713	8,050,030

(a) Partly estimated. (b) Year ended 30th June year following. (c) Estimated. (d) Figures for 1910.

6. **Exports of Mutton and Lamb Preserved by Cold Process.**—Australia's export trade in mutton and lamb preserved by cold process has, in recent years, advanced rapidly. In 1903 the value of exports was £492,114, while seven years afterwards, in 1910, the value amounted to no less a sum than £2,161,513; the average for the two years, 1913 and 1914—15, was £3,155,190, but, consequent on drought and war conditions, the value of the exports fell to £769,752 in 1915—16, to £1,540,572 in 1916—17, and to £452,647 in 1917—18. In all the States considerable attention is now being paid to the breeding of a class of sheep that will best meet the requirements of consumers. Crosses between the Merino and the Lincoln, or between the Merino and the Leicester breeds, have proved exceedingly valuable, as they furnish both a good quality of wool and an excellent carcass for export purposes. The breeding of Shropshire and Southdown sheep with a view to combining meat production with that of wool is also on the increase. Special attention is being paid to the raising of lambs, as it has become widely recognised that with suitable breeds the export trade in lambs is very profitable.

As in the case of frozen beef, Australia's principal customer in this trade is the United Kingdom, which has absorbed 94 per cent. of the total quantity exported from the Commonwealth during the past five years, while the balance was shipped mainly to Egypt, Germany (1913 only), Straits Settlements, and Canada.

QUANTITY OF MUTTON AND LAMB PRESERVED BY COLD PROCESS EXPORTED FROM THE COMMONWEALTH, 1913 TO 1917-18.

Country to which Exported.	1913.	1914-15.	1915-16.	1916-17.	1917-18.	Total for 5 years.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
United Kingdom ..	101,440,138	187,897,976	36,539,660	65,140,182	9,532,577	490,550,533
Egypt ..	633,109	902,604	319,156	..	8,071,709	9,926,578
Germany ..	5,144,062	..	..	..	..	5,144,062
Straits Settlements ..	928,783	1,068,164	749,883	964,335	824,406	4,535,571
Canada ..	1,662,910	413,013	..	..	199,092	2,275,015
Union of South Africa ..	1,550,257	387,006	..	..	..	1,937,263
Malta ..	1,059,183	798,996	..	..	..	1,858,179
Ceylon ..	365,065	504,115	302,839	284,130	252,716	1,508,865
Philippine Islands ..	778,693	370,296	132,134	35,608	122,963	1,439,694
Hong Kong ..	401,380	256,068	194,209	272,450	144,789	1,268,896
United States ..	571,008	195,225	..	..	..	766,233
Gibraltar ..	..	463,106	..	..	..	463,106
Hawaiian Islands ..	91,085	30,802	..	..	..	121,887
Other Countries ..	306,110	176,506	105,747	116,104	27,058	731,525
Total ..	204,931,783	193,263,877	38,343,628	66,812,809	19,175,310	522,527,407

The corresponding particulars concerning the values of the exports are:—

VALUES OF FROZEN MUTTON AND LAMB EXPORTED FROM THE COMMONWEALTH, 1913 TO 1917-18.

Country to which Exported.	1913.	1914-15.	1915-16.	1916-17.	1917-18.	Total for 5 years.
	£	£	£	£	£	£
United Kingdom ..	2,712,682	3,321,045	725,255	1,496,658	213,710	8,469,350
Egypt ..	9,435	16,577	7,719	..	194,199	227,930
Straits Settlements ..	11,841	18,553	18,713	25,534	23,885	98,526
Germany ..	67,396	..	..	..	..	67,396
Canada ..	27,256	7,507	..	..	5,471	40,234
Ceylon ..	5,091	5,346	7,524	7,250	7,103	32,314
Malta ..	14,142	12,920	..	..	..	27,062
Union of South Africa ..	19,936	6,538	..	..	..	26,474
Hong Kong ..	5,571	4,422	4,928	7,210	4,072	26,203
Philippine Islands ..	9,649	6,212	3,039	965	3,425	23,290
United States ..	7,793	3,066	..	..	..	10,859
Gibraltar ..	..	7,660	..	..	..	7,660
Hawaiian Islands ..	1,386	772	..	..	..	2,158
Other Countries ..	4,354	3,230	2,574	2,955	782	13,895
Total ..	2,896,532	3,413,848	769,752	1,540,572	452,647	9,073,351

7. Comparison with other Countries.—As regards the size of its flocks, and the quantity and quality of wool produced, Australia has long occupied a leading position amongst the sheep-raising countries of the world. From estimates published in the Year Book of the United States Department of Agriculture it would appear that the

approximate number of sheep in the world is in the neighbourhood of 550,000,000, to which total Australia contributes about 15½ per cent. The following comparison taken mainly from the same source gives the latest available figures relative to the number of sheep in the principal wool-producing countries :—

NUMBER OF SHEEP IN VARIOUS COUNTRIES.

Country.	Date.	No. of Sheep. (000 omitted.)	Country.	Date.	No. of Sheep. (000 omitted.)
Australia	1917	84,965	Brazil	1916	7,205
Russian Empire (a) ..	1914	72,273	Germany	1915	5,073
U. S. of America	1916	48,483	Chile	1914	4,545
Argentine Republic ..	1914	43,225	Serbia	1910	3,819
Union of South Africa ..	1915	31,434	Greece	1914	3,547
United Kingdom	1917	27,867	Mexico	1902	3,424
Ottoman Empire	1912	27,095	Portugal	1906	3,073
Uruguay	1908	26,286	Canada	1917	2,009
New Zealand	1917	25,270	Finland	1910	1,309
British India	1914-15	23,016	Norway	1916	1,281
Spain	1916	16,012	Sweden	1916	1,198
Italy (b)	1914	13,824	Tunis	1916	1,148
Austria-Hungary (c) ..	{ 1910 }	12,337	Iceland	1914	585
	{ 1913 }		Netherlands	1917	521
France (d)	1917	10,587	Denmark	1917	270
Algeria	1912	8,338	Belgium	1910	185
Bulgaria	1910	8,632	Switzerland	1916	172
Rumania	1916	7,811			

(a) Including Poland, Caucasus, and Siberia. (b) Including goats. (c) Austria, Croatia-Slavonia and Bosnia-Herzegovina 1910; Hungary 1913. (d) Exclusive of invaded area.

8. **Relation to Population.**—The relation of the flocks of the several States and Territories to the population at the end of the year 1901 and from 1913 to 1917 is as follows :—

NUMBER OF SHEEP PER HEAD OF POPULATION, 1901 AND 1913 TO 1917.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	F.T.	C'wealth.
1901 ..	30.43	8.82	19.80	13.95	13.56	10.23	10.34	..	18.83
1913 ..	21.67	8.58	33.00	11.53	13.79	8.65	18.28	74.89	17.46
1914 ..	17.66	8.42	34.18	9.53	13.79	8.32	17.66	69.42	15.91
1915 ..	17.42	7.43	23.50	8.38	15.11	8.08	12.67	41.64	14.04
1916 ..	19.24	8.99	23.19	11.77	17.91	8.52	9.97	49.55	15.68
1917 ..	20.14	10.46	25.38	14.18	20.63	8.42	11.15	56.10	17.13

A comparison of the ratios of sheep to population for 1917 with those for 1901 discloses increases in the cases of Western Australia, Queensland, Victoria, South Australia, and the Northern Territory, and decreases in the other States.

§ 5. Wool.

1. **Importance of Wool Production.**—The chief contributing factor to the pastoral wealth of Australia is the production of wool, the value of the output for the season ended 30th June, 1918, being about £37,011,000. The bulk of the wool produced in the Commonwealth is exported, but with the greater activity of the local woollen mills there has, in recent years, been an increasing quantity used in Australia, although even now the quantity so used represents only a little over 3 per cent. of the whole clip.

2. **Greasy and Scoured Wool.**—For the purpose of comparing the clips of the several States or of the Commonwealth as a whole for a series of years, it is convenient to have the total production expressed in terms of greasy wool.

The quantity of Australian wool scoured and washed before export during recent years has been on the average about 25 per cent. of the total clip. The loss of weight in scouring varies largely with season, locality, breed, and condition. It seems preferable to express "scoured and washed" wool in terms of "greasy" rather than vice versa, since the absolute error arising from uncertainty as to average loss of weight has thus the less effect.

In the following tables relative to the production of wool, "scoured and washed" wool has been converted into the estimated equivalent amount of "greasy" wool, on the assumption that two pounds of "greasy" wool are on the average required to produce one pound of "scoured and washed" wool.

3. **Total Production.**—The estimated production of wool in the several States, formerly based on the Customs returns, being no longer available from that source, an effort has been made to arrive at approximate figures from data collected by the State Statisticians from growers and fellmongers, &c. Particulars for years prior to 1913-14 will be found in earlier issues (see Year Book No. 6, page 346, and No. 9, page 296). The following table gives the estimates obtained in reference to the five seasons ended 30th June, 1914 to 1918:—

ESTIMATED QUANTITY OF WOOL AS IN THE GREASE, SHORN, FELLMONGERED OR ON SKINS SHIPPED DURING THE SEASONS ENDED 30th JUNE, 1914 TO 1918.

State.	1913-14.	1914-5.	1915-16.	1916-17.	1917-18.
	lbs.	lbs.	lbs.	lbs.	lbs.
New South Wales (a)	357,985,000	318,935,000	262,044,982	270,525,000	284,188,000
Victoria ..	106,833,690	95,406,867	82,330,198	94,845,024	105,424,682
Queensland ..	154,183,114	155,478,740	130,783,277	102,220,125	87,425,558
South Australia ..	55,014,048	38,848,978	33,969,975	35,050,865	46,339,339
Western Australia ..	26,625,787	24,562,110	31,914,040	34,269,303	39,076,260
Tasmania ..	10,092,564	9,103,030	9,212,203	10,441,978	10,284,316
Northern Territory (b)	400,000	400,000	350,000	350,000	330,000
Commonwealth ..	711,134,203	642,734,725	550,604,675	547,702,295	573,068,155

(a) Including Federal Territory. (b) Approximate figures.

It is to be noted that a shortage has apparently occurred in the collection of these statistics, the estimates falling considerably below the approximate totals obtained from oversea shipments of wool and skins, together with the quantity used in local manufactories. The Commonwealth total so obtained represented 768,586,806 lbs. for the season 1913-14. The abnormal conditions of wool shipments obtaining during the last four seasons do not admit of any similar comparison with the estimated production for those seasons.

in 1916-17, 4,845,515 lbs., valued at £1,199,180; and in 1917-18, 4,566,198 lbs., valued at £1,509,681.

The total value of the wool exported from the Commonwealth to the principal countries during the five years under review was:—

**TOTAL VALUE OF WOOL EXPORTED FROM THE COMMONWEALTH,
1913 TO 1917-18.**

Country to which Exported.	1913.	1914-15.	1915-16.	1916-17.	1917-8.	Total for 5 years.
	£	£	£	£	£	£
United Kingdom ..	9,456,636	15,413,174	12,608,971	23,431,942	15,648,660	76,559,383
United States of America ..	745,354	3,110,301	8,381,302	13,513	4,389,755	16,640,225
France ..	7,429,856	694,751	952,026	963,097	372,453	10,412,183
Japan ..	735,018	1,502,576	2,557,091	2,470,414	1,796,089	9,091,188
Italy ..	256,718	716,260	2,115,891	1,845,861	1,005,058	5,939,788
Germany ..	4,693,157	295,376	..	..	..	4,988,533
Belgium ..	2,386,892	187,755	..	..	..	2,574,647
Egypt ..	6,037	..	..	..	939,149	945,186
Austria-Hungary ..	519,477	50,436	..	..	..	569,913
Canada ..	5,404	50,063	53,316	77,267	338,087	524,137
India ..	30,586	30,739	32,442	87,860	66,780	248,407
New Zealand ..	5,199	19,962	4,931	..	..	30,092
Other Countries ..	6,728	30,789	118,121	63,384	30,833	249,855
Total ..	26,277,062	22,102,182	26,854,091	28,953,338	24,586,864	128,773,537

7. **Care Needed in Comparing Clips.**—The Customs returns prior to 1914-15 do not furnish a reliable indication of increase or decrease in successive clips, since in each case they relate to the year ended 31st December, and include imports and exports of wool belonging to two distinct clips. A further defect in the comparability of successive clips is due to the circumstance that owing to climatic or other conditions, the time of shearing may be so far delayed that one clip may include almost thirteen months' growth of wool, while the succeeding one may include little more than eleven months' growth.

8. **Wool-producing Countries in Southern Hemisphere.**—The next table, compiled by one of the leading English wool-broking firms, furnishes interesting evidence of the relative importance of the three great wool-producing areas of the Southern Hemisphere. The figures given are the latest available, and represent for the respective years the imports of wool into Europe and North America:—

**IMPORTS OF WOOL INTO EUROPE AND NORTH AMERICA,
1901 AND 1912 TO 1916.**

Year.	Australia and New Zealand.	Cape Colony.	River Plate.	Total.	Average Value of Australasian and Cape Bales.
	Bales.	Bales.	Bales.	Bales.	£
1901 ..	1,745,000	217,000	532,000	2,494,000	10.5
1912 ..	2,463,000	463,000	497,000	3,423,000	15.0
1913 ..	2,296,000	484,000	437,000	3,217,000	16.5
1914 ..	2,332,000	499,000	406,000	3,237,000	17.0
1915 ..	2,157,000	519,000	378,000	3,054,000	19.0
1916 ..	1,919,000	500,000	344,000	2,763,000	27.0

As the River Plate bale is much larger than the Australasian or Cape bale, a comparison of the number of bales is somewhat misleading. Allowing approximately for the difference in size of the several bales, it may be said that during the last five years shewn above the importations from Australia and New Zealand represent about 65 per cent. of the total.

9. **United Kingdom Importation of Wool.**—The quantity and value of wool imported into the United Kingdom during the year 1917 from the principal wool-producing countries furnish evidence of the important position which the Commonwealth occupies in the supply of wool to the mother country. This is shewn in the following table :—

IMPORTS OF WOOL INTO THE UNITED KINGDOM, 1917.

Country from which Imported.	Quantity.	Value.	Country from which Imported.	Quantity.	Value.
	lbs.	£		lbs.	£
Australia ..	338,225,043	29,400,631	U.S. of America	199,360	14,952
New Zealand ..	142,104,934	11,125,380	China ..	161,400	12,504
Union of S. Africa	44,566,040	3,156,594	Iceland and		
British India ..	48,283,084	2,284,502	Greenland ..	149,899	10,850
Argentine Re-			Canada ..	6,860	1,030
public ..	31,920,198	2,266,313	Persia ..	13,100	600
Chile ..	5,627,538	428,922	British Posses-		
Turkey, Asiatic	3,057,300	177,231	sions, n.e.i.	554,176	38,411
Egypt ..	2,883,715	163,059	Foreign Coun-		
Uruguay ..	1,871,038	135,723	tries, n.e.i. ..	393,807	21,297
Falkland Islands	1,755,205	128,547			
Peru ..	1,228,324	118,907			
France ..	231,580	19,014	Total ..	623,232,601	49,504,517

It will be seen that of the total importations of wool into the United Kingdom, Australian wool represented slightly over 54 per cent. of quantity and over 59 per cent. of value, and New Zealand nearly 23 per cent. of quantity and 22½ per cent. of value. It is interesting to note that a total of 578,379,057 lbs., valued at £46,298,154, was received from British Possessions, being a little under 93 per cent. of the total weight imported, and 93½ per cent. of the total value.

10. **The Wool Market.**—(i) *General.* A résumé of Australian wool market conditions for the seasons 1907–8 to 1912–13 will be found in Year Book No. 7 (pages 296 and 297), for the season 1913–14 in Year Book No. 8 (page 297), and for the seasons 1914–15 and 1915–16 in Year Book No. 10 (page 310).

(ii) *Purchase by British Government.* The purchase by the Imperial Government of the balance of the Australian wool clip, for the season 1916–17, was brought about as a result of war conditions. Owing to the demand for wool for British and Allied military clothing, it was decided to acquire the Australian clip at the flat rate of 15½d. per pound greasy—an increase of 55 per cent. on the prices ruling in the season immediately preceding the war, viz., 1913–14. The control of the scheme was placed in the hands of a body called the Central Wool Committee, assisted by a committee in each State. These committees consisted of representatives of the wool growers, wool sellers, wool buyers, manufacturers, and scourers or fellmongers. In addition the Central Wool Committee had a Government nominee, who acted as chairman. The broad policy laid down was that existing trade conditions were not to be disturbed; this meant that

the carrying out of the details of the scheme was left to the trade itself. The wool was prepared, catalogued and shewn in the usual way, but instead of being sold by public auction, it was valued by duly appointed Government Wool Appraisers, according to a table of limits prepared by a body of experts acting as an Advisory Board to the Central Wool Committee. On appraisal, the wool became the property of the Imperial Government, and was shipped as freight space became available, it being prescribed that the allotment of freight should be on the basis of the quantity of wool appraised in each State.

The Central Wool Committee, at the request of the Imperial Government, undertook to scour and re-class as much wool as would keep the local industries going to their full capacity.

(iii) *Financial.* Funds received from the Imperial Government were used to effect a payment of 90 per cent. of the appraised price to wool brokers for distribution to the growers within fourteen days from the final date of each series of appraisements. The balance of 10 per cent. was withheld for possible adjustments. The money so retained was placed at interest, the earnings being added to the amount available for final distribution.

The average appraised price per pound having worked out less than the purchase price of 15½d., the money retained, amounting to £2,313,461, was paid over on the 14th August, 1917. A dividend—the first—of 10 per cent. was paid on 23rd October, 1917, amounting to £2,312,608. This represents slightly more than the payment in full of the flat rate of 15½d. per pound. A small dividend will follow as soon as final adjustments can be made.

(iv) *Quantity and Value of Wool Appraised, 1916-17.* The quantity of wool appraised under the Imperial Government's purchase of a portion of the clip for the season 1916-17 amounted to 323,752,519 lbs. greasy, and 34,307,991 lbs. scoured, equivalent to 392,368,501 lbs. of wool in the grease. The average appraised price per pound of wool in the grease was 14.72d., the average for scoured wool was 22.86d. per pound, and the average of all wool—greasy, and scoured calculated as greasy—appraised under the scheme was 14.15d. per pound, the difference between this average and the 15½d. basis being equal to 9.5 per cent. on the average appraised price.

(v) *Purchase of 1917-18 Clip.* The organisation for the carrying out of the Imperial Government's purchase of the Australian wool clip 1917-18 was the same as for the balance of the season 1916-17.

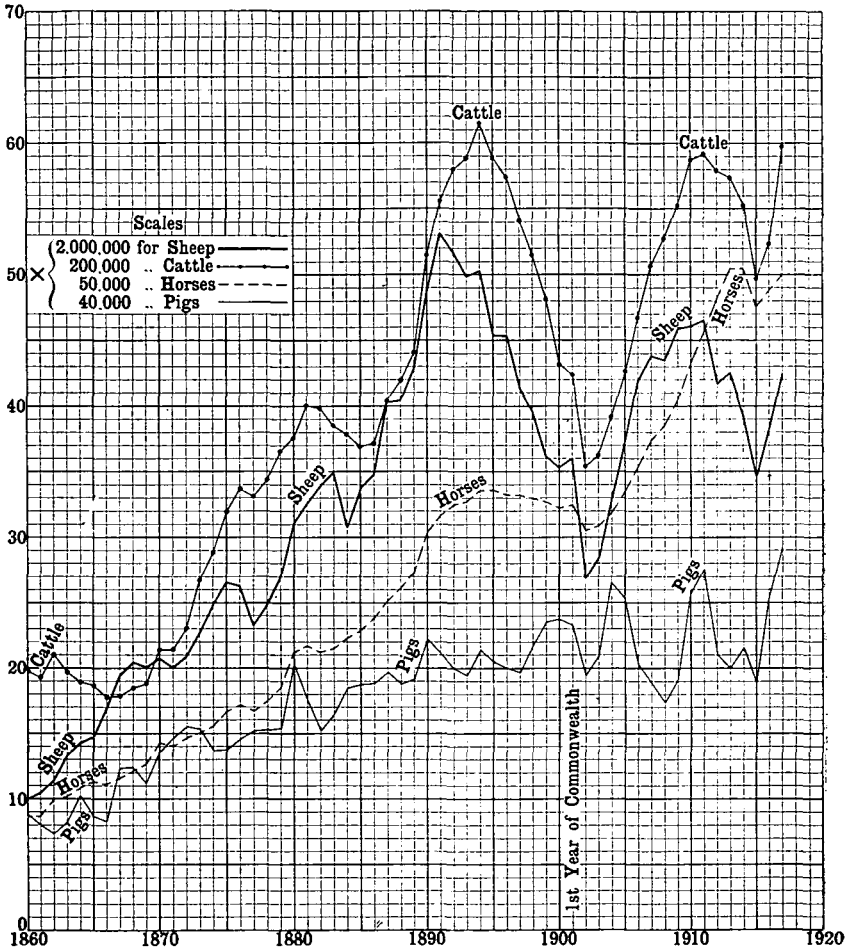
With the exception of a few modifications necessary for the better working of the scheme, no alteration was made in the method of appraisal.

Ninety per cent. of the appraised value was paid to wool growers through the wool selling brokers fourteen days after the completion of each series of appraisements, 10 per cent. again being withheld for possible adjustments.

The total quantity of greasy wool appraised was 569,629,520 lbs., and scoured wool 47,340,403 lbs., a total of 616,969,923 lbs., equal to 664,310,326 lbs. greasy.

The average appraised price of the greasy wool was 14.98d. per lb., and of the scoured wool 25.62d. per lb. The average appraised price on the greasy basis works out at 14.68d. per lb. The difference between this and the flat rate of 15½d. is equal to 5.59 per cent. of the appraised price.

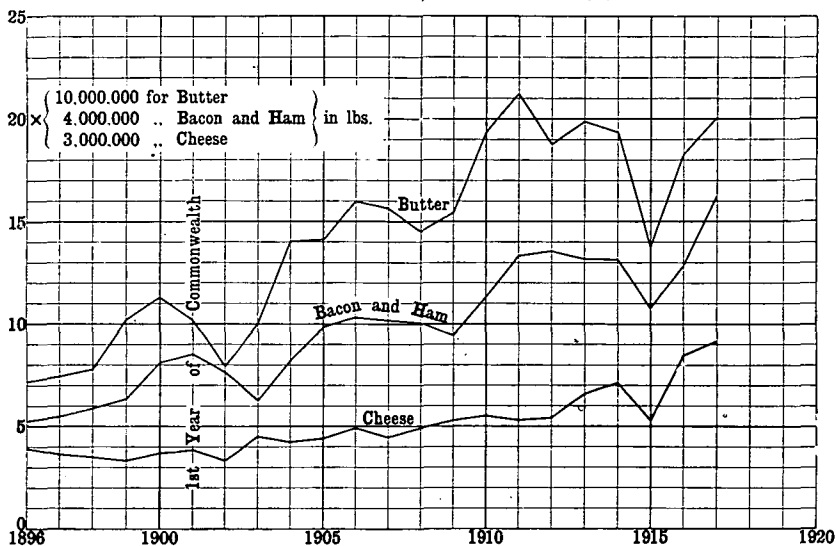
GRAPHS SHEWING NUMBER OF HORSES, CATTLE, SHEEP, AND PIGS IN THE COMMONWEALTH FROM 1860 TO 1917.



(See pages 293 et seq.)

EXPLANATION OF GRAPH.—The base of each small square represents an interval of one year. The totals of the sheep, cattle, horses, and pigs for the Commonwealth are indicated by the several curves or graphs, the vertical side of a small square representing 2,000,000 in the case of sheep; 200,000 for cattle; 50,000 for horses; 40,000 for pigs.

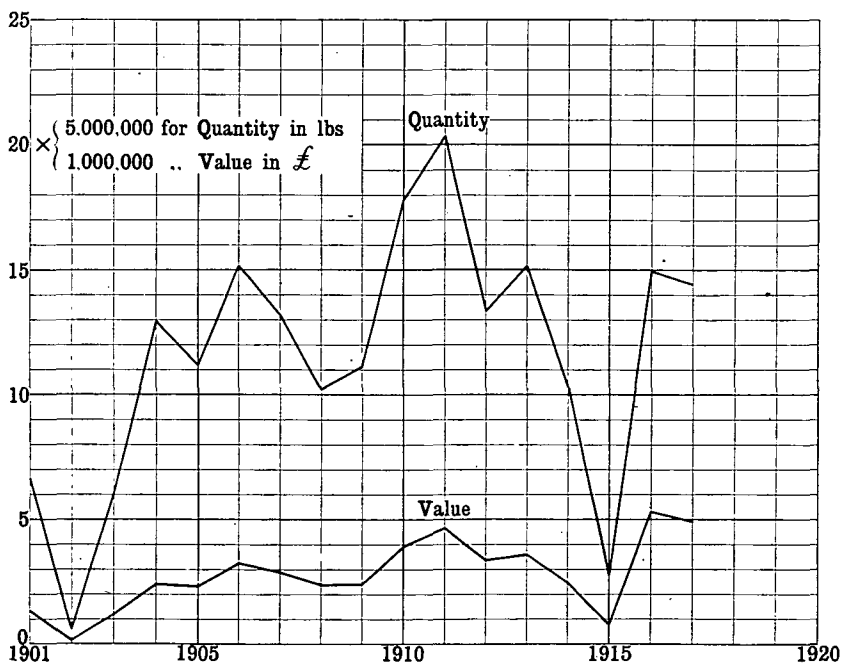
GRAPHS SHEWING THE PRODUCTION OF BUTTER AND CHEESE, AND BACON AND HAM, IN THE COMMONWEALTH, FROM 1896 TO 1917.



(See pages 392 and 395.)

EXPLANATION OF GRAPH.—The base of each small rectangle represents an interval of one year, and the vertical height of each small rectangle denotes in the case of butter 10,000,000 lbs.; in the case of bacon and ham, 4,000,000 lbs.; and in the case of cheese 3,000,000 lbs.

GRAPHS SHEWING THE QUANTITY AND VALUE OF NET EXPORTS OF BUTTER FROM THE COMMONWEALTH, FROM 1901 TO 1917.



(See page 393.)

EXPLANATION OF GRAPH.—The base of each small rectangle represents an interval of one year, and the vertical height of each small rectangle represents 5,000,000 lbs. in weight, or £1,000,000 in value.

The 10 per cent. retention money, together with a dividend of 5 per cent., was distributed in all centres on the 21st August, 1918, involving a sum of approximately £6,094,713. A small further dividend will be payable when outstanding accounts are finally adjusted.

PARTICULARS OF PURCHASE OF 1917-18 AUSTRALIAN WOOL CLIP.

Purchased by—		Quantity of Wool Appraised.				Values.			
		Bales.	Fadges.	Sacks.	Weight in lbs.	Appraised Value.		Based on Flat Rate Value.	
						£	s. d.	£	s. d.
British Government ..	Greasy	1,627,360	18,136	190,587	553,713,279	34,610,564	19 9	36,555,476	4 11
	Scoured	197,246	697	745	46,196,661	4,956,855	0 7	5,234,040	4 10
	Total	1,824,606	18,833	191,332	599,909,940	39,576,420	0 4	41,789,516	9 9
Woolen Manufacturers ..	Greasy	37,187	493	15,682	13,185,745	715,302	10 3	755,301	18 6
	Scoured	4,032	16	23	1,132,587	95,444	17 0	100,782	1 8
	Total	41,819	509	15,705	14,318,332	810,747	7 3	856,084	0 2
Wool Top Manufacturers ..	Greasy	7,936	1	..	2,730,496	242,287	10 4	255,836	2 9
	Scoured	46	..	..	11,155	1,835	18 7	1,938	11 9
	Total	7,982	1	..	2,741,651	244,123	8 11	257,774	14 6
Total Purchased	Greasy	1,672,483	18,630	206,269	569,629,520	35,577,155	0 4	37,566,614	6 2
	Scoured	201,924	713	768	47,340,403	5,054,135	16 2	5,336,760	18 3
	Total	1,874,407	19,343	207,037	616,969,923	40,631,290	16 6	42,903,375	4 5
Grand total in terms of Greasy ..	..	..	..	..	664,310,326	..	..	42,903,375	4 5

Note.—Woolen manufacturers obtained their supplies at the appraised price, but wool top manufacturers were required to pay the flat rate value for all their purchases.

(vi) *Purchase of 1918-19 Clip.* The purchase of the 1918-19 clip and appraisement thereof were virtually carried out on the same lines as for the clip of 1917-18.

The total wool appraised during the 1918-19 season consisted of 599,447,103 lbs. greasy and 52,662,569 lbs. scoured wool, or an equivalent of 704,772,241 lbs. in terms of greasy.

The total greasy wool appraised represented a value of £38,310,763, the average price being 15.34d. per lb., while the scoured value was £5,670,405, or an average per lb. of 25.84d.

Reducing all appraised wool to a greasy basis the average price would be 14.98d. per lb.

The difference between the appraised price and the flat rate of 15½d. was 3.49 per cent. of the appraisement.

A dividend of 3½ per cent., together with the 10 per cent. retained, or a total of 13½ per cent., was accordingly made payable on the 26th August, 1919.

PARTICULARS OF PURCHASE OF 1918-19 AUSTRALIAN WOOL CLIP.

Purchased by—	—	Quantity of Wool Appraised.				Values.	
		Bales.	Fadges.	Sacks.	Weight in lbs.	Appraised Value.	Based on Flat Rate Value.
						£	£
British Government	Greasy Scoured	1,700,290 217,092	22,378 872	235,423 668	579,168,627 51,121,844	36,975,793 5,504,575	....
	Total	1,917,382	23,750	236,091	630,290,471	42,480,368	43,963,348
Woolen Manufacturers	Greasy Scoured	37,507 4,542	300 10	10,862 1	13,189,300 1,108,427	....	....
	Total	42,049	310	10,863	14,297,727	839,756	869,072
Wool Top Manufacturers	Greasy Scoured	21,257 1,896	4 ..	.. ..	7,089,176 432,298	....	....
	Total	23,153	4	..	7,521,474	661,044	684,120
Total Purchased ..	Greasy Scoured	1,759,054 223,530	23,182 882	246,235 669	599,447,103 52,662,569	38,310,763 5,670,405	38,714,292 6,802,248
	Total	1,982,584	24,064	246,954	652,109,672	43,981,168	45,516,540
Grand total in terms of Greasy ..	..	..	..	..	704,772,241	..	45,516,540

Woolen manufacturers again purchased at appraised price, while the wool tops companies paid the flat rate and have contracted to pay in addition a percentage increase equal to that of the final dividend on the whole clip when determined.

Arrangements having been concluded for the purchase by the Imperial Government of the Australian wool clip for the currency of the war, and for one full wool year thereafter, the agreement embraces the 1919-20 season's production, the conditions being on the same lines as for previous seasons. The quantity of appraised wool in the Commonwealth awaiting shipment overseas on 30th June, 1919, was 127,266 bales of the 1917-18 season and 1,211,427 bales of 1918-19 season, or a total of 1,338,693 bales, representing a value of approximately £28,772,000.

(vii) *Average Export Value.* The average values per lb. of Australian greasy wool according to the export returns for the past ten years have been as follows :—

EXPORT VALUE PER LB. OF AUSTRALIAN GREASY WOOL, 1908 TO 1917-18.

Year	1908.	1909.	1910.	1911.	1912.	1913.	1914-15.	1915-16.	1916-17.	1917-18.
Average value per lb. ..	d. 9.17	d. 9.35	d. 9.53	d. 8.87	d. 9.50	d. 9.70	d. 9.45	d. 11.86	d. 15.81	d. 16.71

(viii) *Exports of Wool from each State, and Quantity sold Locally.* Over 86½ per cent. of the wool grown in Australia was sold in the local markets prior to export from the Commonwealth during 1913-14. Under normal conditions prior to the war buyers from

the United Kingdom, France, Germany, and other European countries, also from America, Japan, China, and India, attended the sales conducted in Sydney, Melbourne, Geelong, Brisbane, Adelaide, Fremantle, Hobart, and Launceston.

The following table shews the number of bales of wool exported oversea from each State during the season ended 30th June, 1918, and bales appraised or sold for shipment, for use in local woollen mills for scouring, etc. It must be noted that as considerable quantities of wool grown in some States are sold in or shipped from others, these figures do not shew actual local production, but total oversea shipments and sales. The estimated quantity of wool produced in each State is given on page 309.

EXPORTS OF WOOL TO PLACES OUTSIDE THE COMMONWEALTH, AND THE QUANTITY APPRAISED OR SOLD IN THE SEVERAL STATES, DURING THE SEASON ENDED 30th JUNE, 1918.

State.	Overseas Exports.		Sales or Appraisements.	
	Bales.	%	Bales.	%
New South Wales	498,423	48.75	747,623	39.20
Victoria	295,577	28.91	511,269	26.81
Queensland	140,226	13.72	313,837	16.45
South Australia	60,678	5.93	181,331	9.51
Western Australia	16,506	1.61	118,905	6.23
Tasmania	11,084	1.08	34,366	1.80
Commonwealth	1,022,494	100.00	1,907,331	100.00

(ix) *Exports of Wool from Commonwealth and Quantity sold Locally.* The number of bales of wool exported from the Commonwealth and the number sold at local sales prior to shipment, or taken for local use, during 1895, 1900, 1905, 1910, and the succeeding four seasons is shewn in the following table:—

EXPORTS OF WOOL FROM THE COMMONWEALTH, AND THE QUANTITY SOLD LOCALLY FROM 1895 TO 1914.

Year ended 30th June.	Overseas Exports.	Local Sales.(a)	Ratio of Wool sold locally to Exports.
	Bales.	Bales.	%
1895	1,595,652	817,333	51.22
1900	1,221,163	807,031	66.09
1905	1,218,969	926,940	76.04
1910	1,921,705	1,624,561	84.54
1911	1,975,378	1,642,555	83.15
1912	2,020,547	1,700,494	84.16
1913	1,718,486	1,518,650	88.37
1914	1,966,576	1,703,744	86.64

(a) Including wool absorbed by local woollen mills and wool-scouring establishments.

The steady development of the Australian wool market is clearly shewn in this table. In the nineteen years ended 1914, the quantity sold locally more than doubled, and the ratio of wool sold locally to that exported increased from 51 per cent. in 1895

to over 86½ per cent. in the season ended 30th June, 1914. The abnormal conditions obtaining since the outbreak of war have materially affected the ratios, which in consequence are no longer serviceable as a measure of growth of the local market.

(x) *Quantities of Various Descriptions of Wool Sold or Appraised in each State.* The quantities and ratios of the various descriptions of wool marketed in each State are shewn in the following tables:—

PROPORTIONS OF THE VARIOUS DESCRIPTIONS OF WOOL SOLD OR APPRAISED LOCALLY IN THE SEVERAL STATES OF THE COMMONWEALTH DURING THE SEASON ENDED 30th JUNE, 1918.

Description of Wool.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Commonwealth.
Greasy	Bales. 663,662	Bales. 483,266	Bales. 239,807	Bales. 172,787	Bales. 116,474	Bales. 34,166	Bales. 1,710,162
Scoured	83,961	28,003	74,030	8,544	2,431	200	197,169
Total	747,623	511,269	313,837	181,331	118,905	34,366	1,907,331
Fleece, etc. ..	695,289	457,637	294,993	161,960	107,113	32,944	1,749,936
Lambs'	52,334	53,632	18,844	19,371	11,792	1,422	157,395
Total	747,623	511,269	313,837	181,331	118,905	34,366	1,907,331
Merino	560,717	243,506	306,031	161,218	109,399	15,498	1,396,369
Crossbred and all strong breeds ..	186,906	267,763	7,806	20,113	9,506	18,868	510,962
Total	747,623	511,269	313,837	181,331	118,905	34,366	1,907,331
Greasy	% 88.77	% 94.52	% 76.41	% 95.29	% 97.96	% 99.42	% 89.66
Scoured	11.23	5.48	23.59	4.71	2.04	0.58	10.34
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Fleece, etc. ..	93.00	89.51	94.00	89.32	90.08	95.86	91.75
Lambs'	7.00	10.49	6.00	10.68	9.92	4.14	8.25
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Merino	75.00	47.63	97.51	88.91	92.01	45.10	73.21
Crossbred and all strong breeds ..	25.00	52.37	2.49	11.09	7.99	54.90	26.79
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Wool in the grease represented 89½ per cent. of the total marketed during the period under review. Of fleece and lambs' wool, the former represents 91.75, and the latter 8.25 per cent. The class of wool produced is principally merino, which is almost exclusively

grown in the northern, western, and central parts of the continent, the bulk of the merino wool dealt with in Victoria coming from Riverina and other parts of New South Wales. Victoria, the southern parts of South Australia and of New South Wales, and Tasmania, produce nearly the whole of the crossbred and other strong bred wools.

(xi) *Percentages in each State of Various Descriptions of Wool Sold or Appraised.* The following table gives the percentages of each description of wool sold or appraised in the several States during the season 1917-18 :—

PERCENTAGE OF BALES OF EACH DESCRIPTION OF WOOL SOLD OR APPRAISED IN THE SEVERAL STATES ON THE TOTAL SOLD OR APPRAISED IN THE COMMONWEALTH, 1917-18.

Description of Wool.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Commonwealth.
	%	%	%	%	%	%	%
Greasy ..	38.81	28.26	14.02	10.10	6.81	2.00	100.00
Scoured ..	42.59	14.20	37.55	4.33	1.23	0.10	100.00
Fleece, etc. ..	39.73	26.15	16.86	9.26	6.12	1.88	100.00
Lambs' ..	33.25	34.08	11.97	12.31	7.49	0.90	100.00
Merino ..	40.16	17.44	21.92	11.54	7.83	1.11	100.00
Crossbred and all strong breeds ..	36.58	52.40	1.53	3.94	1.86	3.69	100.00

§ 6. Hides and Sheepskins.

1. **Extent of Trade.**—In addition to the hides and sheepskins treated in the tanneries of the several States, a very considerable export trade is carried on, the total value of the hides and sheepskins exported from Australia during the five years 1913 to 1917-18 being no less than £11,816,519, or an average of £2,363,304 per annum.

2. **Sheepskins with Wool.**—By far the largest item included in the amount mentioned in the preceding paragraph arises from the value of sheepskins with wool exported, which are shipped principally to the United Kingdom and France. Details concerning the number so exported during the five years 1913 to 1917-18 are as follows :—

COMMONWEALTH EXPORTS OF SHEEPSKINS WITH WOOL, 1913 TO 1917-18.

Country to which Exported.	1913.	1914-15.	1915-16.	1916-17.	1917-18.	Total for 5 Years.
	No.	No.	No.	No.	No.	No.
United Kingdom ..	3,861,161	5,844,442	3,506,365	2,152,016	2,172,176	17,536,160
France ..	5,932,257	2,227,714	1,863,904	753,530	..	10,777,405
U.S. of America ..	99,037	1,016,958	331,706	..	..	1,447,701
Belgium ..	996,821	29,366	..	..	..	1,026,187
Canada ..	..	206,876	61,103	46,668	..	314,647
New Zealand ..	..	39,083	25,283	..	..	64,366
Germany ..	57,735	2,578	..	..	..	60,313
Italy ..	960	..	9,949	..	..	10,909
Other Countries ..	261	1,051	24	..	..	1,336
Total ..	10,948,232	9,368,068	5,798,334	2,952,214	2,172,176	31,239,024

The next table furnishes corresponding particulars as to value :—

**VALUE OF SHEEPSKINS WITH WOOL EXPORTED FROM THE COMMONWEALTH,
1913 TO 1917-18.**

Country to which Exported.	1913.	1914-15.	1915-16.	1916-17.	1917-18.	Total for 5 years.
	£	£	£	£	£	£
United Kingdom	804,432	1,021,432	779,615	738,483	732,030	4,075,992
France ..	1,315,156	387,692	283,293	250,783	..	2,236,924
Belgium ..	335,569	10,877	..	..	..	346,446
U.S. of America	15,127	213,249	97,890	..	..	326,266
Canada ..	..	46,374	12,553	10,869	..	69,796
New Zealand ..	..	9,748	6,268	..	..	16,016
Germany ..	11,620	812	..	..	..	12,432
Italy ..	100	..	875	..	..	975
Other Countries	55	468	5	..	..	528
Total ..	2,482,059	1,690,652	1,180,499	1,000,135	732,030	7,085,375

3. *Sheepskins without Wool.*—In the case of sheepskins without wool the principal countries to which export takes place are the United States of America and the United Kingdom. Particulars concerning the quantities exported are as follows :—

COMMONWEALTH EXPORTS OF SHEEPSKINS WITHOUT WOOL, 1913 TO 1917-18.

Country to which Exported.	1913.	1914-15.	1915-16.	1916-17.	1917-18.	Total for 5 years.
	No.	No.	No.	No.	No.	No.
U.S. of America	21,760	640,302	1,815,725	1,618,517	749,570	4,845,874
United Kingdom	128,578	720,417	103,497	155,189	66,996	1,174,677
Canada ..	..	3,096	540	184,460	74,710	262,806
Japan ..	..	..	1,047	2,949	7,368	11,364
France ..	5,364	..	..	1,098	..	6,462
New Zealand ..	..	12	..	24	..	36
Total ..	155,702	1,363,827	1,920,809	1,962,237	898,644	6,301,219

Corresponding details concerning value are given hereunder :—

**VALUE OF SHEEPSKINS WITHOUT WOOL EXPORTED FROM THE
COMMONWEALTH, 1913 TO 1917-18.**

Country to which Exported.	1913.	1914-15.	1915-16.	1916-17.	1917-18.	Total for 5 years.
	£	£	£	£	£	£
U.S. of America	1,550	35,766	86,908	126,612	74,693	325,529
United Kingdom	5,130	37,875	5,243	12,019	9,656	69,923
Canada ..	..	233	39	13,750	10,335	24,357
Japan ..	..	..	83	337	685	1,105
France ..	382	..	..	89	..	471
New Zealand ..	..	2	..	2	..	4
Total ..	7,062	73,876	92,273	152,809	95,369	421,389

4. **Hides.**—The Commonwealth trade in cattle hides has now assumed considerable proportions, and during 1913 the total value of such hides exported amounted to £1,654,878. The exports were principally to the United Kingdom, the United States of America, Belgium and Germany. The disastrous drought of 1914-15 greatly reduced the quantity of hides in the succeeding years. This, in conjunction with the increased demand for leather, more especially for military purposes, resulted in a considerable falling-off in the quantity of hides available for export. To insure against a shortage of supplies for home consumption, on the 28th October, 1914, the Government by proclamation prohibited the exportation of hides unless the consent in writing of the Minister for Trade and Customs was first obtained. The embargo when enforced was in the case of heavy hides only. Large quantities of hides are imported into the Commonwealth, mainly from New Zealand and the Pacific Islands. The total value of cattle hides imported during 1917-18 was £151,380.

Particulars concerning the export of cattle hides during the past five years are as follows:—

COMMONWEALTH EXPORTS OF CATTLE HIDES, 1913 TO 1917-18.

Country to which Exported.	1913.(a)	1914-15.	1915-16.	1916-17.	1917-18.	Total for 5 years.
	No.	No.	No.	No.	No.	No.
United Kingdom ..	358,499	472,394	209,219	147,408	136,425	1,323,945
U.S. of America ..	136,687	229,665	..	2,783	4,943	374,078
Belgium ..	243,463	38,520	..	..	..	281,988
Canada ..	11,205	142,928	66,890	19,210	3,338	243,571
Germany ..	204,553	18,255	..	..	..	222,808
Italy ..	85,984	9,830	97,038	2,334	..	195,186
New Zealand ..	6,103	9,067	14,582	11,526	1,218	42,496
France ..	16,208	8,803	1,129	3,733	..	29,873
Japan ..	155	6,863	4,006	..	3,300	14,324
Austria-Hungary ..	3,631	203	..	..	..	3,834
Union of South Africa ..	..	480	2,705	..	..	3,185
Other Countries ..	1,432	216	..	..	..	1,648
Total ..	1,067,925	937,224	395,569	186,994	149,224	2,736,936

(a) Including calfskins.

In the next table are given particulars relative to the value of cattle hides exported:—

VALUE OF CATTLE HIDES EXPORTED FROM THE COMMONWEALTH, 1913 TO 1917-18.

Country to which Exported.	1913.(a)	1914-15.	1915-16.	1916-17.	1917-18.	Total for 5 years.
	£	£	£	£	£	£
United Kingdom ..	578,933	666,854	264,517	270,718	335,562	2,116,584
U.S. of America ..	196,583	330,096	..	5,217	10,638	542,534
Belgium ..	385,095	51,910	..	..	..	437,005
Germany ..	338,410	29,927	..	..	..	368,337
Canada ..	16,622	170,978	97,950	33,243	5,812	324,605
Italy ..	102,834	12,299	113,924	3,772	..	232,829
New Zealand ..	8,094	13,003	15,740	24,158	3,456	64,451
France ..	20,078	13,911	1,780	7,152	..	42,921
Japan ..	335	13,063	8,479	..	8,929	30,806
Austria-Hungary ..	5,545	355	..	..	..	5,900
Union of South Africa ..	..	531	3,038	..	..	3,569
Other Countries ..	2,349	274	..	..	..	2,623
Total ..	1,654,878	1,303,201	505,428	344,260	364,397	4,172,164

(a) Including calfskins.

The number and value of cattle hides imported into the Commonwealth during the five years 1913 to 1917-18 are as follows :—

CATTLE HIDES IMPORTED INTO THE COMMONWEALTH, 1913 TO 1917-18.

Particulars.	1913.	1914-15.	1915-16.	1916-17.	1917-18.	Total for 5 years.
No.	133,384	83,405	146,657	94,065	132,218	589,729
Value £	238,543	145,633	293,052	161,380	151,531	990,139

The exports of calfskins during the past four years amounted to 489,086, valued at £131,500, and of horse hides during the past five years 9,135, valued at £6,091; the imports during the same period being 5,375 horse hides, valued at £4,169.

§ 7. Graphical Representation of Pastoral Production.

1. **General.**—As comparatively complete statistics relative to the number of horses, cattle, sheep and pigs are available from 1860, the graphical representation of the fluctuations in numbers for the Commonwealth as a whole, shewn on page 315, covers the period from 1860 to 1917.

2. **Horses.**—With relatively unimportant fluctuations the number of horses in the Commonwealth increased at a fairly consistent rate until 1895, when a decline set in, culminating in the losses of the drought of 1902. At this latter point the number was practically identical with that for 1890. From 1902 onwards a rapid improvement was experienced, the totals for 1913 and 1914 being the highest recorded. The disastrous drought of 1914-15 was responsible for heavy losses, the number recorded at the close of the latter year being considerably less than in 1912. The 1916 and 1917 figures, however, shewed substantial increases, the returns in both cases being somewhat below those for 1913, but considerably above those for 1912.

3. **Cattle.**—The graph for cattle furnishes evidence of rapid increase in number, interrupted by four marked periods of decline, of which the first extended from 1862 to 1866, the second from 1881 to 1885, the third from 1894 to 1902. So extensive was this last-mentioned decline that the number receded to that of 1879. From 1902 a rapid recovery took place, and the total for 1911 exceeded that existing at the end of the year 1895, though still short of the maximum attained in 1894. The fourth period of decline commenced in 1912, the figures from that year to 1914 shewing a slight decline, while those for 1915 shew a very serious falling-off, the difference between the 1911 and 1915 returns amounting to over 16 per cent. In 1916 the number of cattle commenced to ascend, an increase exceeding 2,000,000 being in evidence in that and the year following. The 1917 returns were the second highest on record, 1894 figures still holding pride of place.

4. **Sheep.**—In the case of sheep the graph furnishes evidence of six periods in which the upward movement in number has been arrested or reversed. The first of these occurred between 1868 and 1871, the second between 1875 and 1877, the third during 1884, the fourth, by far the most serious, between 1891 and 1902, the fifth during 1912, and the sixth during 1914-15. From 1902 to 1907 a rapid increase took place, succeeded by a slight decline in 1908, and a rapid advance in 1909, 1910, and 1911, the point reached in the latter year being the highest since 1894. The return for 1912 shews a considerable decrease; this was followed by an increase in 1913, but there was a heavy falling-off in 1914, amounting to 7½ per cent., and a still heavier one in 1915,

amounting to over 11½ per cent., the total number of sheep in the latter year being the lowest since 1904. As in the case of all other live stock there was a very substantial increase in the number of sheep during 1916 and 1917, an increase of 10.7 per cent. having taken place in the former and 10.8 per cent. in the latter year, or 22.7 per cent. increase in the two years.

5. Pigs.—The graph for pigs exhibits more numerous fluctuations than that for any of the other classes of live stock represented, and from 1904 to 1908 furnished evidence of a persistent decline. In 1909, however, an upward movement took place; and this was well maintained during the two succeeding years, the 1911 returns exceeding all previous records. There was a considerable decrease in 1912, and a smaller one during 1913. The 1914 returns, however, shew an upward tendency, followed by a sharp decline during 1915, and even sharper increases in 1916 and 1917, the number in the latter year exceeding the previously highest record of 1911 by 5½ per cent.

The weight and value of wool per sheep shorn in the past five seasons is shewn in the following table:—

ESTIMATED WEIGHT AND VALUE OF WOOL PER SHEEP SHORN FOR THE SEASONS ENDED 30th JUNE, 1914 TO 1918.

Season ended 30th June.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
WEIGHT.							
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
1914	7.94	6.46	7.19	8.37	5.49	5.15	7.37
1915	7.20	5.58	6.75	6.98	5.31	5.00	6.68
1916	7.09	5.79	6.37	7.65	6.17	5.29	6.63
1917	7.39	6.26	7.00	7.47	5.84	5.79	6.96
1918	7.08	6.19	6.91	7.52	6.19	5.38	6.80
VALUE.							
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1914	6 4	5 5	6 2	6 0	4 2	4 8	5 11
1915	5 6	4 10	5 3	4 10	3 8	4 6	5 2
1916	6 8	6 9	6 1	6 10	5 5	7 2	6 6
1917	9 8	8 8	9 2	9 0	6 11	9 3	9 2
1918	9 1	8 6	9 4	8 5	7 0	8 0	8 11

4. **Wool Locally Used.**—The quantity of wool used in the manufactories of the several States of the Commonwealth during the past five years was approximately as follows:—

LOCALLY USED WOOL, ESTIMATED AS "GREASY," STATES AND COMMONWEALTH, 1913 TO 1917.

State.	1913.	1914.	1915.	1916.	1917.
	lbs.	lbs.	lbs.	lbs.	lbs.
New South Wales	2,484,446	2,484,446	54,173,576	56,487,800	56,556,988
Victoria	5,917,410	6,118,450	11,052,250	11,052,250	58,669,460
Queensland	406,829	356,553	377,538	358,504	304,091
South Australia	645,000	389,700	1,065,130	1,065,130	5995,164
Western Australia					
Tasmania	1,105,000	1,141,200	1,217,780	1,244,844	1,172,000
Commonwealth	10,558,685	10,490,349	17,886,274	20,188,528	17,697,703

(a) Previous year's figures. (b) Year ended 30th June.

5. **Bounties on Combed Wool or Tops Exported.**—Under the Bounties Act 1907, bounties were payable on combed wool or tops exported from the Commonwealth, provided they were produced therein. The maximum amount to be paid might not exceed a total of £10,000 per annum; any unexpended sum might be carried forward and be available for the years following. For the three years commencing 1st January, 1909, the rate of bounty granted was 1½d. per lb., and for the two years commencing 1st January, 1912, 1d. per lb. was payable for all combed wool or tops produced; thenceforward to the end of 1915, 1d. per lb. was payable up to 1,000,000 lbs., to any one manufacturer during a year, and ¾d. per lb. in excess of that quantity. No bounties have been paid on combed wool or tops since 1915. During the year 1908–9, an amount of £326 was paid in bounties, in 1909–10, £4,933, in 1910–11, £8,522, in 1911–12, £16,898, in 1912–13, £13,061, in 1913–14, £12,706, in 1914–15, £7,727, and in 1915–16, £5,828. The quantities of wool on which these amounts were paid were 52,085; 789,216; 1,363,555; 3,122,244; 3,134,614; 3,068,170; 3,635,811 and 2,824,436 lbs. respectively.

Figures shewing the exports of wool tops for the years 1913 to 1917–18 inclusive will be found on the next page.

6. Exports of Wool.—During the two calendar years prior to the war, about 38 per cent. of the exports of wool from the Commonwealth was despatched to the United Kingdom, whereas the shipments for the same destination during the past four years have averaged over 66 per cent. The percentage for the past five years was about 59½ per cent. The other leading consignees were the United States of America, France, Italy, Japan, and, prior to the war, Germany and Belgium. The following table shews for the years 1913 to 1917-18 the quantities of "greasy" wool exported from the Commonwealth and the principal countries to which consigned:—

COMMONWEALTH EXPORTS OF WOOL IN THE GREASE, 1913 TO 1917-18.

Country to which Exported.	1913.	1914-15.	1915-16.	1916-17.	1917-18.	Total for 5 years.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
United Kingdom ..	185,387,090	319,614,694	202,384,381	283,446,361	139,113,437	1,129,945,963
United States of America ..	14,666,551	61,731,511	115,112,628	16,174	57,425,217	243,952,081
France ..	159,782,827	12,787,863	13,746,706	12,254,213	5,675,577	204,247,186
Italy ..	5,778,424	18,191,774	43,167,206	25,608,163	17,641,985	110,387,552
Germany ..	94,068,893	3,036,083	..	..	..	97,104,976
Japan ..	7,199,671	22,670,413	34,725,863	16,830,727	2,919,477	84,355,151
Belgium ..	51,831,724	2,984,856	..	..	..	54,866,580
Egypt ..	151,379	..	..	..	15,522,281	15,673,660
Austria-Hungary ..	11,731,933	829,746	..	..	..	12,561,679
Canada ..	88,916	951,452	453,950	727,923	4,726,317	6,948,558
India ..	501,827	443,451	198,228	297,218	778,286	2,219,010
New Zealand ..	101,104	541,513	11,059	..	..	653,676
Other Countries ..	96,539	170,474	1,452,965	32,471	..	1,752,449
Total ..	531,436,878	443,953,830	411,252,986	339,222,250	243,802,577	1,069,668,521

Similar particulars concerning the exports of "scoured and washed" wool are as follows:—

COMMONWEALTH EXPORTS OF "SCOURED AND WASHED" WOOL (a), 1913 TO 1917-18.

Country to which Exported.	1913.	1914-15.	1915-16.	1916-17.	1917-18.	Total for 5 years.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
United Kingdom ..	26,176,484	48,171,821	37,569,727	46,917,307	59,247,374	218,082,713
United States of America ..	124,301	4,557,800	27,933,634	..	1,446,501	34,062,236
Japan ..	3,564,433	6,141,036	7,499,571	5,081,183	4,779,081	27,065,304
France ..	18,804,399	2,154,275	1,190,494	1,016,397	62,148	23,227,713
Germany ..	10,135,857	1,748,008	..	154,172	..	12,038,037
Italy ..	188,298	655,302	4,920,545	2,651,922	475,914	8,901,981
Belgium ..	5,269,908	920,506	..	..	..	6,190,414
Egypt ..	..	..	..	..	1,074,558	1,074,558
India ..	100,434	135,408	240,663	299,060	51,664	827,229
Austria-Hungary ..	62,932	147,864	..	..	..	210,796
New Zealand ..	11,042	1,879	104,364	..	..	117,785
Other Countries ..	11,998	315,392	426,553	567,059	299,490	1,620,492
Total ..	64,450,086	64,949,291	79,886,051	56,687,100	67,436,730	333,409,258

(a) Including "tops." See preceding page.

The figures for "scoured and washed wool" include tops, amounting in 1913 to 3,561,722 lbs., valued at £415,670; in 1914-15, 4,095,966 lbs., valued at £511,021; in 1915-16, 4,981,975 lbs., valued at £680,656; in 1916-17, 4,869,452 lbs., valued at £1,204,570; and in 1917-18, 4,571,357 lbs., valued at £1,510,799. In 1914-15, Japan took 4,052,965 lbs., valued at £506,161; in 1915-16, 4,894,577 lbs., valued at £665,442;