

## 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 for 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 decennial intervals from 1860 to 1910, and from 1914 onwards in single years, are given in the following table, and are shewn continuously in the graphs hereinafter.

During the fifty-eight years covered by the table the live stock of the Commonwealth increased considerably, horses 486 per cent., cattle 222 per cent., sheep 333 per cent., and pigs 160 per cent. The average annual increases which these aggregates represent are as follows :—Horses, 3.10 per cent. ; cattle, 2.04 per cent. ; sheep, 2.56 per cent. ; and pigs, 1.66 per cent.

## COMMONWEALTH LIVE STOCK, 1860 TO 1918.

Year.	Horses.	Cattle.	Sheep.	Pigs.
1860 .. .. .	431,525	3,957,915	20,135,286	351,096
1870 .. .. .	716,772	4,276,326	41,593,612	543,388
1880 .. .. .	1,061,078	7,523,000	62,176,027	815,776
1890 .. .. .	1,521,588	10,299,913	97,881,221	891,138
1900 .. .. .	1,609,654	8,640,225	70,602,995	950,349
1910 .. .. .	2,165,866	11,744,714	92,047,015	1,025,850
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	10,459,237	76,668,604	1,006,763
1917 .. .. .	2,498,940	11,829,135	84,965,012	1,169,365
1918 .. .. .	2,528,243	12,738,852	87,086,236	913,902

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 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, 1918, 2,528,243; cattle, 1918, 12,738,852; sheep, 1891, 106,421,068; and pigs, 1917, 1,169,365.

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-eight years in the manner shewn in the succeeding table:—

NUMBER OF AUSTRALIAN LIVE STOCK PER HEAD OF POPULATION, 1860 TO 1918.

Year.	Horses.	Cattle.	Sheep.	Pigs.	Year.	Horses.	Cattle.	Sheep.	Pigs.
1860	0.38	3.45	17.58	0.31	1914	0.51	2.24	15.91	0.17
1870	0.43	2.60	25.24	0.33	1915	0.48	2.01	14.04	0.15
1880	0.48	3.37	27.87	0.37	1916	0.50	2.14	15.68	0.21
1890	0.48	3.27	31.06	0.28	1917	0.50	2.39	17.13	0.24
1900	0.43	2.29	18.75	0.25	1918	0.50	2.51	17.16	0.18
1910	0.49	2.65	20.80	0.23					

Considered in relation to population, the live stock attained its maximum for the period 1860–1918 in the quinquennium 1890–4, 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 0.51 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, 1919 ..	2.33	10.57	120.36	0.95
Victoria ..	1st March, 1919 ..	5.96	18.17	179.49	3.05
Queensland ..	31st Dec., 1918 ..	1.13	8.63	27.18	0.21
South Australia ..	30th June, 1919 ..	0.71	0.90	17.43	0.21
Western Australia ..	31st Dec., 1918 ..	0.18	0.97	7.36	0.09
Tasmania ..	1st March, 1919 ..	1.57	8.32	70.26	1.69
Northern Territory ..	31st Dec., 1918 ..	0.06	1.09	0.11	..
Federal Territory ..	30th June, 1919 ..	1.51	9.46	146.92	0.33
Commonwealth ..	1918-19 ..	0.85	4.28	29.28	0.31

7. Minor Classes of Live Stock.—The numbers of minor classes of live stock returned for 1918-19 were as follows :—Goats, 228,905; camels, 12,284; mules and donkeys, 13,251; and ostriches, 1,207. 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 15,000 angora goats are included in the total of 228,905 goats shewn above. Of these, 5,999 were in New South Wales, 3,212 in Western Australia, and 3,569 in Queensland, while the quantity of mohair produced in the latter State in 1918 was set down at 2,188 lbs., and the number of skins placed on the market was returned as 411.

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 1914-15 to 1918-19 are as follows :—

QUANTITIES OF NET EXPORTS OF PRINCIPAL PASTORAL PRODUCTS OF THE COMMONWEALTH, 1914-15 TO 1918-19.

Products.	Unit of Quantity.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.
<b>Animals (living)—</b>						
Cattle ..	No.	10,121	5,417	2,743	1,117	644
Horses ..	"	23,655	14,589	14,228	23,878	8,686
Sheep ..	"	10,749	728	3,198	9,080	18,001
Bones ..	cwt.	33,802	16,378	26,884	20,363	25,669
Glue Pieces and Sinews ..	"	30,689	23,222	26,973	11,015	3,878
Glycerine ..	lb.	(a)	(a)	(a)	(a)	1,633,510
Hair ..	"	206,602	554,971	514,752	324,523	402,869
Hoofs ..	cwt.	11,012	8,347	10,497	8,618	10,000
Horns ..	"	(a)	(a)	(a)	(a)	(a)
<b>Meats—</b>						
Frozen Beef ..	lb.	292,056,035	114,654,569	242,040,115	180,222,185	119,938,442
Frozen Mutton and Lamb ..	"	193,263,877	38,332,651	66,811,253	19,174,231	59,672,405
Frozen Rabbits and Hares ..	pair	10,290,016	11,367,538	12,674,472	13,164,307	5,132,983
Frozen, Other ..	lb.	13,107,560	3,004,290	10,773,154	8,200,193	11,489,982
Potted and Extract of ..	"	(a)	(a)	(a)	(a)	(a)
Preserved in Tins, &c. ..	"	57,326,295	13,059,238	21,922,630	43,036,310	65,118,256
Other (excluding Bacon and Ham) ..	"	298,019	130,672	35,833	206,640	424,777
Sausage Casings ..	"	(a)	(a)	(a)	(a)	(a)
<b>Skins—</b>						
Hides ..	No.	1,134,483	453,601	99,154	15,873	26,819
Sheep ..	"	10,396,987	7,254,642	4,753,464	2,907,431	6,663,978
Rabbit and Hare ..	cwt.	56,437	51,857	48,403	71,991	117,569
Other, including Undressed Furs ..	No.	(a)	(a)	(a)	(a)	(a)
Tallow ..	cwt.	1,106,023	250,519	555,427	345,849	870,950
Wool—Greasy ..	lb.	443,812,275	408,461,233	331,776,079	243,784,651	457,995,701
Scoured ..	"	60,846,240	74,880,215	51,727,629	62,860,373	106,313,411
Tops ..	"	4,095,966	4,981,975	4,869,452	4,571,357	2,822,578

(a) Quantity not available.

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 £207,031,981 for the period, or an average of £41,406,396 per annum, of which wool represents 70 per cent. Meats, skins, and tallow rank next in order of importance.

VALUE OF NET EXPORTS OF PRINCIPAL PASTORAL PRODUCTS OF THE COMMONWEALTH, 1914-15 TO 1918-19.

Products.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.
Animals (living)—	£	£	£	£	£
Cattle .. .. .	19,553	10,089	4,582	-10,993	3,567
Horses .. .. .	378,505	185,183	306,200	453,616	161,533
Sheep .. .. .	14,204	-17,507	8,474	15,049	35,007
Bones .. .. .	20,918	10,009	20,783	21,806	27,156
Glue Pieces and Sinews .. .. .	17,641	12,815	21,416	15,196	6,904
Glycerine .. .. .	13,900	16,078	26,459	41,256	58,073
Hair .. .. .	26,445	26,684	26,802	21,243	29,335
Hoofs .. .. .	4,155	2,361	6,363	7,848	11,091
Horns .. .. .	-15,300	6,379	4,191	13,309	18,474
Meats—					
Frozen Beef .. .. .	4,989,810	2,175,343	4,945,716	3,697,957	2,471,136
Frozen Mutton and Lamb .. .. .	3,413,848	769,434	1,540,546	452,627	1,298,086
Frozen Rabbits and Hares .. .. .	531,920	724,624	913,142	985,190	308,965
Frozen, Other .. .. .	180,841	30,248	195,846	190,954	341,455
Potted and Extract of .. .. .	347,471	31,467	65,471	224,464	328,233
Preserved in Tins, &c. .. .. .	1,829,601	438,881	952,369	2,308,989	3,771,373
Other (excluding Bacon and Ham) .. .. .	4,375	3,195	1,151	5,713	15,380
Sausage Casings .. .. .	25,872	-21,726	1,210	-29,089	101,490
Skins—					
Hides .. .. .	1,234,871	266,674	184,886	211,449	156,084
Sheep .. .. .	1,743,209	1,242,358	1,137,832	808,782	1,921,411
Rabbit and Hare .. .. .	230,139	261,868	433,546	1,155,824	1,314,366
Other, including Undressed Furs .. .. .	106,319	253,458	190,738	276,537	313,472
Tallow .. .. .	1,566,907	436,225	1,241,219	886,128	2,167,728
Wool—Greasy .. .. .	17,470,385	20,172,243	21,870,113	16,981,347	31,477,707
Scoured .. .. .	4,113,951	5,841,054	5,394,259	6,094,040	10,351,553
Tops .. .. .	511,021	680,656	1,204,570	1,510,799	935,212
Total Values .. .. .	38,811,167	33,558,093	40,697,889	36,340,041	57,624,791

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. During the last war Australian horses were found to be well adapted for all purposes, especially in Palestine.

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. New South Wales regained the lead during the next three seasons, but was again replaced by Queensland in 1918. Particulars for the several States for a series of years are as follows:—

**NUMBER OF HORSES IN STATES, TERRITORIES, AND COMMONWEALTH,  
1860 TO 1918.**

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
1870 ..	337,597	167,220	83,358	83,744	22,174	22,679	..	..	716,772
1880 ..	395,984	275,516	179,152	148,219	34,568	25,267	c2,372	..	1,061,078
1890 ..	444,163	436,459	365,812	187,686	44,384	31,165	11,919	..	1,521,588
1900 ..	481,417	392,237	456,788	166,790	68,253	31,607	12,562	..	1,609,654
1910 ..	650,636	472,080	593,813	249,326	134,114	41,388	24,509	..	2,165,866
1914 ..	6731,735	552,053	743,059	267,877	161,625	42,232	21,985	61,606	2,522,172
1915 ..	6718,232	493,779	686,871	253,333	163,016	41,422	19,957	61,310	2,377,920
1916 ..	6732,334	514,403	697,517	257,422	169,730	42,620	21,674	61,457	2,437,157
1917 ..	6740,806	514,061	733,014	262,840	178,151	42,396	26,231	61,441	2,498,940
1918 ..	6721,302	523,788	759,726	269,255	180,094	41,221	31,436	61,421	2,528,243

(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 the past five years are as follows:—

**PERCENTAGE OF HORSES IN EACH STATE AND TERRITORY ON THE TOTAL  
FOR COMMONWEALTH, 1914 TO 1918.**

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	F.T.	C'wealth.
	%	%	%	%	%	%	%	%	%
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
1918 ..	28.53	20.72	30.05	10.65	7.12	1.63	1.24	0.06	100.00

During the period under review, the proportion has increased in Western Australia, Queensland, and the Northern Territory, that in New South Wales and Victoria has diminished, while that of the remaining States has practically remained stationary.

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 8,832 for the year 1918-19 and 24,172 in 1917-18, and in value between £189,354 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 88,833, an average of 17,767 per annum. The total value of the exports for the period

was £1,771,897, or £354,379 per annum. The average export value per head for the period was £19 18s. 11d. The numbers exported to the principal countries concerned in this trade are as follows:—

**NUMBER AND DESTINATION OF HORSES EXPORTED FROM THE  
COMMONWEALTH, 1914-15 TO 1918-19.**

Country to which Exported.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.	Total for 5 years.
	No.	No.	No.	No.	No.	No.
India .. .. .	21,162	14,405	15,744	23,890	7,522	82,723
New Zealand .. .. .	52	37	40	26	11	166
Java .. .. .	65	280	148	..	633	1,126
Fiji .. .. .	117	257	223	150	111	858
Straits Settlements .. .. .	24	174	224	21	89	532
Japan .. .. .	16	35	16	15	27	109
Philippine Islands .. .. .	..	8	5	20	215	248
Mauritius .. .. .	..	..	..	..	150	150
Papua .. .. .	9	2	35	30	20	96
Other Countries .. .. .	2,662	11	78	20	54	2,825
<b>Total .. .. .</b>	<b>24,107<sup>a</sup></b>	<b>15,209<sup>a</sup></b>	<b>16,513<sup>a</sup></b>	<b>24,172<sup>a</sup></b>	<b>8,832<sup>a</sup></b>	<b>88,833<sup>a</sup></b>

(a) Exclusive of shipments 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,  
1914-15 TO 1918-19.**

Country to which Exported.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.	Total for 5 years.
	£	£	£	£	£	£
India .. .. .	387,046	250,710	312,271	479,520	146,758	1,576,305
New Zealand .. .. .	9,765	7,232	11,190	16,360	4,600	49,147
Java .. .. .	1,243	5,352	3,818	..	18,336	28,749
Fiji .. .. .	3,337	6,653	5,814	3,765	2,176	21,745
Straits Settlements .. .. .	555	3,755	6,427	900	5,915	17,552
Japan .. .. .	875	1,900	850	750	1,350	5,725
Philippine Islands .. .. .	..	1,200	60	200	3,800	5,260
Mauritius .. .. .	..	..	..	..	4,334	4,334
Papua .. .. .	171	65	663	538	817	2,254
Other Countries .. .. .	56,986	244	1,804	524	1,268	60,826
<b>Total .. .. .</b>	<b>459,978<sup>a</sup></b>	<b>277,111<sup>a</sup></b>	<b>342,897<sup>a</sup></b>	<b>502,557<sup>a</sup></b>	<b>189,354<sup>a</sup></b>	<b>1,771,897<sup>a</sup></b>

(a) Exclusive of shipments 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 four years ended 30th June, 1918. Of the 2,662 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 coming principally from New Zealand and the United Kingdom. The average value per head of the horses imported during the last five years was £190 11s. 1d., as compared with £19 18s. 11d. per head for the exports for the same period. The average number imported per annum was, however, only 360, and the average annual value £57,372. The following table furnishes a comparison of imports and exports of horses during each of the five years 1914-15 to 1918-19 :—

**COMMONWEALTH IMPORTS AND EXPORTS OF HORSES,  
1914-15 TO 1918-19.**

Year.	Imports.		Exports.		Net Exports.	
	No.	Value.	No.	Value.	No.	Value.
		£		£		£
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
1918-19 .. ..	146	27,821	8,832	189,354	8,686	161,533

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 OF THE WORLD.**

Country.	Date.	Number of Horses. (000 omitted.)	Country.	Date.	Number of Horses. (000 omitted.)
Russian Empire (a) ..	1914	35,846	Sweden .. ..	1918	715
U.S. of America .. ..	1918	21,534	Uruguay .. ..	1908	556
Argentine Republic ..	1914	8,324	Denmark .. ..	1918	545
Brazil .. ..	1916	6,065	Spain .. ..	1916	489
Austria-Hungary (b) ..	1910-13	4,380	Bulgaria .. ..	1910	478
Canada .. ..	1918	3,609	Chile .. ..	1914	458
Germany (c) .. ..	1915	3,342	New Zealand ..	1918	363
<b>Australia</b> .. ..	<b>1918</b>	<b>2,528</b>	Netherlands ..	1918	362
France (d) .. ..	1917	2,283	Finland .. ..	1910	361
United Kingdom .. ..	1918	1,916	Belgium .. ..	1913	267
British India .. ..	1918	1,681	Philippine Islands	1915	223
Japan .. ..	1916	1,572	Algeria .. ..	1913	216
Rumania .. ..	1916	1,219	Norway .. ..	1918	210
Mexico .. ..	1902	859	Serbia .. ..	1910	153
Italy .. ..	1918	804	Switzerland ..	1918	129
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.

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, with the exception of Northern Territory and Western Australia, the number of horses per head of population was somewhat lower in 1918 than in 1914. Particulars for the past five years are as follows :—

NUMBER OF HORSES PER HEAD OF POPULATION,  
1914 TO 1918.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Terr.	F. Terr.	C'wealth.
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	0.50
1917 ..	0.39	0.36	1.08	0.60	0.58	0.21	5.34	0.58	0.50
1918 ..	0.37	0.37	1.09	0.59	0.57	0.20	6.58	0.60	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 next fifteen years, however, despite recurring droughts, a rapid improvement took place, and the total reached on 31st December, 1918, was 5,786,744, the highest number recorded since 1897.

Considerable increases have been in evidence in all the States during the last three seasons, with the result that the Commonwealth total of 12,738,852 for 1918 represents the greatest number of cattle ever depastured in Australia.



The numbers of cattle in the several States and Territories at decennial 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 1918.

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	432,800	278,265	32,476	83,366	..	..	3,957,915
1870	2,195,096	721,096	1,076,630	136,832	45,213	101,459	..	..	4,276,326
1880	2,580,040	1,286,267	3,162,752	283,315	63,719	127,187	c19,720	..	7,523,000
1890	2,091,229	1,782,978	5,558,264	359,938	130,970	162,440	214,094	..	10,299,913
1900	1,983,118	1,602,384	4,078,191	214,761	338,590	165,516	257,667	..	8,640,225
1910	3,140,307	1,547,569	5,131,699	384,862	825,040	201,854	513,383	..	11,744,714
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	4,780,833	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	420,362	8,230b	10,459,237
1917	3,148,309b	1,371,049	5,316,558	313,245b	927,086	197,938	541,545	13,408b	11,829,138
1918	3,271,782b	1,590,544	5,786,744	342,768b	943,847	218,234	570,039	8,894b	12,738,852

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

3. Proportion in each State.—Particulars concerning the relative importance of the various cattle-breeding States during the years 1914 to 1918 are as under :—

PERCENTAGE OF CATTLE IN EACH STATE AND TERRITORY ON TOTAL FOR  
COMMONWEALTH, 1914 TO 1918.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Fed. Ter.	C'wealth.
	%	%	%	%	%	%	%	%	%
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 ..	26.37	11.24	45.56	2.76	8.26	1.71	4.02	0.08	100.00
1917 ..	26.62	11.59	44.94	2.65	7.84	1.67	4.58	0.11	100.00
1918 ..	25.68	12.53	45.43	2.69	7.41	1.71	4.48	0.07	100.00

During the past five years the percentages of cattle in the various States on the Commonwealth total have suffered little change. New South Wales and Northern Territory have exhibited increases at the expense of Queensland, where the percentage has decreased from 49.37 to 45.43.

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,  
1914-15 TO 1918-19.**

Year.	Imports.		Exports.		Net Exports.	
	No.	Value.	No.	Value.	No.	Value.
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
1918-19 ..	66	3,373	710	6,940	644	3,567

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

The average value of the cattle imported into the Commonwealth during the last five years was £68 17s. 1d. per head, while the average value of the cattle exported during the same period was £5 2s. 0d. As stated previously, the imported cattle were principally for stud purposes.

The comparatively large exports for the year 1914-15 were due to shipments to Java and Philippine Islands valued at £22,325 and £14,701 respectively. The bulk of these cattle were exported from Western Australia.

5. Cattle Slaughtered.—The numbers of cattle slaughtered in the several States and Territories of the Commonwealth during the years 1914 to 1918 are as follows :—

**CATTLE (INCLUDING CALVES) SLAUGHTERED IN STATES, TERRITORIES, AND  
COMMONWEALTH, 1914 TO 1918.**

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter. (a)	F. Ter.	C'wealth.
1914	6635,196	470,011	776,869	112,183	63,398	30,064	4,000	6142	2,091,863
1915	6384,947	356,174	653,015	82,070	65,138	28,586	4,000	6 55	1,573,985
1916	6393,400	247,781	578,202	663,167	59,072	26,972	4,000	6122	1,372,716
1917	6377,936	217,480	582,954	669,789	50,781	23,521	22,911	6 87	1,345,459
1918	6437,046	223,340	498,737	673,148	48,707	22,419	31,511	6141	1,335,049

(a) Estimated.

(b) For year ended 30th June of year following.

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 1914-15 to 1918-19 are as follows :—

**QUANTITY OF BEEF PRESERVED BY COLD PROCESS EXPORTED FROM THE COMMONWEALTH, 1914-15 TO 1918-19.**

Country to which Exported.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.	Total for 5 years.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
United Kingdom ..	253,396,440	108,906,118	239,384,893	145,300,631	47,056,554	794,044,636
Egypt ..	4,281,049	109,969	..	30,359,072	68,681,034	103,431,124
Philippine Islands ..	11,352,425	4,089,865	548,398	1,368,713	1,994,336	19,353,737
United States ..	15,974,209	..	..	..	40,086	16,014,295
Straits Settlements ..	2,260,587	1,411,876	1,691,256	1,535,005	1,480,201	8,378,925
Hawaiian Islands ..	1,538,997	..	200,396	502,067	489,640	2,731,100
Malta ..	1,338,439	..	..	..	..	1,338,439
Ceylon ..	210,903	1,330	83,752	203,823	60,854	560,662
Hong Kong ..	216,350	38,859	90,000	98,058	75,791	519,058
Gibraltar ..	487,289	..	..	..	..	487,289
Union of South Africa ..	194,588	..	..	..	..	194,588
Italy ..	170,159	..	..	..	..	170,159
Canada ..	60,540	..	..	..	..	60,540
Other Countries ..	584,514	118,087	82,991	881,932	111,021	1,778,545
Total ..	292,066,489	114,676,104	242,081,686	180,249,301	119,989,517	949,063,097

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, 1914-15 TO 1918-19.**

Country to which Exported.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.	Total for 5 years.
	£	£	£	£	£	£
United Kingdom ..	4,430,370	2,055,045	4,890,927	2,976,301	958,164	15,310,807
Egypt ..	71,040	2,520	..	618,627	1,415,713	2,105,900
Philippine Islands ..	169,327	86,011	11,139	31,449	44,225	342,151
United States ..	209,938	..	..	..	1,023	210,961
Straits Settlements ..	33,447	28,040	34,397	31,819	33,284	160,987
Hawaiian Islands ..	24,498	..	4,358	17,968	14,058	60,882
Malta ..	22,349	..	..	..	..	22,349
Ceylon ..	3,003	25	2,352	4,582	2,130	12,092
Hong Kong ..	2,924	764	1,850	2,032	1,704	9,274
Gibraltar ..	6,691	..	..	..	..	6,691
Union of South Africa ..	2,500	..	..	..	..	2,500
Italy ..	2,130	..	..	..	..	2,130
Canada ..	1,272	..	..	..	..	1,272
Other Countries ..	10,565	3,489	2,047	17,915	2,485	36,501
Total ..	4,990,054	2,175,894	4,947,070	3,698,693	2,472,786	18,284,497

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 nearly 84 per cent. was absorbed by the United Kingdom. The exporting States and Territories during 1918-19 were :—Queensland, 105,452,182 lbs., valued at £2,147,429; Northern Territory, 11,947,101 lbs., valued at £262,379; New South Wales, 2,392,695 lbs., valued at £58,863; and Victoria, 197,539 lbs., valued at £4,115.

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)	1918	129,872	Rumania (c)	1916	2,938
U.S. of America	1918	67,866	Sweden	1918	2,584
Russian Empire (b)	1914	52,052	Denmark	1918	2,124
Brazil (c)	1916	28,962	Netherlands	1918	1,969
Argentine Republic	1914	25,867	Chile	1915	1,969
Austria-Hungary (d)	1910-13	17,648	Belgium	1913	1,849
Germany	1919	16,424	Bulgaria	1910	1,603
Australia	1918	12,739	Switzerland	1918	1,530
France (e)	1917	12,443	Ceylon (c)	1915	1,501
United Kingdom	1918	12,311	Japan	1916	1,343
Canada	1918	10,051	Algeria	1913	1,108
Uruguay	1916	7,803	Norway	1918	1,038
Italy	1918	6,162	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
New Zealand	1918	3,035			

(a) Including buffalo calves. (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 the past five years are as follows:—

NUMBER OF CATTLE PER HEAD OF POPULATION, 1914 TO 1918.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Terr.	F. Terr.	C'wealth.
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	88.18	3.70	2.14
1917	1.65	0.97	7.84	0.71	3.09	0.97	110.34	5.42	2.39
1918	1.67	1.12	8.33	0.75	3.01	1.04	119.23	3.77	2.51

For the Commonwealth as a whole the ratio of cattle to population has slightly increased since 1914, and the increase has been in evidence in all the States

§ 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, but in later years the proportion has fallen away considerably.

The number of sheep in the several States and Territories at decennial intervals from 1860 to 1910, and for each year from 1914 to 1918, is as follows :—

**NUMBER OF SHEEP IN STATES, TERRITORIES, AND COMMONWEALTH,  
1860 TO 1918.**

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
1870	16,308,585	10,761,387	8,163,818	4,400,655	608,892	1,349,775	..	..	41,593,612
1880	35,398,121	10,360,285	6,935,967	6,443,904	1,231,717	1,796,715	c9,318	..	62,176,027
1890	55,986,431	12,692,843	18,007,234	7,004,642	2,524,913	1,619,256	45,902	..	97,881,221
1900	40,020,506	10,841,790	10,339,185	5,235,220	2,434,311	1,683,956	48,027	..	70,602,995
1910	45,560,969	12,882,665	20,331,838	6,267,477	5,158,516	1,788,310	57,240	..	92,047,015
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	5,529,980	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	6133,731	84,965,012
1918	637,243,770	15,773,902	18,220,985	66,625,184	7,183,747	1,841,924	53,620	6133,104	87,086,236

(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 1914 to 1918 are as hereunder :—

**PERCENTAGE OF SHEEP IN EACH STATE AND TERRITORY ON TOTAL FOR  
COMMONWEALTH, 1914 TO 1918.**

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Terr.	F. Terr.	C'wealth.
	%	%	%	%	%	%	%	%	%
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
1918 ..	42.77	18.11	20.92	7.61	8.25	2.11	0.07	0.16	100.00

During the period, the proportion of total Commonwealth flocks declined considerably in the case of Queensland, while in the cases of Victoria, Western Australia, and South Australia 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 Java, the Philippine Islands, and the Pacific Islands; Western Australia being the principal exporting State. The following are particulars of the imports and exports for the years 1914-15 to 1918-19 :—

**COMMONWEALTH IMPORTS AND EXPORTS OF SHEEP, 1914-15 TO 1918-19.**

Year.	Imports.		Exports.		Net Exports.	
	No.	Value.	No.	Value.	No.	Value.
		£		£		£
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
1918-19 ..	607	4,776	18,608	39,783	18,001	35,007

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

5. **Sheep Slaughtered.**—The numbers of sheep slaughtered in the several States during each of the years from 1914 to 1918 are as follows :—

**SHEEP (INCLUDING LAMBS) SLAUGHTERED, 1914 TO 1918.**

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania. (a)	Nor. Ter.	Fed. Ter.	C'wealth.
1914	66,006,190	4,550,272	1,351,145	1,156,957	588,342	312,275	c500	64,351	13,970,032
1915	64,173,511	2,973,803	1,316,152	918,526	564,535	288,419	c500	63,376	10,238,822
1916	63,756,477	2,647,200	909,615	668,612	547,041	283,313	c500	62,975	8,833,233
1917	63,198,465	2,499,002	689,905	6808,914	590,244	259,287	c500	63,713	8,050,030
1918	64,271,396	3,581,460	542,479	61,137,573	630,117	295,844	c500	63,334	10,462,708

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

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 eleven years afterwards in 1914-15, the value amounted to no less a sum than £3,413,848. During the past four years, consequent on drought and war conditions, the value of the exports fell considerably, averaging for the period only £1,015,351 per annum. 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 carcase 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 92 per cent. of the total quantity exported from the Commonwealth during the past five years, while the balance was shipped mainly to Egypt and the Straits Settlements.

**QUANTITY OF MUTTON AND LAMB PRESERVED BY COLD PROCESS EXPORTED FROM THE COMMONWEALTH, 1914-15 TO 1918-19.**

Country to which Exported.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.	Total for 5 years.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
United Kingdom ..	187,897,976	36,539,660	65,140,182	9,532,577	49,784,705	348,895,100
Egypt ..	902,604	319,156	..	8,071,709	8,464,515	17,757,984
Straits Settlements ..	1,068,164	749,883	964,335	824,406	754,089	4,360,877
Ceylon ..	504,115	302,839	284,130	252,716	189,875	1,333,675
Hong Kong ..	256,068	194,209	272,450	144,789	195,881	1,063,397
Philippine Islands ..	370,296	132,134	35,608	122,963	194,843	855,844
Canada ..	413,013	..	..	199,092	..	612,105
Malta ..	798,996	..	..	..	..	798,996
Gibraltar ..	463,106	..	..	..	..	463,106
Union of South Africa ..	387,006	..	..	..	..	387,006
United States ..	195,225	..	..	..	..	195,225
Other Countries ..	207,308	105,747	116,104	27,058	103,547	559,764
<b>Total ..</b>	<b>193,263,877</b>	<b>38,343,628</b>	<b>66,812,809</b>	<b>19,175,310</b>	<b>59,687,455</b>	<b>377,283,079</b>

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

**VALUES OF FROZEN MUTTON AND LAMB EXPORTED FROM THE COMMONWEALTH, 1914-15 TO 1918-19.**

Country to which Exported.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.	Total for 5 years.
	£	£	£	£	£	£
United Kingdom ..	3,321,045	725,255	1,496,658	213,710	1,082,646	6,839,314
Egypt ..	16,577	7,719	..	194,199	176,551	395,046
Straits Settlements ..	18,553	18,713	25,534	23,885	20,796	107,481
Ceylon ..	5,346	7,524	7,250	7,103	5,058	32,281
Hong Kong ..	4,422	4,928	7,210	4,072	5,399	26,031
Philippine Islands ..	6,212	3,039	965	3,425	5,395	19,036
Canada ..	7,507	..	..	5,471	..	12,978
Malta ..	12,920	..	..	..	..	12,920
Gibraltar ..	7,660	..	..	..	..	7,660
Union of South Africa ..	6,538	..	..	..	..	6,538
United States ..	3,066	..	..	..	..	3,066
Other Countries ..	4,002	2,574	2,955	782	2,586	12,899
<b>Total ..</b>	<b>3,413,848</b>	<b>769,752</b>	<b>1,540,572</b>	<b>452,647</b>	<b>1,298,431</b>	<b>7,475,250</b>

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 nearly 16 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 .. ..	1918	87,086	Brazil .. ..	1916	7,205
Russian Empire (a) ..	1914	72,273	Germany .. ..	1919	5,824
U. S. of America ..	1918	49,863	Chile .. ..	1914	4,545
Argentine Republic ..	1914	43,225	Serbia .. ..	1910	3,819
Union of South Africa ..	1915	31,434	Greece .. ..	1914	3,547
Ottoman Empire ..	1912	27,095	Mexico .. ..	1902	3,424
United Kingdom ..	1918	27,063	Portugal .. ..	1906	3,073
Uruguay .. ..	1908	26,286	Canada .. ..	1918	3,053
New Zealand .. ..	1918	25,829	Sweden .. ..	1918	1,409
British India .. ..	1918	22,895	Finland .. ..	1910	1,309
Spain .. ..	1916	16,012	Norway .. ..	1918	1,185
Austria-Hungary (b) ..	{ 1910 }	12,337	Tunis .. ..	1916	1,148
	{ 1913 }		Iceland .. ..	1914	585
Italy .. ..	1918	11,752	Denmark .. ..	1918	470
France (c) .. ..	1917	10,587	Netherlands .. ..	1918	437
Algeria .. ..	1912	8,338	Switzerland .. ..	1918	225
Bulgaria .. ..	1910	8,632	Belgium .. ..	1910	185
Rumania .. ..	1916	7,811			

(a) Including Poland, Caucasus, and Siberia. (b) Austria, Croatia-Slavonia and Bosnia-Herzegovina 1910; Hungary 1913. (c) 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 each year from 1914 to 1918 is as follows :—

#### NUMBER OF SHEEP PER HEAD OF POPULATION, 1914 TO 1918.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	F.T.	C'wealth.
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
1918 ..	18.97	11.02	26.24	14.53	22.92	8.82	12.26	58.59	17.16

A comparison of the ratios of sheep to population for 1918 with those for 1914 discloses increases in all the States excepting Queensland, the Northern Territory, and the Federal Territory, where the proportions have diminished considerably.

### § 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, 1919, being about £42,490,000. 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 about 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, fellmongers, &c. Particulars for years prior to 1914–15 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, 1915 to 1919 :—

**ESTIMATED QUANTITY OF WOOL AS IN THE GREASE, SHORN, FELLMONGERED OR ON SKINS SHIPPED DURING THE SEASONS ENDED 30th JUNE, 1915 TO 1919.**

State.	1914-5.	1915-16.	1916-17.	1917-18.	1918-19.
	lbs.	lbs.	lbs.	lbs.	lbs.
New South Wales (a)	318,935,000	262,045,000	270,525,000	284,188,000	305,613,000
Victoria .. .. .	95,406,867	82,330,198	94,845,024	105,424,682	126,647,061
Queensland .. .. .	155,478,740	130,783,277	102,220,125	87,425,558	113,777,272
South Australia .. .	38,848,978	33,969,975	35,050,865	46,339,339	55,947,108
Western Australia ..	24,562,110	31,887,888	34,199,682	39,701,357	45,317,271
Tasmania .. .. .	9,103,030	9,212,203	10,441,978	10,284,316	10,279,998
Northern Territory (b)	400,000	350,000	350,000	330,000	330,000
Commonwealth .. .	642,734,725	550,578,541	547,632,674	573,693,252	657,911,710

(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. For the three seasons ended 30th June, 1914, this average annual shortage amounted to nearly 46,000,000 lbs. of wool. The abnormal conditions of wool shipment obtaining during the last five seasons do not admit of any similar comparisons being made. The appraisalment figures of the Central Wool Committee, however, furnish further evidence of shortage in the figures supplied by the State Statisticians for the past two seasons. During 1917–18 and 1918–19, the total appraisalments amounted to 664,310,326 and 704,772,241 lbs. of wool respectively, which figures reveal an average annual deficit of 68,738,803 lbs. in the estimated production for those seasons.

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, 1915 TO 1919.**

Season ended 30th June.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
<b>WEIGHT.</b>							
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
1915 .. ..	7.20	5.58	6.75	6.98	5.31	5.00	6.68
1916 .. ..	7.09	5.79	6.37	7.65	6.16	5.29	6.63
1917 .. ..	7.39	6.26	7.00	7.47	5.82	5.79	6.96
1918 .. ..	7.08	6.19	6.91	7.52	6.17	5.38	6.80
1919 .. ..	7.13	6.21	6.30	7.41	6.09	5.09	6.68
<b>VALUE.</b>							
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
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 .. ..	8 9	8 6	9 7	9 1	7 11	8 5	8 9
1919 .. ..	8 11	8 3	8 10	9 0	7 4	7 9	8 7

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, 1914 TO 1918.**

State.	1914.	1915.	1916.	1917.	1918.
	lbs.	lbs.	lbs.	lbs.	lbs.
New South Wales .. ..	a2,484,446	b4,173,576	b6,467,800	b6,556,988	b6,118,000
Victoria .. ..	6,118,450	11,052,250	a11,052,250	b8,669,460	b7,344,035
Queensland .. ..	356,533	377,538	358,504	304,091	268,917
South Australia .. ..	389,700	1,065,130	a1,065,130	b995,164	b734,723
Western Australia .. ..	.. ..	.. ..	.. ..	.. ..	.. ..
Tasmania .. ..	1,141,200	1,217,780	1,244,844	1,172,000	1,301,006
Commonwealth .. ..	10,490,349	17,886,274	20,188,528	17,697,703	15,766,681

(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 1914-15 to 1918-19 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 five years have averaged 70 per cent. The other leading consignees for the last five years were the United States of America, Japan, Italy, France, and, prior to the war, Germany and Belgium. The following table shews for the years 1914–15 to 1918–19 the quantities of “greasy” wool exported from the Commonwealth and the principal countries to which consigned:—

**COMMONWEALTH EXPORTS OF WOOL IN THE GREASE, 1914–15 TO 1918–19.**

Country to which Exported.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.	Total for 5 years.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
United Kingdom ..	319,614,694	202,384,381	283,446,361	139,113,437	352,282,063	1,296,841,530
United States of America ..	61,731,511	115,112,628	16,174	57,425,217	71,776,334	308,061,864
Italy ..	18,191,774	43,167,206	25,608,163	17,641,985	10,036,918	114,646,046
Japan ..	22,670,413	34,725,863	16,839,727	2,910,477	5,319,577	82,475,057
France ..	12,787,863	13,746,706	12,254,213	5,675,577	3,719,125	48,183,484
Egypt ..	..	..	..	15,522,281	10,950,893	26,473,174
Canada ..	951,452	453,950	727,923	4,726,317	3,152,424	10,012,066
Germany ..	3,036,083	..	..	..	..	3,036,083
Belgium ..	2,984,856	..	..	..	..	2,984,856
India ..	443,451	198,228	297,218	778,286	795,792	2,512,975
Austria-Hungary ..	829,746	..	..	..	..	829,746
New Zealand ..	541,513	11,059	..	..	..	552,572
Other Countries ..	170,474	1,452,965	32,471	..	..	1,655,910
<b>Total ..</b>	<b>443,953,830</b>	<b>411,252,986</b>	<b>339,222,250</b>	<b>243,802,577</b>	<b>458,033,726</b>	<b>1,896,265,369</b>

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

**COMMONWEALTH EXPORTS OF “SCOURED AND WASHED” WOOL (a), 1914–15 TO 1918–19.**

Country to which Exported.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.	Total for 5 years.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
United Kingdom ..	48,171,821	37,569,727	46,917,307	59,247,374	103,261,254	295,167,483
United States of America ..	4,557,800	27,933,634	..	1,446,501	1,460,294	35,998,229
Japan ..	6,141,036	7,499,571	5,081,183	4,779,081	3,447,825	26,948,696
Italy ..	655,302	4,920,545	2,651,922	475,914	..	8,703,683
France ..	2,154,275	1,190,494	1,016,397	62,148	27,239	4,450,553
Germany ..	1,748,008	..	154,172	..	..	1,902,180
Egypt ..	..	..	..	1,074,558	35,780	1,110,338
India ..	135,408	240,663	299,060	51,664	216,326	943,121
Belgium ..	920,506	..	..	..	..	920,506
Austria-Hungary ..	147,864	..	..	..	..	147,864
New Zealand ..	1,879	104,864	..	..	..	106,743
Other Countries ..	315,392	426,553	567,059	299,490	687,271	2,295,765
<b>Total ..</b>	<b>64,940,291</b>	<b>79,886,051</b>	<b>56,687,100</b>	<b>67,436,730</b>	<b>109,135,989</b>	<b>378,095,161</b>

(a) Including “tops.” See preceding page.

The figures for “scoured and washed wool” include tops, amounting in 1914–15 to 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; in 1917–18, 4,571,357 lbs., valued at £1,510,799; and in 1918–19, 2,822,578 lbs., valued at £935,212. The total exports of

wool tops during the last five years amounted to 21,341,323 lbs., valued at £4,842,258, of which 21,082,038 lbs., or nearly 99 per cent., were shipped to Japan.

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,  
1914-15 TO 1918-19.**

Country to which Exported.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.	Total for 5 years.
	£	£	£	£	£	£
United Kingdom ..	15,413,174	12,608,971	23,431,942	15,648,660	34,563,566	101,666,313
United States of America ..	3,110,301	8,381,302	13,513	4,389,755	4,982,056	20,876,927
Japan ..	1,502,576	2,587,091	2,470,414	1,798,089	1,400,192	9,756,362
Italy ..	718,260	2,115,891	1,845,861	1,005,058	548,142	6,231,212
France ..	694,751	952,026	963,097	372,453	304,410	3,286,737
Egypt ..	..	..	..	939,149	613,814	1,552,963
Canada ..	50,063	53,316	77,267	..	238,924	757,657
India ..	30,739	32,442	87,860	60,730	78,336	296,157
Germany ..	295,376	..	..	..	..	295,376
Belgium ..	187,755	..	..	..	..	187,755
Austria-Hungary ..	50,436	..	..	..	..	50,436
New Zealand ..	19,962	4,931	..	..	..	24,393
Other Countries ..	30,789	118,121	63,384	30,833	37,315	280,442
<b>Total ..</b>	<b>22,102,182</b>	<b>26,854,091</b>	<b>28,953,338</b>	<b>24,586,864</b>	<b>42,766,755</b>	<b>145,263,230</b>

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,  
1912 TO 1916.**

Year.	Australia and New Zealand.	Cape Colony.	River Plate.	Total.	Average Value of Australasian and Cape Bales.
	Bales.	Bales.	Bales.	Bales.	£
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 five years shown above the importations from Australia and New Zealand represented 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 1918 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 shown in the following table:—

#### IMPORTS OF WOOL INTO THE UNITED KINGDOM, 1918.

Country from which Imported.	Quantity.	Value.	Country from which Imported.	Quantity.	Value.
	lbs.	£		lbs.	£
Australia ..	204,756,535	20,104,417	Iceland and Greenland ..	560,352	52,910
New Zealand ..	89,298,811	7,450,411	Uruguay ..	470,500	24,000
British India ..	61,854,588	3,485,219	China..	184,073	17,915
Union of S. Africa	31,270,561	2,922,604	U.S. of America	10,836	1,626
Argentine Republic ..	6,248,797	654,936	British Possessions, n.e.i. ..	872,595	66,706
Turkey, Asiatic	6,175,014	452,918	Foreign Countries, n.e.i. ..	713,927	63,108
Falkland Islands	5,772,256	442,954	Total ..	413,453,747	36,339,476
Peru ..	1,670,383	250,550			
Chile ..	1,372,975	175,363			
Egypt ..	2,221,544	173,839			

It will be seen that of the total importations of wool into the United Kingdom, Australian wool represented nearly 50 per cent. of quantity and over 55 per cent. of value, and New Zealand nearly 22 per cent. of quantity and 20½ per cent. of value. It is interesting to note that a total of 396,046,890 lbs., valued at £34,646,150 was received from British Possessions, being a little under 96 per cent. of the total weight imported, and 95 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, the allotment of freight being 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.

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 Govern- ment ..	Greasy	1,627,360	18,136	190,587	553,713,279	34,619,564	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 Manu- facturers ..	Greasy	37,187	493	15,682	13,185,745	715,302	10 3	755,301	18 6
	Scoured	4,632	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 Manu- facturers ..	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	1,700,290	22,878	235,423	579,168,627	36,975,793	..
	Scoured	217,092	872	668	51,121,844	5,504,575	..
	Total	1,917,382	23,750	236,091	630,290,471	42,480,368	43,983,348
Woolen Manufacturers .. ..	Greasy	37,507	300	10,862	13,189,300	..	..
	Scoured	4,542	10	1	1,108,427	..	..
	Total	42,049	310	10,863	14,297,727	839,756	869,072
Wool Top Manufacturers .. ..	Greasy	21,257	4	..	7,089,176	..	..
	Scoured	1,896	..	..	432,298	..	..
	Total	23,153	4	..	7,521,474	661,044	684,120
Total Purchased .. ..	Greasy	1,759,054	23,182	246,285	599,447,103	38,310,763	38,714,292
	Scoured	223,530	882	669	52,662,569	5,670,405	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 top 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 five years have been as follows:—

## EXPORT VALUE PER LB. OF AUSTRALIAN GREASY WOOL, 1914-15 TO 1918-19.

Year .. .. .	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.
Average value per lb. .. ..	d. 9.45	d. 11.86	d. 15.81	d. 16.71	d. 16.49

(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 overseas from each State during the season ended 30th June, 1919, 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 overseas shipments and sales. The estimated quantity of wool produced in each State is given on page 333.

**EXPORTS OF WOOL TO PLACES OUTSIDE THE COMMONWEALTH, AND THE QUANTITY APPRAISED OR SOLD IN THE SEVERAL STATES, DURING THE SEASON ENDED 30th JUNE, 1919.**

State.	Overseas Exports.		Sales or Appraisements.	
	Bales.	%	Bales.	%
New South Wales .. ..	827,089	44.71	766,313	37.73
Victoria .. ..	484,660	26.20	602,370	29.66
Queensland .. ..	261,022	14.11	304,583	15.00
South Australia .. ..	182,352	9.86	190,752	9.39
Western Australia .. ..	79,371	4.29	130,596	6.43
Tasmania .. ..	15,362	0.83	36,302	1.79
Commonwealth .. ..	1,849,856	100.00	2,030,916	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
			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 table:—

**PROPORTIONS OF THE VARIOUS DESCRIPTIONS OF WOOL SOLD OR APPRAISED LOCALLY IN THE SEVERAL STATES OF THE COMMONWEALTH DURING THE SEASON ENDED 30th JUNE, 1919.**

Description of Wool.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Commonwealth.
	Bales.	Bales.	Bales.	Bales.	Bales.	Bales.	Bales.
Greasy .. ..	672,265	546,390	237,602	184,710	127,762	36,137	1,804,866
Scoured .. ..	94,048	55,980	66,981	6,042	2,834	165	226,050
Total .. ..	766,313	602,370	304,583	190,752	130,596	36,302	2,030,916
Fleece, etc. ..	727,693	554,545	289,120	172,919	117,555	34,928	1,896,760
Lambs' .. ..	38,620	47,825	15,463	17,833	13,041	1,374	134,156
Total .. ..	766,313	602,370	304,583	190,752	130,596	36,302	2,030,916
Merino .. ..	536,419	284,169	296,202	165,734	121,010	13,123	1,416,657
Crossbred and all strong breeds ..	229,894	318,201	8,381	25,018	9,586	23,179	614,259
Total .. ..	766,313	602,370	304,583	190,752	130,596	36,302	2,030,916
	%	%	%	%	%	%	%
Greasy .. ..	87.73	90.71	78.01	96.83	97.83	99.55	88.87
Scoured .. ..	12.27	9.29	21.99	3.17	2.17	0.45	11.13
Total .. ..	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Fleece, etc. ..	94.96	92.06	94.92	90.65	90.01	96.22	93.39
Lambs' .. ..	5.04	7.94	5.08	9.35	9.99	3.78	6.61
Total .. ..	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Merino .. ..	70.00	47.18	97.25	86.88	92.66	36.15	69.75
Crossbred and all strong breeds ..	30.00	52.82	2.75	13.12	7.34	63.85	30.25
Total .. ..	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Wool in the grease represented nearly 89 per cent. of the total marketed during 1918-19. Of fleece and lambs' wool, the former represents 93.39, and the latter 6.61 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 1918-19 :—

**PERCENTAGE OF BALES OF EACH DESCRIPTION OF WOOL SOLD OR APPRAISED IN THE SEVERAL STATES ON THE TOTAL SOLD OR APPRAISED IN THE COMMONWEALTH, 1918-19.**

Description of Wool.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Commonwealth.
Greasy ..	37.25	30.27	13.17	10.23	7.08	2.00	100.00
Scoured ..	41.61	24.77	29.63	2.67	1.25	0.07	100.00
Fleece, etc. ..	38.36	29.24	15.24	9.12	6.20	1.84	100.00
Lambs' ..	28.79	35.65	11.53	13.29	9.72	1.02	100.00
Merino ..	37.86	20.06	20.91	11.70	8.54	0.93	100.00
Crossbred and all strong breeds ..	37.43	51.80	1.37	4.07	1.56	3.77	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 cattle hides and sheepskins exported from Australia during the five years 1914-15 to 1918-19 being no less than £10,042,762, or an average of £2,008,552 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 1914-15 to 1918-19 are as follows :—

**COMMONWEALTH EXPORTS OF SHEEPSKINS WITH WOOL, 1914-15 TO 1918-19.**

Country to which Exported.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.	Total for 5 Years.
	No.	No.	No.	No.	No.	No.
United Kingdom	5,844,442	3,506,365	2,152,016	2,172,176	6,005,229	19,680,228
France ..	2,227,714	1,863,904	753,530	..	..	4,845,148
U.S. of America	1,016,958	331,706	..	..	..	1,348,664
Canada ..	206,876	61,103	46,668	..	..	314,647
New Zealand ..	39,083	25,283	..	..	..	64,366
Belgium ..	29,366	..	..	..	..	29,366
Italy ..	..	9,949	..	..	..	9,949
Germany ..	2,578	..	..	..	..	2,578
Other Countries	1,051	24	..	..	62	1,137
<b>Total ..</b>	<b>9,368,068</b>	<b>5,798,334</b>	<b>2,952,214</b>	<b>2,172,176</b>	<b>6,005,291</b>	<b>26,296,083</b>

The next table furnishes corresponding particulars as to value :—

**VALUE OF SHEEPSKINS WITH WOOL EXPORTED FROM THE COMMONWEALTH,  
1914-15 TO 1918-19.**

Country to which Exported.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.	Total for 5 years.
	£	£	£	£	£	£
United Kingdom	1,021,432	779,615	738,483	732,030	1,845,036	5,116,596
France ..	387,692	283,293	250,783	..	..	921,768
U.S. of America	213,249	97,890	..	..	..	311,139
Canada ..	46,374	12,553	10,869	..	..	69,796
New Zealand ..	9,748	6,268	..	..	..	16,016
Belgium ..	10,877	..	..	..	..	10,877
Italy ..	..	875	..	..	..	875
Germany ..	812	..	..	..	..	812
Other Countries	468	5	..	..	21	494
<b>Total ..</b>	<b>1,690,652</b>	<b>1,180,499</b>	<b>1,000,135</b>	<b>732,030</b>	<b>1,845,057</b>	<b>6,448,373</b>

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,  
1914-15 TO 1918-19.**

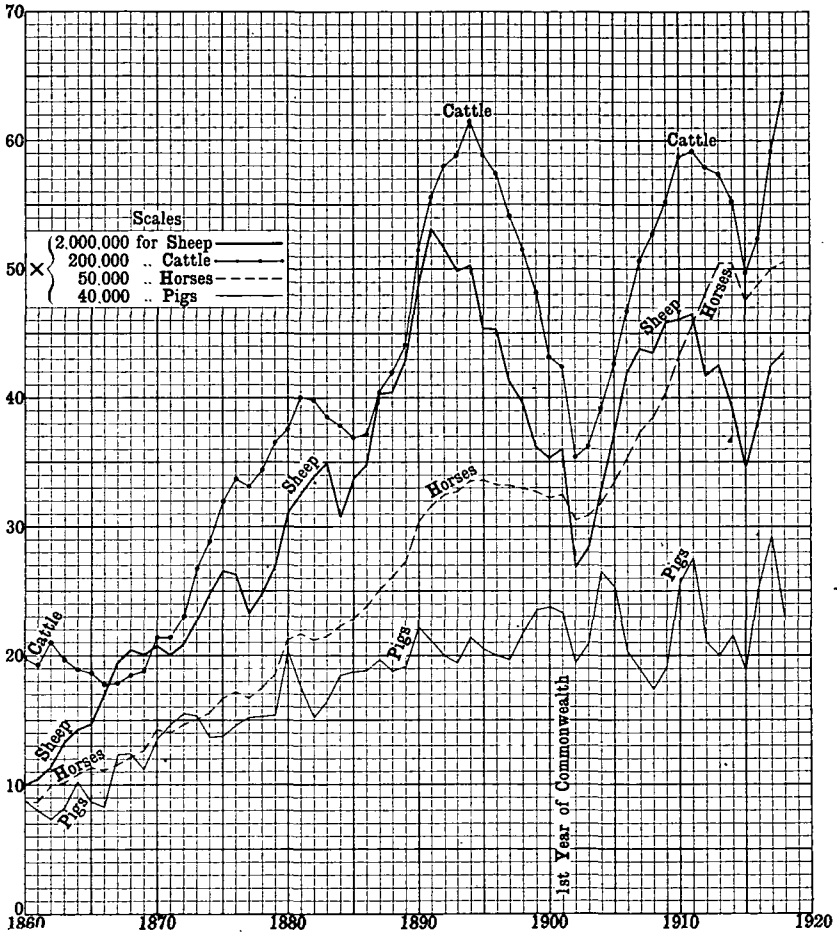
Country to which Exported.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.	Total for 5 years.
	No.	No.	No.	No.	No.	No.
U.S. of America	640,302	1,815,725	1,618,517	749,570	181,461	5,005,575
United Kingdom	720,417	103,497	155,189	66,996	444,943	1,491,042
Canada ..	3,096	540	184,460	74,710	162,477	425,283
Japan ..	..	1,047	2,949	7,368	216	11,580
France ..	..	..	1,098	..	..	1,098
New Zealand ..	12	..	24	..	4,968	5,004
<b>Total ..</b>	<b>1,363,827</b>	<b>1,920,809</b>	<b>1,962,237</b>	<b>898,644</b>	<b>794,065</b>	<b>6,939,582</b>

Corresponding details concerning value are given hereunder :—

**VALUE OF SHEEPSKINS WITHOUT WOOL EXPORTED FROM THE  
COMMONWEALTH, 1914-15 TO 1918-19.**

Country to which Exported.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.	Total for 5 years.
	£	£	£	£	£	£
U.S. of America	35,766	86,908	126,612	74,693	21,802	345,781
United Kingdom	37,875	5,243	12,019	9,656	54,669	119,462
Canada ..	233	39	13,750	10,335	19,282	43,639
Japan ..	..	83	337	685	24	1,129
France ..	..	..	89	..	..	89
New Zealand ..	2	..	2	..	279	283
<b>Total ..</b>	<b>73,876</b>	<b>92,273</b>	<b>152,809</b>	<b>95,369</b>	<b>96,056</b>	<b>510,383</b>

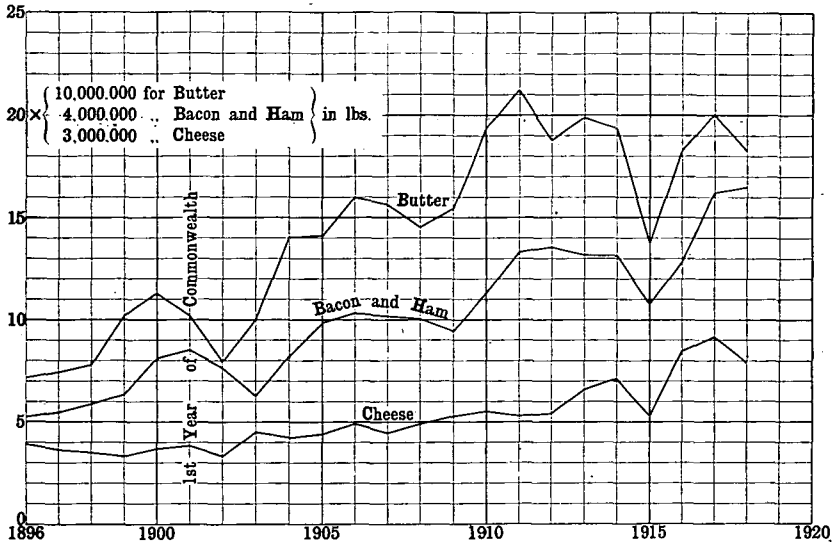
GRAPHS SHEWING NUMBER OF HORSES, CATTLE, SHEEP, AND PIGS IN THE COMMONWEALTH FROM 1860 TO 1918.



(See page 317.)

EXPLANATION OF GRAPH.—The base of each small square represents an interval of one year. The totals of the horses, cattle, sheep, 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.

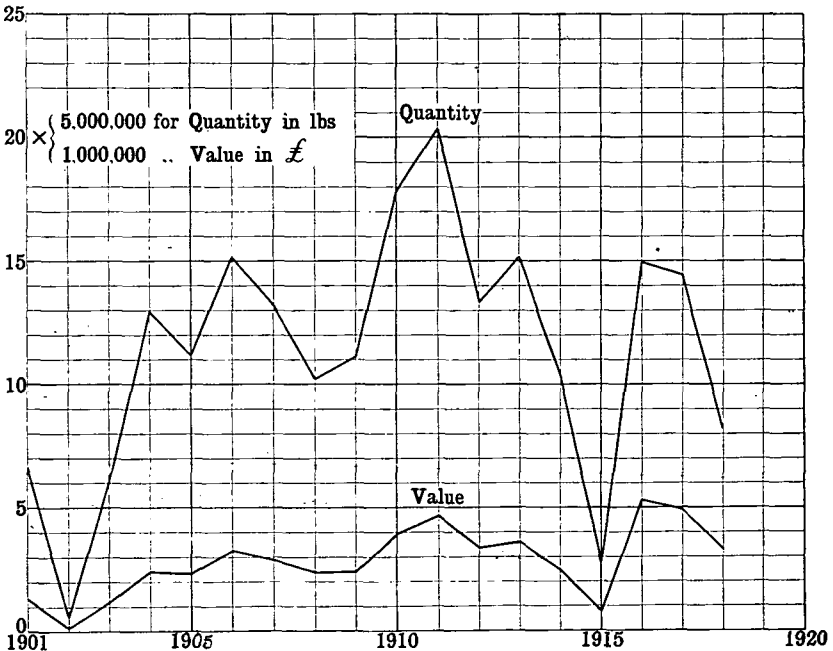
GRAPHS SHEWING THE PRODUCTION OF BUTTER AND CHEESE, AND BACON AND HAM, IN THE COMMONWEALTH, FROM 1896 TO 1918.



(See pages 410 and 413.)

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 1918.



(See page 411.)

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.

4. **Hides.**—The Commonwealth trade in cattle hides has now assumed considerable proportions, and during 1914-15 the total value of such hides exported amounted to £1,303,201. The exports were principally to the United Kingdom, the United States of America and Canada. 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 1918-19 was £424,339.

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

## COMMONWEALTH EXPORTS OF CATTLE HIDES, 1914-15 TO 1918-19.

Country to which Exported.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.	Total for 5 years.
	No.	No.	No.	No.	No.	No.
United Kingdom ..	472,394	209,219	147,408	136,425	245,517	1,210,963
U.S. of America ..	229,665	..	2,783	4,943	2,734	240,125
Canada ..	142,928	66,890	19,210	3,338	1,302	233,668
Italy ..	9,830	97,038	2,334	..	..	109,202
New Zealand ..	9,067	14,582	11,526	1,218	3,950	40,343
Belgium ..	38,520	..	..	..	..	38,520
Japan ..	6,863	4,006	..	3,300	5,883	20,052
Germany ..	18,255	..	..	..	..	18,255
France ..	8,803	1,129	3,733	..	..	13,665
Union of South Africa	480	2,705	..	..	..	3,185
Austria-Hungary ..	203	..	..	..	..	203
Other Countries ..	216	..	..	..	..	216
Total ..	937,224	395,569	186,994	149,224	259,386	1,928,397

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

## VALUE OF CATTLE HIDES EXPORTED FROM THE COMMONWEALTH, 1914-15 TO 1918-19.

Country to which Exported.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.	Total for 5 years.
	£	£	£	£	£	£
United Kingdom ..	666,854	264,517	270,718	335,562	538,012	2,075,663
U.S. of America ..	330,096	..	5,217	10,638	2,078	348,029
Canada ..	170,978	97,950	33,243	5,812	2,823	310,806
Italy ..	12,299	113,924	3,772	..	..	129,995
New Zealand ..	13,003	15,740	24,158	3,456	8,328	64,685
Belgium ..	51,910	..	..	..	..	51,910
Japan ..	13,063	8,479	..	8,929	15,479	45,950
Germany ..	29,927	..	..	..	..	29,927
France ..	13,911	1,780	7,152	..	..	22,843
Union of South Africa	531	3,038	..	..	..	3,569
Austria-Hungary ..	355	..	..	..	..	355
Other Countries ..	274	..	..	..	..	274
Total ..	1,303,201	505,428	344,260	364,397	566,720	3,084,006

The number and value of cattle hides, including calfskins imported into the Commonwealth during the five years 1914-15 to 1918-19 are as follows:—

**CATTLE HIDES IMPORTED INTO THE COMMONWEALTH, 1914-15 TO 1918-19.**

Particulars.			1914-15.	1915-16.	1916-17.	1917-18.	1918-19.	Total for 5 years.
No.	..	..	83,405	146,657	94,065	132,218	260,237	716,582
Value	..	£	145,633	293,052	161,380	151,531	424,339	1,175,935

During the past five years the exports of calfskins amounted to 519,089, valued at £148,533, and of horse hides, 4,525, valued at £3,457; the imports of horse hides during the same period amounting to 6,439, valued at £6,721.

**§ 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 345, covers the period from 1860 to 1918.

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 total for 1913 being the highest then 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 substantial increases which have taken place during the last three years have been responsible for the number of horses in Australia attaining its maximum at the end of 1918.

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 12,311,617 cattle recorded 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, and, assisted by considerable increases during the next two seasons, reached its highest point in 1918.

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 further 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  $7\frac{1}{2}$  per cent., and a still heavier one in 1915,



amounting to over 11 $\frac{1}{2}$  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, substantial increases in the number of sheep took place during the next three seasons, the number recorded for 1918 being the highest since 1911.

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 of pigs in the latter year reaching its maximum. During 1918 the number of pigs in Australia decreased by 255,463, or 22 per cent.