

PASTORAL RESOURCES AND DAIRY INDUSTRY.

NOTWITHSTANDING the fact that the soil, climate, and indigenous herbage of Australasia are admirably adapted to the sustenance of animal life, no attempt was made to test the capabilities of the land as a feeding-ground for flocks and herds on a large scale until the example of Captain Macarthur had demonstrated beyond doubt that Nature favoured the production in Australasia of a quality of wool which was unsurpassed by that grown in any part of the world. Then the settlers began to understand and utilise the natural resources of the country; and as the indomitable spirit of exploration gradually opened up the apparently boundless plains of the interior, pastoralists extended their domain, and sheep and cattle in increasing numbers spread over the face of eastern Australia. Now the expansion of the pastoral industry is gradually converting the central and western portions of the continent into holdings devoted to the production of the greatest element of the wealth of Australasia.

The beginnings of pastoral enterprise in Australia were very humble. The live stock of the community which accompanied Captain Phillip comprised only 1 bull, 4 cows, 1 calf, 1 stallion, 3 mares, 3 foals, 29 sheep, 12 pigs, and a few goats; and although the whole of the present flocks and herds of Australasia have not sprung from these animals alone, yet the figures show the small scale on which the business of stock-raising was first attempted. No systematic record of the arrival of stock seems to have been kept in the early days of settlement; but it would appear that during the period between Governor Phillip's landing and the year 1800 there were some slight importations, chiefly of sheep from India. In 1800 the stock in Australasia comprised 6,124 sheep, 1,044 cattle, 203 horses, and 4,017 swine; while at the end of the year 1901, there were no less than 92,358,824 sheep, 9,827,433 cattle, 1,905,172 horses, and 1,171,381 swine.

The following figures give the number of stock in Australasia at various dates up to 1851:—

Year.	Sheep.	Cattle.	Horses.	Swine.
1792.....	105	23	11	43
1800.....	6,124	1,044	203	4,017
1810.....	33,818	11,276	1,114	8,992
1821.....	290,158	102,939	4,564	33,906
1842.....	6,312,004	1,014,833	70,615	66,086
1851.....	17,326,021	1,921,963	166,421	121,035

The increase in the number of each kind of live stock since the year 1861 is illustrated in the following table :—

Year.	Sheep.	Cattle.	Horses.	Swine.
1861.....	23,741,706	4,039,839	459,970	362,417
1871.....	49,773,584	4,713,820	782,558	737,477
1881.....	78,063,426	8,709,628	1,249,765	903,271
1891.....	124,547,937	11,861,330	1,785,835	1,154,553
1901.....	92,358,824	9,827,433	1,905,172	1,171,381

The average number of sheep, cattle, horses, and swine per head of the population of Australasia at the same periods was as follows :—

Year.	Sheep.	Cattle.	Horses.	Swine.
1861.....	18·8	3·2	0·4	0·3
1871.....	25·3	2·4	0·4	0·4
1881.....	27·7	3·1	0·4	0·3
1891.....	31·8	3·0	0·5	0·3
1901.....	20·2	2·1	0·4	0·3

It will be seen that in 1861 there were 18·8 sheep for every person in Australasia, and that this number had increased to 31·8 in 1891. In 1901, however, in consequence of the continued dry seasons, and the demands made upon the flocks for the export trade, the average number had fallen to 20·2 per inhabitant. During the forty-one years the average number of cattle depastured diminished from 3·2 to 2·1 per head. The breeding of horses and swine has about kept pace with the population.

SHEEP.

The suitability for pastoral pursuits of the land discovered in the early days was undoubtedly the means of inducing the infant colony of New South Wales to take its first step on the path of commercial progress, and, looking backward, it is not a little surprising to find how steadily some of the settlers, in the face of the almost insurmountable difficulty of transport which existed a century ago, availed themselves of the opportunities at their disposal. The importation of valuable specimens of sheep from England or the Cape of Good Hope prior to the introduction of steam was at all times attended with great risk, and it frequently happened that many of these costly animals died during the tedious voyage. These enterprises were, however, on the whole successful, and thus the flocks and herds of the colonists surely, if at first slowly, increased and multiplied.

By the year 1795, Captain Macarthur, one of the first promoters of sheep-breeding in New South Wales, had accumulated a flock of 1,000 sheep, which were held in great estimation, and gradually increased in value

until, as recorded by an entry in his journal ten years later, the market price of a fat wether had risen to £5. Not satisfied with the natural increase of his flocks, Macarthur sought to improve the quality of his fleeces, by which means he could see opening before him the promise of great wealth and the prospect of establishing important commercial relations with Great Britain. With these ends in view, he procured from the Cape of Good Hope, at great cost and trouble, a number of superior rams and ewes. A happy circumstance favoured his enterprise; for he had the good fortune to secure three rams and five ewes of very fine Spanish breed, which had been presented by the King of Spain to the Dutch Government. These animals, out of a total of twenty-nine purchased at the Cape, arrived in Sydney in 1797, and were disposed of to various breeders. With the exception of Macarthur, however, those who had secured sheep of the superior breed made no attempt to follow up this advantage, being probably amply satisfied with the larger gains from the sale of an increased number of animals. Macarthur, on the other hand, thought little of present profits, and still less of breeding entirely for human consumption. He attentively watched the results of crossing his imported rams with the old stock, and by systematically selecting the finer ewes which were the offspring for further mingling with the sires, he gradually improved the strain, and in a few years obtained fleeces of very fine texture which met with the ready appreciation of English manufacturers. It has been asserted that Macarthur was not the first to introduce merino sheep into Australia; but whether this be so or not, there is no doubt that to him is due the credit of having been the first to prove that the production of fine wool could be made a profitable industry in New South Wales.

Prior to the present century the production of the finest wool had been confined chiefly to Spain, and woollen manufactures were necessarily carried on in England upon a somewhat limited scale, which was not likely to improve in face of certain restrictions which the operatives endeavoured to place upon their employers. These men, in support of their contention that the woollen trade could not be expanded on account of the limited supply of raw material, argued that fine wool was obtainable only in Spain; and it was at this favourable period that Macarthur arrived in England with specimens of the wool obtained from his finest sheep, conclusively proving the capabilities of Australia as a wool-producing country. In this way he opened up with English manufacturers a small trade which, as Australasian wool rose in public estimation, gradually increased until it reached its present enormous dimensions. During his visit to England, Macarthur purchased an additional stock of ten rams and ewes of the noted Spanish breed, nearly equal in quality to those which in 1797 he had procured from the Cape of Good Hope. That these animals were the finest obtainable in Europe may be gathered from the fact they also had formed portion of a present from the King of Spain to George III. After his return to New South Wales, Macarthur patiently continued for many years the process of selection, with such

success that in 1858, when his flock was finally dispersed, it was estimated that his superior ewes numbered fully 1,000. Victoria secured a considerable portion of his flock, and the process of breeding proceeded simultaneously in that and other adjacent states.

Although the increase in the numbers of the finer sheep was satisfactory, yet the importation of superior stock was not discontinued, and the stock of the states was augmented in 1823 and 1825 by the further introduction of Spanish sheep. Sheep-breeding was about this period commenced in the Mudgee district of New South Wales; the climate of that region had a more favourable effect upon the quality of the fleeces than that of any other part of the state, and it was thence that the finest merinos were for a long time procured. As was to be expected, the climate has in some respects changed the character of the Spanish fleece. The wool has become softer and more elastic, and while it has diminished in density it has increased in length, so that the weight of the fleece has only slightly altered. Thus, on the whole, the quality of the wool has improved under the beneficial influence of the climate, and if no further enhancement of its intrinsic value can be reasonably hoped for, there is at least every reason to believe that Australasian wool will maintain its present high standard of excellence.

The following table shows the number of sheep in each State at intervals of ten years since 1861.

State.	Number of Sheep.				
	1861.	1871.	1881.	1891.	1901.
New South Wales...	5,615,054	16,278,697	36,591,946	61,831,416	41,857,099
Victoria	6,239,258	10,002,381	10,267,265	12,928,148	10,841,790
Queensland	4,093,381	7,403,334	8,292,883	20,289,633	10,030,971
South Australia	3,038,356	4,412,055	6,810,856	7,745,541	5,060,540
Western Australia..	279,576	670,999	1,267,912	1,962,212	2,542,844
Tasmania	1,714,498	1,305,489	1,847,479	1,662,801	1,792,481
Commonwealth ...	20,980,123	40,072,955	65,078,341	106,419,751	72,125,725
New Zealand.....	2,761,583	9,700,629	12,985,085	18,128,186	20,233,099
Australasia.....	23,741,706	49,773,584	78,063,426	124,547,937	92,358,824

In all the states the number of sheep depastured has largely increased during the period shown above with the exception of Tasmania. In that State, however, more attention is directed towards the breeding of stud sheep than to raising immense flocks, and the stud farms of the island have gained considerable distinction, and are annually drawn upon to improve the breed of sheep in the other States.

In South Australia the area adapted to sheep is limited, and no great expansion in sheep-farming can be looked for. As regards Victoria, the important strides made in agriculture and kindred pursuits afford

sufficient explanation of the diminished attention paid to sheep farming. The statement given below shows, for 1901, the proportion of sheep in each State to the total flocks of Australasia. New South Wales, with 45·32 per cent. of the total flock, comes first, and New Zealand, with 21·91 per cent., second, while Victoria, with 11·74 per cent., and Queensland, with 10·86 per cent., are next in order. The other three States together possess only a little over 10 per cent. of the whole.

State.	1901.
	per cent.
New South Wales	45·32
Victoria	11·74
Queensland	10·86
South Australia	5·48
Western Australia	2·75
Tasmania	1·94
New Zealand	21·91
Australasia	100·00

In order to show the increase or decrease in sheep during the last fifteen years, the following table has been prepared, giving the numbers in the various States at the end of each year since 1885. It will be seen that returns were not collected in some years in Victoria, South Australia, and New Zealand, and that the figures for those States are therefore incomplete:—

Year.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	New Zealand.
1885	37,820,906	10,681,837	8,994,322	*	1,702,719	1,648,627	16,564,595
1886	39,169,304	10,700,403	9,690,445	*	1,809,071	1,609,046	*
1887	46,965,152	10,623,985	12,926,158	*	1,909,940	1,547,242	*
1888	46,503,469	10,818,575	13,444,005	*	2,112,392	1,430,065	15,468,890
1889	50,106,768	10,882,231	14,470,095	6,432,401	2,366,631	1,551,429	15,503,263
1890	55,986,431	12,692,843	18,007,234	7,050,544	2,524,913	1,619,256	18,125,186
1891	61,831,416	12,928,148	20,289,633	7,745,541	1,962,212	1,664,218	18,570,752
1892	58,080,114	12,965,306	21,708,310	7,209,500	1,635,500	1,623,338	19,380,369
1893	56,980,688	13,088,725	18,697,015	7,325,003	2,200,642	1,535,047	20,230,829
1894	56,977,270	13,180,943	19,587,691	*	2,132,311	1,727,200	19,826,604
1895	47,617,687	*	19,856,959	*	2,295,832	1,523,846	19,138,493
1896	48,318,790	*	19,593,696	6,402,593	2,248,976	1,650,567	19,687,954
1897	43,952,897	*	17,797,883	5,092,078	2,210,742	1,578,611	19,673,725
1898	41,241,004	*	17,552,008	5,076,696	2,251,548	1,493,638	19,348,506
1899	36,213,514	*	15,226,479	5,721,493	2,282,306	1,672,068	19,347,346
1900	46,020,506	*	10,339,185	5,283,247	2,431,861	1,683,956	19,355,195
1901	41,857,099	10,841,790	10,030,971	5,060,540	2,542,844	1,792,481	20,233,099

* Returns not collected.

The number of sheep depastured in the Commonwealth increased with great regularity each year until 1891, when it reached 106,400,000; since that year there has been an almost continuous succession of unfavourable seasons in New South Wales and Queensland, the two States chiefly interested in pastoral pursuits, with the result that the number

of sheep depastured in these States has decreased by over 30,000,000 during the last ten years. In Queensland the number fell from 15,226,000 in 1899, to 10,339,000 in 1900, a decrease of 4,887,000 in one year, and at the present time (1902) the number is still lower. In New South Wales the returns of the Stock Department place the number of sheep depastured in October, 1902, at 33,715,819, which is lower than in any year since 1884. The other States did not suffer to the same extent from adverse seasons, although the number of sheep in both Victoria and South Australia has decreased considerably since 1891. In Western Australia and Tasmania there were increases in the numbers, and in New Zealand, although the figures have been practically stationary for some years past, they show an advance on the number in 1891.

The total number of sheep (including lambs) slaughtered in the various States from which the information is available during the five years ended 1900 is shown below. In South Australia and New Zealand no slaughtering returns are made, while the figures for Tasmania refer to the numbers killed in Hobart and Launceston only.

Year.	New South Wales.	Victoria.	Queensland.	Western Australia.	Tasmania (Hobart and Launceston).
1896	6,196,749	2,559,088	1,726,125	420,952	102,266
1897	5,790,103	2,434,519	1,902,735	505,091	107,223
1898	5,665,763	2,352,694	1,262,313	433,867	104,303
1899	4,795,259	2,557,858	1,497,546	.....	93,913
1900	4,359,513	2,371,415	860,648	445,046	91,829

The value of the sheep depastured in Australasia, on the basis of the average prices ruling in 1901, was £44,992,000, thus distributed among the various States:—

	£
New South Wales	16,743,000
Victoria	5,421,000
Queensland	4,200,000
South Australia	2,119,000
Western Australia.....	1,271,000
Tasmania	1,075,000
Commonwealth	30,829,000
New Zealand	14,163,000
Australasia	£44,992,000

CATTLE.

Except in Queensland, cattle-breeding in the Australasian States is secondary to that of sheep. Indeed, in New South Wales in 1901 the number of the herds was even less than in 1861, the decrease amounting to 224,469. The lowest point was reached by that State in 1885, when

the herds only numbered 1,317,315, the result partly of continuous bad seasons, but principally of the more profitable character of sheep-farming, which had induced graziers on many runs to substitute sheep for cattle. From that period up till 1894, when the herds numbered 2,465,411, there was a gradual improvement, which seemed to indicate a disposition on the part of pastoralists in some parts of the State to devote more attention to cattle-breeding. The serious droughts which have been experienced, however, have militated against the expansion of the cattle industry, and the numbers again fell away until the year 1899, but increased slightly during the last two years. The progress of Victoria in the breeding of cattle was steady until 1894, but since that year the numbers have decreased. In Queensland the number reached 7,012,997 in 1894, but owing to the combined effects of drought and tick fever, the herds have since diminished greatly, and in 1901 there were but 3,772,707. New Zealand, after having neglected the cattle industry for a long time, has during recent years largely increased its herds, the increase being the result of the special attention bestowed upon the dairy industry.

The following table shows the number of cattle in each State at ten-year intervals since 1861 :—

State.	Number of Cattle.				
	1861.	1871.	1881.	1891.	1901.
New South Wales	2,271,923	2,014,888	2,597,348	2,046,347	2,047,454
Victoria	628,092	799,509	1,286,677	1,812,104	1,602,384
Queensland	560,196	1,164,235	3,618,513	6,192,759	3,772,707
South Australia	265,434	143,463	314,918	676,933	479,863
Western Australia	33,795	49,593	63,009	133,690	394,580
Tasmania	87,114	101,540	130,526	167,666	168,661
Commonwealth ...	3,846,554	4,277,228	8,010,991	11,029,499	8,465,649
New Zealand	193,285	436,592	698,637	831,831	1,361,784
Australasia	4,039,839	4,713,820	8,709,628	11,861,330	9,827,433

The statement below shows the proportion of cattle in each State to the total herds in Australasia, at the end of 1901 :—

State.	per cent.
New South Wales.....	20·83
Victoria.....	16·31
Queensland.....	38·39
South Australia.....	4·88
Western Australia	4·01
Tasmania.....	1·72
New Zealand	13·86
Australasia.....	100·0

In spite of the vast losses in recent years, Queensland has still the largest number of cattle, but the extent of its losses will be realised when it is remembered that out of a total of 11,049,065 in 1899, nearly 46 per cent. were in Queensland, while in 1901, out of a total of 9,827,433 only 38 per cent. were in that State.

A clearer idea of the changes which late years have brought about in the cattle industry is afforded by the next table, showing the number in the various States at the close of each year since 1885. As will be seen, returns were not collected in three of the States—Victoria, South Australia, and New Zealand—for several of the years under review:—

Year.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	New Zealand.
1885	1,317,915	1,290,790	4,162,653	*	70,403	138,642	853,358
1886	1,367,844	1,303,265	4,071,563	*	88,254	148,665	*
1887	1,575,487	1,333,873	4,473,716	*	93,544	147,092	*
1888	1,622,907	1,370,660	4,654,932	*	95,822	142,019	853,358
1889	1,741,592	1,391,209	4,872,416	531,296	119,571	150,004	895,461
1890	2,091,229	1,782,881	5,558,264	574,032	130,970	162,440	831,831
1891	2,128,838	1,812,104	6,192,750	676,933	133,690	167,788	*
1892	2,221,459	1,824,704	6,591,416	631,522	162,886	170,085	851,801
1893	2,269,852	1,817,291	6,693,200	675,234	173,747	169,141	885,305
1894	2,465,411	1,833,900	7,012,997	*	187,214	177,088	964,034
1895	2,150,057	*	6,822,401	*	200,091	162,801	1,047,901
1896	2,226,163	*	6,507,377	638,591	199,793	157,736	1,138,572
1897	2,035,096	*	6,089,013	540,149	244,971	157,486	1,209,165
1898	2,020,516	*	5,571,292	613,894	269,947	149,754	1,203,024
1899	1,967,081	*	5,053,336	523,524	297,081	160,204	1,210,439
1900	1,983,116	*	4,078,191	472,428	333,665	165,516	1,256,080
1901	2,047,454	1,602,384	3,772,707	479,863	394,580	168,661	1,361,784

* Returns not collected.

The number of cattle (including calves) slaughtered during each of the five years ended 1900 is shown in the following table for all the States except South Australia and New Zealand, which do not furnish returns. The Tasmanian figures represent the numbers killed in Hobart and Launceston only:—

Year.	New South Wales.	Victoria.	Queensland.	Western Australia.	Tasmania. (Hobart and Launceston).
1896	351,246	245,477	474,946	30,664	9,393
1897	365,898	240,958	498,583	41,665	10,615
1898	364,042	244,319	572,735	33,203	10,029
1899	383,948	249,177	640,898	38,577	10,276
1900	399,992	248,797	503,223	40,950	9,114

The value of the cattle in Australasia, on the basis of the average prices ruling in 1901, was £49,934,000, thus divided amongst the various States :—

	£
New South Wales	10,421,000
Victoria	10,262,000
Queensland.....	11,726,000
South Australia.....	3,031,000
Western Australia	2,762,000
Tasmania	1,137,000
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Commonwealth.....	39,339,000
New Zealand.....	10,595,000
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Australasia	£49,934,000

HORSES.

Australasia is eminently fitted for the breeding of most descriptions of horses, and attention has long been directed to this industry. At an early period the stock of colonial-bred horses was enriched by the importation of some excellent thoroughbred Arabians from India, and to this cause the high name which was acquired by the horses of Australia was largely due. The abundance of good pasture everywhere obtainable also contributed to this result. The native kangaroo-grass, especially when in seed, is full of saccharine matter, and young stock thrive excellently upon it. This plenitude of natural provender permitted a large increase in the stock of the settlers, which would have been of great advantage had it not been that the general cheapness of the animals led to a neglect of the canons of breeding. In consequence of the discovery of gold, horses became very high priced. Under ordinary conditions this circumstance would have been favourable to breeding, and such was actually the case in Victoria. In New South Wales, however, it was far otherwise. The best of its stock, including a large proportion of the most valuable breeding mares, was taken by Victoria, with the result that for twenty years after the gold rush the horses of the mother State greatly deteriorated. One class of stock only escaped—the thoroughbred racer, which was probably improved both by the importation of fresh stock from England, and by the judicious selection of mares.

The States are specially adapted to the breeding of saddle and light-harness horses, and it is doubtful whether these particular breeds of Australasian horses are anywhere surpassed. The bush horse is hardy and swift, and capable of making very long and rapid journeys when fed only on the ordinary herbage of the country ; and in times of drought, when the grass and water have become scanty, these animals often

perform astonishing feats of endurance. Generally speaking, the breed is improving, owing to the introduction of superior stud horses and the breeding from good mares. Where there has been a deterioration in the stock, it has been due to breeding from weedy mares for racing purposes and to the effects of drought.

The following table shows the number of horses in each State at ten-year intervals since 1861. In 1901, New South Wales possessed the largest number of horses, closely followed by Queensland :—

State.	Number of Horses.				
	1861.	1871.	1881.	1891.	1901.
New South Wales.....	233,220	304,100	398,577	459,755	486,716
Victoria	84,057	181,643	278,195	440,696	392,237
Queensland	28,983	91,910	194,217	399,364	462,119
South Australia	52,597	78,125	159,678	202,906	178,199
Western Australia ..	10,720	22,698	31,755	40,812	73,830
Tasmania	22,118	23,054	25,607	31,262	32,399
Commonwealth...	431,695	701,530	1,088,029	1,574,795	1,625,500
New Zealand	28,275	81,028	161,736	211,040	279,672
Australasia.....	459,970	782,558	1,249,765	1,785,835	1,905,172

There is at present a considerable demand in India for Australian horses, especially for those of a superior class, and although the speculation of shipping horses to that country is attended with some risk, owing to the dangers of the voyage, there is reason to believe that in the near future the trade will assume considerable dimensions, as Australia is the natural market from which supplies may be derived. The number and value of the horses exported to India during 1901 from each State was as follows :—

State.	Number.	Value.
New South Wales	1,004	£ 17,196
Victoria	2,355	35,648
Queensland	2,207	25,879
New Zealand	106	1,590
Australasia	5,672	80,313

The war in South Africa created a demand for Australian horses as army remounts during the last few years, and during 1901 no less than

24,995 horses, valued at £320,152, were exported from Australasia to South African ports, the number from each State being as follows :—

State.	Number.	Value.
		£
New South Wales	6,300	81,204
Victoria	6,857	129,642
Queensland	11,069	96,841
South Australia	15	355
Western Australia.....	472	7,080
Tasmania	280	5,000
Commonwealth	24,993	320,122
New Zealand	2	30
Australasia	24,995	320,152

The following table shows the proportion of horses in each State to the total number in Australasia, at the end of 1901 :—

State.	Per cent.
New South Wales	25·55
Victoria.....	20·59
Queensland	24·26
South Australia	9·35
Western Australia	3·87
Tasmania	1·70
New Zealand	14·68
Australasia	100·00

The value of horses in 1901, in the various States, is estimated as follows :—

	£
New South Wales	3,901,000
Victoria	4,707,000
Queensland	2,311,000
South Australia	1,247,000
Western Australia	923,000
Tasmania	356,000
Commonwealth	13,445,000
New Zealand	3,636,000
Australasia	£17,081,000

STOCK-CARRYING CAPACITY OF AUSTRALASIA.

None of the States is stocked to its full capacity ; indeed, in the large territory of Western Australia and in the Northern Territory of South Australia the process has only begun. A clear idea of the comparative extent to which each State is stocked cannot be given unless the different kinds of animals are reduced to a common value. Assuming, therefore, that one head of large stock is equivalent to ten

sheep, and expressing cattle and horses in terms of sheep, it will be found that the number of acres to a sheep in each State is as follows :—

State.	No. of acres per sheep.
New South Wales	3·0
Victoria	1·8
Queensland	8·2
South Australia	49·7
Western Australia	86·4
Tasmania	4·4
New Zealand	1·8
Australasia	9·4

The most closely-stocked of the Commonwealth States is Victoria, with 1·8 acres per sheep, but this is by no means the limit to the carrying-capacity of that State; on the contrary, there is still a considerable tract to be brought under the sway of the pastoralist. New Zealand is stocked to the same extent, but neither that colony nor New South Wales, which averages 3 acres per sheep, can be said to have reached its full carrying-capacity. If the present average of New South Wales be taken as the possible limit to which Australasia may be stocked, there is room in these States for nearly 450 million sheep or 45 million cattle more than are now depastured. That Australasia could carry 1 sheep to 3 acres, however, is an improbable supposition; in almost every State the best land is under occupation, and the demands of the farmer must diminish the area at present at the disposal of the grazier. This will more especially prove true of Victoria, New Zealand, and Tasmania. On the other hand, by resisting the temptation to overstock inferior-country, and by increasing the natural carrying-capacity by water conservation and irrigation and by the artificial cultivation of grasses, the States in which agriculture has made most progress will be able to carry stock in even larger numbers than they have hitherto attempted. Taking all circumstances into consideration, it may be fairly estimated that under the present system the States are capable of maintaining, in ordinary seasons, stock equivalent to 390,000,000 sheep—that is, about 180,000,000 sheep, or their equivalent in cattle, more than are now depastured.

The number of stock in Australasia, expressed in terms of sheep, the number of acres per sheep, and the number of sheep per head of population, at various dates since 1861, were as given below :—

Year.	Sheep.	Cattle, in terms of Sheep.	Horses, in terms of Sheep.	Total.	Acres per Sheep.	Sheep per head of Population.
1861	23,741,706	40,398,390	4,599,700	68,739,796	28·7	54·3
1871	49,773,584	47,138,200	7,825,580	104,737,364	18·8	53·2
1881	78,063,426	87,096,280	12,497,650	177,657,356	11·1	62·9
1891	124,547,937	118,613,300	17,858,350	261,019,587	7·5	67·4
1901	92,358,824	98,274,330	19,051,720	209,684,874	9·4	45·8

VALUE OF PASTORAL PROPERTY AND PRODUCTION.

The total value of pastoral property in Australasia—that is, of improvements, plant, and stock—was estimated in 1899 at £241,554,000. In this amount the value of stock alone (excluding swine) comes to about £115,417,000. No account is taken of the value of land devoted to pastoral purposes, for though much purchased land is used for depasturing stock, the larger area comprises lands leased from the State, so that a statement which omitted to take into account the value of the State lands would be misleading. The annual return from pastoral pursuits in 1901 was £34,112,000, the share of each state in the total production being as follows:—

New South Wales	£12,552,000
Victoria	5,347,000
Queensland	5,618,000
South Australia.....	2,086,000
Western Australia	924,000
Tasmania	623,000
Commonwealth.....	27,150,000
New Zealand	6,962,000
Australasia	£34,112,000

The products of dairy cattle and swine are not included in the foregoing statement, the figures being given in another place. It should be understood that the values quoted are those at the place of production. The value of the return from each class of stock may be approximately reckoned as follows:—

Sheep.....	£24,017,000
Cattle	7,153,000
Horses	2,942,000
Total	£34,112,000

WOOL.

As might be supposed, the greater part of the value of production from sheep is due to wool. Thus, out of the £24,017,000 shown above, £18,454,700 is the value of wool, viz. :—£18,189,000 for wool exported, and £265,700 for wool used locally. The value of the wool exported, according to the Customs returns, was £18,608,000—that is to say, £419,000 more than the figures shown above. The excess represents the charges for freight, handling, &c., between the sheep-walks and the port of shipment.

The price of wool, which in 1899 was much higher than for many years previously, declined almost as suddenly as it had advanced, and as the production for 1901 did not show much increase, except in New Zealand, the total value compares unfavourably with preceding years, and fell short of that of 1899 by £6,165,000.

Nearly all the wool produced in Australasia is exported, the home consumption being small, amounting in 1901 to only 1·76 lb. greasy, per head of population; while in Europe and America the quantity of wool available for consumption by the industry amounts to about 5 lb. per head. During the last two quinquennial periods the consumption of wool in Europe and America has averaged as follows:—

1891-94	5·12 lb. per head of population
1895-99	5·19 lb. " "

The quantity, in the grease, of wool produced by each State at decennial periods since 1861 was as follows:—

State.	1861.	1871.	1881.	1891.	1901.
	lb.	lb.	lb.	lb.	lb.
New South Wales...	19,254,800	74,401,300	161,022,900	321,416,000	301,942,000
Victoria	27,168,900	63,641,100	67,794,300	69,205,600	74,879,300
Queensland	12,356,100	36,553,200	34,275,300	83,118,100	70,141,800
South Australia.....	13,756,500	28,242,100	46,013,900	50,151,500	39,951,700
Western Australia..	820,500	1,888,000	4,654,600	9,501,700	14,049,000
Tasmania	5,129,100	6,687,800	10,525,100	10,102,900	8,939,000
Commonwealth	78,485,900	211,413,500	324,236,100	543,495,800	509,902,800
New Zealand	9,601,700	46,192,300	69,055,600	117,733,500	164,011,500
Australasia.....	88,087,600	257,605,800	393,341,700	661,229,300	673,914,300

The great fall in production is seen from the above table, which shows that the only States where an increase has taken place since 1891 are Victoria, Western Australia, and New Zealand, all the others showing a large decline. The increase in New Zealand has taken place in spite of the heavy demands upon the resources of the colony for the supply of sheep to meet the requirements of the London market in frozen mutton.

The weight of wool per sheep has been increasing regularly in each of the States, as will be seen from the following table, which shows the weight of clip per sheep at each decennial interval since 1861. It is manifest that the Victorian figures are unreliable, because there is no reason to suppose that there was a decline in the weight of the fleece in 1891; on the contrary, it is known to have been steadily improving. The Western Australian and Tasmanian results also show irregularities, and are omitted from the table. The values for New South Wales and Queensland best represent the increase in the weight of the fleece on the mainland, and the New Zealand figures are also believed to be correct. In South Australia the weight of wool per sheep has been consistently higher than in the other States, but the results

are derived from the official statistics, and it would appear that the number of sheep in that State has been under-estimated.

State.	1861.	1871.	1881.	1891.	1901.
	lb.	lb.	lb.	lb.	lb.
New South Wales.....	3·28	4·57	4·47	5·74	7·2
Victoria	4·52	6·17	6·87	5·68	6·9
Queensland.....	3·40	4·73	4·50	4·73	7·1
South Australia.....	4·69	6·41	6·93	6·85	7·9
New Zealand.....	3·48	4·76	5·32	6·42	8·1

The values of the excess of exports over imports in each State for the same periods were as follows. A careful examination of the figures proves rather conclusively that less care than might have been expected has been taken in stating the values, except in New South Wales and New Zealand, but they are taken from the official records, and are given for what they are worth :—

State.	Excess of Exports over Imports.				
	1861.	1871.	1881.	1891.	1901.
	£	£	£	£	£
New South Wales ...	1,537,536	4,705,820	7,173,166	10,650,525	8,619,067
Victoria	2,001,681	4,483,461	2,562,769	3,792,938	2,510,219
Queensland	613,074	1,158,833	1,331,869	3,453,548	2,130,778
South Australia	572,720	1,113,825	1,573,313	1,540,079	1,021,283
Western Australia ...	54,297	122,637	256,690	329,365	378,135
Tasmania	326,413	298,160	498,400	418,460	279,022
Commonwealth ...	5,105,721	11,882,736	13,396,207	20,184,915	14,938,504
New Zealand	523,728	1,606,144	2,914,046	4,129,686	3,669,642
Australasia	5,629,449	13,488,880	16,310,253	24,314,601	18,608,146

Western Australia was the only State to show an increase in the value during the year over that obtained in 1891.

According to returns prepared in London, the number of bales of Australasian wool imported into Europe and America during the year 1901 was 1,745,000, which were valued at £10 10s. per bale, giving a total of £18,322,500. The average price per bale of the wool sold in Australia during the season 1901-2 was £9 6s. 4d. In comparing these prices, it must be remembered that not only have freight and charges to be added to the Australian value, but some allowance must be made for the difference in the quality and condition of the wool dealt with in the Australian markets and in London. Large quantities of the inferior portions of the clip intended for sale in the London market are scoured prior to shipment, and the London price is therefore raised to an average considerably higher than the Sydney or Melbourne price with freight and charges added. As a set off against this, however, it must be stated that the London figures include New Zealand wool, which is not

so valuable as that grown in the Commonwealth States. In 1900, 1,456,000 bales were imported into Europe and America. These were valued at £13 10s. per bale, making the total value £19,656,000, so that, notwithstanding the increased import during 1901, the total value received was nearly £1,333,500 less than in 1900.

The price per lb. obtained for wool in grease in London at the end of each year from 1890 was as follows :—

Year.	New South Wales. (Average Merino).	Victoria. (Good Average Merino.)	New Zealand. (Average Cross-bred.)
	d.	d.	d.
1890	8½	10	10
1891	7½	9	9½
1892	7	8½	9½
1893	7	8½	9½
1894	6	7½	8½
1895	7½	9½	9½
1896	7	9	8½
1897	7½	9	8½
1898	7½	9½	7
1899	13	15½	10½
1900	7	9	7½
1901	7½	10	5½

Taking the last sixteen years, the highest prices were realised for New South Wales and Victorian wools during 1899, namely, 13d. per lb. and 15½d. per lb. respectively. The maximum price for New Zealand wool, 11½d. per lb., was obtained in 1889. The lowest prices—6d. for New South Wales, and 7½d. for Victoria,—were experienced in 1895, while owing to the heavy fall in the value of cross-breds, New Zealand wool realised as little as 4¾d. per lb. during 1901. The average prices realised during the whole period were 9d. per lb. for New South Wales average merino, 11d. for good average Victorian merino, and 7½d. for average New Zealand cross-bred. From these figures it will be seen that Victorian wool averages about 2d. per lb. higher than New South Wales wool. The figures must be taken with some qualification. Much of the New South Wales wool, the product of the Riverina districts, is exported *via* Melbourne and sold as Port Phillip wool, and brings a price considerably in excess of the average given in the table for the State of which it is the produce. The quantity of wool sold at the local sales in the Australasian States is increasing. Particulars of these sales will be found in the chapter on “Commerce.”

THE FROZEN-MEAT TRADE.

In view of the large increase in the live stock of Australasia, the question of the disposal of the surplus cast has become a matter of serious consequence. In New South Wales especially, and in the

Riverina district in particular, it was found necessary to have recourse to the old method of boiling down, which a fortunate rise in the price of tallow made it possible to carry on with a margin of profit; but with such prices as have ruled for tallow during the past few years it cannot be said that boiling-down offers any inducement to the pastoralist, although in 1901 the production of tallow in the State reached the large quantity of 124,100 cwt.

In New Zealand a much better solution of the question of disposal of the surplus cast was found, and a trade in frozen mutton with the United Kingdom has been established on a thoroughly payable basis—an example which some of the other States are endeavouring to follow, although considerably handicapped by the want of cross-bred sheep and the prejudice of the English consumer against merino mutton.

The first successful attempt at shipping frozen mutton to England was made by New Zealand in 1882, and since then the trade has attained great proportions, to the immediate benefit of the colonial producer as well as the English consumer. The trade initiated by the New Zealand Land Company has been extended by the formation of numerous joint stock companies, which now own twenty-one meat-freezing works in the two islands, having an aggregate capacity for freezing about 4,000,000 sheep per year. The sheep are generally killed in the country, and transported by rail to the freezing works. Several fleets of steamers are engaged in the trade, and the freight rates charged enable the companies to realise satisfactory profits. The growth of the frozen and preserved meat industries of New Zealand since 1881 is shown in the following table. The shipments are almost exclusively made to the United Kingdom:—

Year.	Frozen or Chilled Meat.						Preserved Meat.	
	Beef.	Mutton.	Lamb.	Mutton and Lamb.	Total Weight.	Total Value.	Weight.	Value.
	cwt.	carcases.	carcases.	cwt.	cwt.	£	lb.	£
1881	....	.....	.....	.....	.....	.....	1,074,640	22,391
1882	....	.....	.....	.....	15,244	19,339	2,913,904	54,397
1883	937	.....	.....	80,995	87,932	113,261	3,868,480	72,778
1884	1,644	.....	.....	252,422	254,066	345,081	3,103,744	59,224
1885	9,170	.....	.....	286,961	296,131	373,326	4,047,904	81,401
1886	9,391	.....	.....	336,405	345,796	426,556	2,592,464	47,426
1887	6,630	656,823	110,810	421,405	428,035	454,942	4,706,016	79,246
1888	44,613	885,843	94,681	507,306	551,910	629,110	4,912,544	86,123
1889	68,298	990,486	118,794	588,524	656,822	783,374	5,325,152	106,772
1890	98,234	1,330,176	279,741	798,625	896,859	1,084,992	6,702,752	136,182
1891	103,007	1,447,583	338,344	889,012	992,019	1,185,122	5,447,904	111,133
1892	55,020	1,316,758	290,996	806,304	861,324	1,021,838	3,939,712	69,420
1893	11,059	1,355,247	475,365	888,455	899,514	1,078,427	2,656,416	46,601
1894	912	1,633,213	459,948	1,001,342	1,002,254	1,162,770	3,368,736	57,325
1895	12,000	1,632,590	735,254	1,073,640	1,090,730	1,214,778	4,124,400	66,137
1896	25,905	1,505,969	792,037	1,065,292	1,091,197	1,239,969	5,006,848	75,661
1897	50,044	1,653,170	1,038,316	1,291,532	1,341,626	1,512,286	5,046,216	78,235
1898	95,213	1,719,232	1,168,883	1,338,175	1,433,393	1,596,543	6,245,792	97,197
1899	172,345	2,102,533	1,272,525	1,557,439	1,729,784	1,965,564	5,832,272	90,919
1900	312,201	1,585,233	1,351,145	1,354,730	1,667,021	1,952,610	4,973,024	94,524
1901	221,211	1,806,671	1,513,017	1,499,124	1,720,335	2,116,360	3,948,896	87,683

Amongst the States of the Commonwealth the export of meat has reached the largest dimensions in Queensland, although of course it consists chiefly of beef, the trade in mutton being proportionately very small. So far as they can be given, the figures showing the growth of the Queensland frozen-meat trade, as well as the exports of preserved meat, will be found below :—

Year.	Frozen or Chilled Meat.				Preserved Meat.	
	Beef.	Mutton.	Total Weight.	Total Value.	Weight.	Value.
	cwt.	cwt.	cwt.	£	lb.	£
1881	.....	.....	.....	.....	2,276,409	39,956
1882	.....	.....	.....	.....	5,689,189	119,343
1883	.....	.....	1,951	2,151	6,729,721	151,001
1884	.....	.....	8,082	11,240	2,298,696	57,101
1885	.....	.....	3,926	5,003	8,306,432	171,432
1886	.....	.....	9,239	12,103	130,658	1,586
1887	.....	.....	.....	.....	5,272,170	99,653
1888	.....	.....	.....	.....	3,964,419	77,887
1889	8,745	15,542	24,287	62,240	853,621	16,743
1890	30,253	23,799	54,052	75,908	2,769,881	44,040
1891	52,609	53,698	106,307	161,345	3,333,317	59,032
1892	123,196	51,595	174,791	276,113	6,035,035	96,828
1893	204,349	21,898	226,247	377,039	8,001,788	143,146
1894	301,837	32,187	334,024	498,652	15,544,826	250,646
1895	461,733	28,221	489,954	580,489	25,941,400	393,492
1896	434,683	31,874	466,557	501,498	21,583,658	330,728
1897	529,162	31,162	560,324	659,260	15,699,098	241,189
1898	511,629	10,935	522,564	672,970	13,188,836	217,684
1899	651,029	32,529	683,558	833,733	25,148,815	383,899
1900	689,423	16,239	705,662	976,878	25,250,226	427,062
1901	675,221	19,208	694,429	1,016,038	13,310,615	221,709

Next to New Zealand, the largest exporter of frozen mutton is New South Wales. During the last few years greater efforts have been made in this State to expand the trade, and the exports show a considerable increase, although a temporary check was experienced in 1897 in consequence of the unfavourable season. But New South Wales has laboured under the disadvantage of possessing no cross-bred sheep for export, and the food qualities of the merino are scarcely appreciated in the English market, where New Zealand mutton is favourably known,

and brings on an average 1½d. per lb. more than Australian. A great expanse of New South Wales, however, is suited to the breeding of large-carcass sheep, and the pastoralists have become alive to the importance of securing a share of the meat trade of the United Kingdom. Attention is being directed to the introduction of British rams, and a large increase in the cross-bred flocks has already taken place. The following table shows the growth of the frozen-meat trade of New South Wales; the exports of preserved meat consist almost wholly of tinned mutton :—

Year.	Frozen or Chilled Meat.				Preserved Meat.	
	Beef.	Mutton.	Total Weight.	Total Value.	Weight.	Value.
	quarters.	carcases.	cwt.	£	lb.	£
1881	.....	.....	9,980	8,554	.....	176,721
1882	.....	.....	13,782	22,910	.....	*143,601
1883	.....	.....	34,911	43,100	.....	*221,912
1884	.....	.....	13,309	12,321	.....	*161,477
1885	.....	.....	6,271	6,064	.....	*166,561
1886	.....	.....	4,852	4,671	.....	*77,756
1887	.....	.....	21,831	19,310	9,761,154	150,714
1888	.....	.....	52,262	44,537	4,528,269	69,481
1889	.....	.....	37,868	33,426	2,877,303	52,321
1890	.....	.....	72,304	71,534	4,655,523	74,329
1891	.....	.....	105,013	101,828	6,581,713	87,632
1892	.....	.....	223,074	169,425	8,620,747	105,922
1893	4,773	364,958	220,584	141,640	13,092,942	164,592
1894	9,538	533,995	339,404	193,760	16,382,597	206,054
1895	88,719	1,021,006	607,818	380,107	22,384,285	302,828
1896	16,286	1,372,373	642,188	343,397	16,351,936	218,292
1897	28,529	1,065,990	503,925	275,118	10,903,611	147,165
1898	39,593	1,095,568	539,495	330,325	13,930,801	227,288
1899	32,855	956,222	459,553	331,904	11,453,332	185,804
1900	86,948	951,891	540,426	541,395	11,966,326	221,604
1901	72,662	963,614	510,148	578,923	12,398,011	260,455

* Including Extract of Meat.

The total capacity of the boiling-down works in New South Wales is stated at 633,900 head of cattle or 16,965,000 sheep; of chilling works, 488,500 head of cattle or 5,422,800 sheep; of freezing works, 76,500 head of cattle or 3,150,000 sheep; and of meat-preserving works, 183,000 head of cattle or 5,445,000 sheep.

The only other State in which the meat-export trade has reached dimensions of any importance is Victoria, although its exports fall far below those of the States already dealt with. A statement of the Victorian trade from 1881 to 1901 will be found below :—

Year.	Frozen or Chilled Meat.				Preserved Meat.	
	Beef.	Mutton.	Total Weight.	Total Value.	Weight.	Value.
	cwt.	cwt.	cwt.	£	lb	£
1881	.....	.....	.....	.....	4,026,072	102,306
1882	.....	.....	18,522	18,969	1,274,066	30,705
1883	.....	.....	9,944	12,220	3,225,657	76,015
1884	.....	.....	41,373	53,196	2,667,866	63,707
1885	.....	.....	39,107	61,617	1,486,849	38,244
1886	.....	.....	39,384	70,319	616,652	17,868
1887	.....	.....	15,245	27,270	629,054	14,291
1888	.....	.....	.....	.....	714,856	16,115
1889	.....	.....	.....	.....	805,580	16,156
1890	.....	.....	.....	.....	893,114	20,197
1891	.....	.....	.....	.....	1,052,887	19,230
1892	.....	.....	.....	.....	1,982,151	51,624
1893	.....	.....	1,307	1,838	777,953	14,349
1894	53	27,182	27,235	25,370	2,267,791	40,082
1895	268	24,563	24,831	31,673	2,917,730	43,408
1896	127	23,634	23,761	25,827	4,335,511	71,576
1897	62	21,416	21,478	20,248	5,498,315	84,914
1898	233	7,556	7,789	9,101	2,852,191	38,516
1899	1,458	74,960	76,418	86,087	4,760,047	50,174
1900	2,814	79,507	82,321	112,040	4,776,979	67,265
1901	3,931	85,053	88,984	131,529	3,856,381	63,284

There are at present depastured in Australasia 92,358,824 sheep and 9,827,433 cattle, of which 20,233,099 sheep and 1,361,784 cattle are in New Zealand. In that colony the industry of sheep and cattle raising has now reached such a stage that practically the whole of the stock

available for market is used up every year either locally or for export, and as a consequence the numbers of both kinds of stock are stationary, and have been so for some years past. In the States of the Commonwealth a different state of things prevails. In New South Wales there is usually a large surplus of sheep beyond the State's requirements; while the cast of cattle is below the local demand, and is supplemented by the importation of stock from Queensland, the net import from that State for the past three years being 281,066 head. The other four States have each a deficiency of cattle and sheep.

It is estimated that in an average year the "cast" of cattle is 10·25 per cent.—that is to say, that percentage of all the cattle depastured would be of marketable age, could they be made fit for slaughtering. Assuming this is as the basis of calculation it is estimated that in the Commonwealth there are annually 250,000 head of cattle in excess of those required for food and independent of those preserved or frozen.

The year 1901 was a disastrous one to sheep and cattle breeders in the Commonwealth, and especially to those of Queensland and New South Wales; and as the present year has been one of equal severity, there is little doubt that the stock in all the States excepting Tasmania will be still further reduced, and consequently there will be very little meat available for export. This is unfortunate in view of the export trade which has been so patiently built up; but as it is now an established fact that Australian meat is greatly appreciated in England, and can be exported largely at remunerative prices there are strong elements of hope for future progress when better seasons are experienced.

During the years 1894 and 1895 several attempts, more or less successful, were made to place live cattle and sheep in the English market. A great difficulty in the way of establishing such a trade was the wildness of the cattle, the mortality in some of the shipments being sufficiently high to provoke strong criticism in England as to the cruelty to which the cattle were subjected by being shipped on such a long voyage. It is to be feared, however, that these expressions of opinion were prompted, not altogether by the alleged sufferings of the cattle, but to a large extent by the interests of the English producer and the American exporter. At the same time, it is clear that a permanent and profitable trade cannot be established until the cattle have been handled sufficiently to bring them into a tractable condition, for the present system of depasturing followed in Australia renders the stock too wild to endure a long stay on shipboard. Probably, however, the great strides made by the Argentine Republic in supplying the English market will make it difficult for Australian shippers to realise a satisfactory margin of profit, the near proximity of that country to Great Britain giving it an immense advantage over these States in the matter of freights. In view of the vast population of the United States, any increase in the export of live cattle from that country cannot be anticipated.

DAIRY-FARMING.

Dairy-farming has of late years made fair progress in Australasia, especially in New South Wales, Victoria, New Zealand, and, more recently, in Queensland. The introduction of the factory system at convenient centres and the use of the cream-separator have done much to cause the extension of the industry. The number of dairy cows at the end of 1901, and the estimated quantity of milk produced in each State during that year, were as follow :—

State.	Dairy Cows.	Quantity of Milk produced (estimated).
	No.	gallons.
New South Wales	417,835	142,457,000
Victoria	521,612	217,158,000
Queensland	136,000	40,800,000
South Australia	75,889	26,570,000
Western Australia	29,500	8,555,000
Tasmania	40,933	17,289,000
Commonwealth ...	1,221,769	452,829,000
New Zealand	381,492	154,551,000
Australasia	1,603,261	607,380,000

* Estimated.

The estimated value of the milk and its products, butter and cheese, and of the return obtained from swine, together with the total value of dairy produce for each State in 1900, will be found below :—

State.	Value of Milk, Butter, and Cheese.	Value of Return from Swine.	Total Value of Dairy and Swine Produce.
	£	£	£
New South Wales	2,083,000	266,000	2,349,000
Victoria	2,845,000	436,000	3,281,000
Queensland	608,000	152,000	760,000
South Australia	491,000	151,000	642,000
Western Australia.....	172,000	77,000	249,000
Tasmania	297,000	88,000	385,000
Commonwealth	6,496,000	1,170,000	7,666,000
New Zealand	2,280,000	313,000	2,593,000
Australasia	8,776,000	1,483,000	10,259,000

The production of butter and cheese in each State during 1901 is estimated to have been as follows :—

State.	Butter.	Cheese.
	lb.	lb.
New South Wales	38,930,878	3,838,835
Victoria	46,857,572	3,974,669
Queensland	9,741,882	2,436,912
South Australia	4,954,523	1,053,160
Western Australia	431,670	.....
Tasmania	723,771	268,539
Commonwealth	101,640,296	11,572,115
New Zealand	29,758,310	15,644,944
Australasia	131,398,606	27,217,059

The States having a surplus of butter and cheese available for exportation during 1901 are shown in the following table :—

State.	Butter.	Cheese.
	lb.	lb.
New South Wales	8,643,071	.....
Victoria	28,457,652	113,628
Queensland	2,044,073	237,498
New Zealand	22,576,288	11,679,024
Total	61,721,084	12,030,150

New South Wales was formerly both an importer and an exporter of butter, for only during the spring and early summer months was the production larger than the local requirements, while during the remainder of the year butter had to be imported to meet the local demand. Now this State has become an exporter of butter to the United Kingdom on a fair scale ; but a large quantity of New Zealand butter is still sent to the New South Wales markets on account of the more satisfactory price realised there. There is also an importation from South Australia and Victoria for the supply of the districts adjacent to those States. Queensland has only lately become an exporter of butter, 1897 being the first year when the export exceeded the import. The net export in that year was 179,490 lb., which in 1901 had increased to 2,044,073 lb.

The States which, on the other hand, were obliged to import butter and cheese during 1901 are shown below :—

State.	Butter.	Cheese.
	lb.	lb.
New South Wales .....	.....	1,771,247
South Australia	251,060	60,001
Western Australia	5,033,269	462,392
Tasmania	720,633	48,597
Total.....	6,004,962	2,342,237

From the foregoing figures it will be seen that those States which produce a surplus of butter and cheese have, after providing for the deficiency of the other States, a balance available for exportation to outside countries, this balance in 1901 amounting to 55,716,122 lb. of butter and 9,687,913 lb. of cheese. An export trade in butter and cheese has long been maintained by New Zealand, while in recent years Victorian, New South Wales, and South Australian butters and, more recently still, Queensland butters have been sent to the London market, and their very favourable reception has given a fresh stimulus to the dairying industry in those States. The rapidity with which this trade is growing may be gauged from the following table, which shows the quantity of butter exported to the United Kingdom during the thirteen years ended 1901 :—

Year.	Exporting State.				
	New South Wales.	Victoria.	Queensland.	South Australia.	New Zealand.
	lb.	lb.	lb.	lb.	lb.
1889	284,251	505,478	.....	.....	2,363,088
1890	589,160	1,286,583	.....	10,850	2,976,848
1891	391,180	3,778,775	.....	23,864	3,246,768
1892	1,532,782	6,446,900	.....	.....	4,648,980
1893	2,846,989	13,141,423	1,064	357,087	5,864,656
1894	4,333,927	22,139,521	.....	1,233,539	6,590,640
1895	1,852,360	21,127,025	31,420	1,017,629	6,181,728
1896	1,741,272	16,452,649	.....	242,872	6,730,304
1897	5,431,109	15,450,857	407,199	16,240	8,943,088
1898	5,309,811	13,548,293	628,296	389,836	9,051,168
1899	7,006,701	26,045,210	741,308	894,992	13,608,224
1900	8,477,617	26,185,679	872,244	707,448	18,577,552
1901	5,985,784	17,180,468	208,740	162,456	19,141,136

From latest advices it would appear that the price obtained for Australian butter in London was higher than the rates ruling in the local market; and as there can hardly be a limit placed to the capacity of Australasia to produce butter and cheese, it is probable that these high prices will have the effect of greatly stimulating the dairy industry

throughout all these States. In connection with this subject, it may be mentioned that the value of the butter, cheese, and eggs imported into the United Kingdom during 1901 was £19,297,396, £6,227,135, and £5,495,167 respectively. The supply is chiefly drawn from the Continent of Europe and from America, and of the total amounts mentioned, the only imports from Australasia were butter to the value of £2,046,981, and cheese to the value of £193,868.

It may not be out of place to remark that in one or two of the States the export of butter has helped to maintain prices in the local markets, and tended to restrict home consumption. If a season of great prosperity visits Australia there will be a very large increase in the local demand, with a consequent limitation in the supply available for export, so that it may be concluded that under any circumstances the prospects of the industry are encouraging.

SWINE.

The breeding of swine is usually carried on in conjunction with dairy-farming, and the following table shows the number of swine in each State at ten-year intervals since 1861 :—

State.	Number of Swine.				
	1861.	1871.	1881.	1891.	1901.
New South Wales ...	146,091	213,193	213,916	253,189	265,730
Victoria	43,480	177,447	239,926	286,780	350,370
Queensland	7,465	32,707	56,438	122,672	121,641
South Australia.....	69,286	95,542	120,718	83,797	89,875
Western Australia.....	11,984	14,265	22,530	25,930	61,025
Tasmania.....	40,841	52,863	49,660	73,520	58,716
Commonwealth ..	319,147	586,017	703,188	845,888	947,357
New Zealand.....	43,270	151,460	200,083	308,812	224,024
Australasia.....	362,417	737,477	903,271	1,154,700	1,171,381

The production of swine should be a large factor in dairy-farming, but the increase in the number of pigs has not been so large as might have been expected. In Queensland, Tasmania, and New Zealand the number of swine is actually less now than in 1891, while South Australia shows very slight increase. Victoria possesses the largest stock, with 29·9 per cent. of the total number in Australasia; then come New South Wales and Zealand with 22·7 per cent. and 19·1 per cent. respectively; Queensland has 10·4 per cent. of the total; South Australia, 7·7 per cent.; Western Australia, 5·2 per cent.; and Tasmania, 5·0 per cent.

The products of the swine—bacon, ham, lard, and salt pork—are now exported by all the States with the exception of New South Wales, Western Australia, and Tasmania, as is shown by the following table, which relates to the year 1901 :—

State.	Bacon and Ham.	Salt and Frozen Pork.	Lard.	Net Value exported.
	£	£	£	£
New South Wales.....	*40,062	*246	*2,280	*42,588
Victoria	90,172	5,020	4,531	99,723
Queensland	31,051	3,864	2,637	37,552
South Australia	7,204	.....	.....	7,204
Western Australia.....	*104,776	*2,548	*1,115	*108,439
Tasmania	*1,960	.....	*904	*2,864
Commonwealth.....	*18,371	6,090	2,869	*9,412
New Zealand	17,710	8,297	1,343	27,350
Australasia	*661	14,387	4,212	17,938

* Excess of imports.

POULTRY AND MINOR INDUSTRIES.

An estimate is given below of the value of the production of poultry and eggs, together with that arising from bee-farming, in each State during the year 1901 :—

State.	Poultry and Eggs.	Honey and Beeswax.
	£	£
New South Wales	671,000	26,000
Victoria	603,000	11,000
Queensland	283,000	9,000
South Australia	203,000	5,000
Western Australia.....	169,000	2,000
Tasmania	88,000	4,000
Commonwealth	2,017,000	57,000
New Zealand	399,000	16,000
Australasia	2,416,000	73,000

The most remarkable feature is the trade in eggs between South Australia as supplier and New South Wales, Victoria, and Western Australia as buyers. The returns for 1901 show that during that year South Australia exported eggs to the value of £72,171 to these States, viz., £4,156 to Victoria, £14,035 to New South Wales, and £53,980 to Western Australia. The bulk of the trade with New South Wales is transacted with the Barrier district, which is commercially a dependency of South Australia.

PASTORAL AND DAIRY PRODUCTION.

The total value of pastoral and dairy production including poultry and bee farming during the year 1901, in each State and in the whole of Australasia, together with the value per inhabitant, were as shown in the following table :—

State.	Total Value of Pastoral and Dairy Production.	Value per Inhabitant.
	£	£ s. d.
New South Wales	15,598,000	11 7 4
Victoria	9,242,000	7 13 7
Queensland	6,670,000	13 4 6
South Australia	2,936,000	8 1 9
Western Australia	1,344,000	7 3 4
Tasmania	1,100,000	6 6 9
Commonwealth	36,890,000	9 14 0
New Zealand	9,970,000	12 15 11
Australasia	46,860,000	10 4 6

The following table gives similar information for the years 1871, 1881, and 1891, and shows that in point of total value the production for 1901 did not equal that of 1891. The only States which show increases since 1891 are Western Australia and New Zealand :—

State.	1871.	1881.	1891.	
	£	£	£	
New South Wales	8,709,000	13,151,000	17,460,000	
Victoria	7,260,000	7,499,000	9,321,000	
Queensland	1,959,000	4,186,000	7,561,400	
South Australia	1,800,000	3,178,000	3,148,525	
Western Australia	274,000	431,000	647,350	
Tasmania	734,000	1,093,000	1,117,550	
Commonwealth	20,736,000	29,538,000	39,255,825	
New Zealand	3,210,000	7,096,000	9,153,225	
Australasia {	Total.....	23,946,000	36,634,000	48,409,050
	Per head.	£ s. d. 12 7 7	£ s. d. 13 3 11	£ s. d. 12 12 0

Comparing the two preceding tables, it will be seen that although the total production has been nearly doubled since 1871 the value per head has decreased considerably. In 1901 the value of pastoral and dairy

production was £1,549,000 less than in 1891; but to a great extent this was due to diminished production caused by a succession of dry seasons—the cast of both sheep and cattle being much reduced as compared with 1891. On the other hand, the production of butter was larger, and also the export of meat, as will be seen below :—

Produce.	1891.	1901.
Wool, as in grease	Lb. 661,229,000	673,914,000
Cast of sheep	No. 17,000,000	10,345,000
Cast of cattle	No. 1,216,000	1,014,000
Butter produced	Lb. 70,628,000	131,398,606
Meat export.....	Cwt. 1,454,000	3,322,939

The movement in prices will be seen from the following tabulation, which is based chiefly on an analysis of the New South Wales trade. The prices of 1901 are represented by 1,000 :—

Year.	Price Levels of—				
	Wool.	Butter.	Cattle.	Tallow.	Hides.
1891	969	977	641	856	707
1892	951	984	631	874	604
1893	852	911	520	968	535
1894	788	754	399	899	494
1895	877	655	393	832	642
1896	938	921	654	749	539
1897	904	913	513	706	709
1898	961	970	676	801	754
1899	1,357	1,006	629	958	855
1900	1,102	967	779	1,040	904
1901	1,000	1,000	1,000	1,000	1,000

The price of wool which advanced suddenly in 1899, declined again during the last two years, while tallow also declined in price during 1901. The other products quoted above show increases in value; but in considering the high prices of cattle it must be remembered that they have been brought about by the large decrease in the numbers of stock, and the increased prices do not by any means compensate for the losses occasioned by the drought.