

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 unsurpassed by that of 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. 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 the Colony were very humble. The whole 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, it will be seen on how small a scale 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 appears that in the period between Governor Phillip's landing and the year 1800 there were some slight importations, chiefly of sheep from India.

In the last-mentioned year the stock in Australasia of the various kinds was—6,124 sheep, 1,044 cattle, 203 horses, and a small number of swine, the precise figures not being obtainable; in 1890 the numbers had increased to 116,041,700 sheep, 10,949,520 cattle, 1,732,630 horses, and 1,205,780 swine.

Commencement
of the pastoral
industry.

Humble
beginnings of
stock breeding

Increase of live
stock.

LIVE STOCK OF AUSTRALASIA.

The following figures give the number of stock in the Colonies at various epochs ending with 1851 :—

Year.	Sheep.	Cattle.	Horses.	Swine.
1800	6,124	1,044	203	.....
1810	25,888	12,442	1,134	9,544
1821	209,158	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 progress since 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
1890	116,041,707	10,949,524	1,732,628	1,205,782

The numbers of each class of stock per inhabitant at the same periods were :—

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
1890	30·6	2·9	0·5	0·3

Numbers of
stock per head.

It will be seen that during 1861 there were 18·8 sheep for every person in the Colonies, increasing in 1890 to 30·6. On the other hand cattle had decreased from 3·2 per inhabitant at the former period to 2·9 in the latter. The breeding of horses and swine had about kept pace with the population.

SHEEP.

Country suitable
for sheep.

The suitability of the land discovered in the early days of New South Wales for pastoral pursuits was undoubtedly the means of leading the infant Colony to take its first step on the path of commercial progress; and it is not a little surprising at this

distance of time 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, 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 occurred which favoured his enterprise; for he had the good fortune to secure possession of 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 the 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

Captain
Macarthur
promotes
wool-growing.

Improvement
of the flocks.

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.

Spain formerly
chief wool-
grower.

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 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 the 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

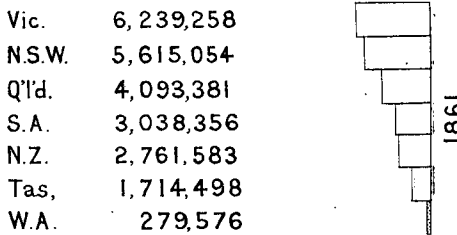
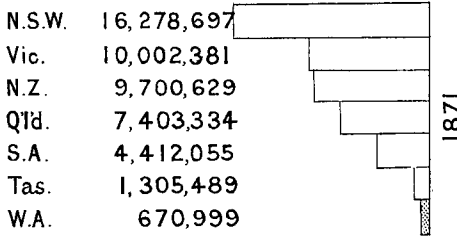
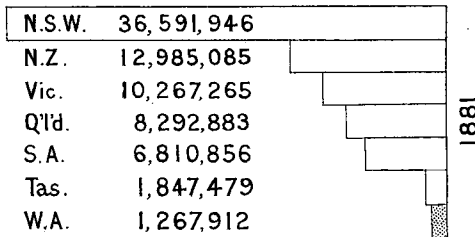
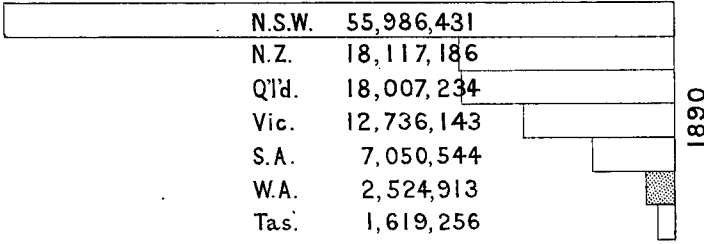
Trade opened up
with Great
Britain.

a wool-producing country. In this way he opened up a small trade with English manufacturers, 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. Thus did Macarthur, after his return to New South Wales, patiently continue 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 Macarthur's flock, and the process of breeding proceeded simultaneously in that and other adjacent Colonies.

Importation
of sheep.

Although the increase in the numbers of the finer sheep was satisfactory, the importation of superior stock was not discontinued, and the stock of the Colonies was augmented in 1823 and 1825 by the further introduction of Spanish sheep. Sheep-breeding

LIVE-STOCK — SHEEP



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No. of Lithographs 7, 97, 3

was about this period commenced in the Mudgee district, and the climate of that region has produced a still more favourable result upon the quality of the fleeces than any other part of the Colony, and it was thence that the finest merinos were for a long time procured. As might have been anticipated, the climate has in some respects changed the character of the Spanish fleece. The wool has become softer and more elastic, and while having diminished in density it has increased in length, so that the weight of the fleece has only slightly altered. The quality of the wool has thus on the whole improved under the beneficial influence of the climate, and if no further enhancement in its 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 at the close of 1861 and 1890 for each Colony; also, the annual increase per cent. in comparison to that of the population :—

Colony.	1861.	1890.	Annual Increase from 1861 to 1890.	
			Sheep per cent.	Population per cent.
New South Wales.....	5,615,054	55,986,431	8·3	4·0
Victoria	6,239,258	12,736,143	2·5	2·6
Queensland	4,093,381	18,007,234	5·2	8·8
South Australia.....	3,038,356	7,050,544	3·0	3·3
Western Australia	279,576	2,524,913	7·8	4·0
Tasmania	1,714,498	1,619,256	*0·2	1·7
New Zealand	2,761,583	18,117,186	6·7	6·6
Australasia.....	23,741,706	116,041,707	5·6	3·9

* Decrease.

Tasmania is the only Colony of the group in which the business of sheep-breeding has not advanced since 1861. In all the others there has been a material increase, though, except in the case of New South Wales and Western Australia, the increase per cent. has been less than that of the population. In Queensland and New Zealand there has been a very substantial increase in the

SHEEP OWNED BY EACH COLONY.

number of sheep depastured during the period covered by the table, but the population also increased at a rate even more rapid. 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 by this Colony in agriculture and kindred pursuits, afford sufficient explanation of the slow rate at which her flocks are increasing. The reasons for the large falling-off in the sheep-farming of Tasmania are various. Mr. Johnston, the Statistician of Tasmania, in the "Official Record," expresses his opinion thus:—"Rabbits, fluke, and the increasing tendency to fatten stock for market, are the reasons generally assigned for the decrease in sheep. No doubt, however, the greater extent of land taken up in respect of cattle and pigs must be considered." The following statement shows the proportion of sheep in each Colony to the total flocks of Australasia. In 1861 out of every 100 sheep New South Wales depastured 23·7, while, in 1890, the proportion had increased to 48·2, or little short of one-half the total flocks. New Zealand came second, with 15·6 per cent. With the exception of the two Colonies named, and of Western Australia, whose flocks are small, the proportion of sheep depastured in each Colony to the total number of sheep in Australasia was less in 1890 than it had been in 1861:—

Proportion of
sheep in each
Colony:

Proportion of Sheep in each Colony to total number of Sheep in
Australasia.

Colony.	1861.	1890.
	Per cent.	Per cent.
New South Wales	23·7	48·2
Victoria	26·3	11·0
Queensland	17·2	15·5
South Australia	12·8	6·1
Western Australia	1·2	2·2
Tasmania	7·2	1·4
New Zealand	11·6	15·6
Australasia	100·0	100·0

The value of the sheep depastured in Australasia at the close of 1890 may be set down at £42,954,000, thus distributed among the various provinces :—

	£
New South Wales.....	18,885,000
Victoria	5 094,000
Queensland.....	6,077,000
South Australia.....	2,556,000
Western Australia	915,000
Tasmania.....	810,000
New Zealand	8,606,000
Australasia	£42,954,000

CATTLE.

Except in Queensland cattle breeding is secondary to that of sheep. In New South Wales the industry does not occupy so important a position as it formerly did, the decline being 16·0 per cent. since 1861, or at the rate of 0·6 per cent. per annum. The lowest point was reached 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 induced graziers on many runs to substitute sheep for cattle. Since that period the improvement has been gradual, and, though small, would seem to indicate a disposition on the part of pastoralists in some parts of the Colony to devote more attention to cattle-breeding. The progress of Victoria in this direction has been small but steady, the relative position occupied by the Colony now being much the same as in 1861 in regard to the number of cattle depastured. Queensland has largely increased her herds, and now possesses 50·8 per cent. of the total cattle of the whole group. New Zealand and Western Australia—especially the former—show decided improvement, and the breeding of this class of stock seems to be greatly in favour in those Colonies.

The following table shows the number of cattle in 1861 and 1890, with the yearly increase or decrease per cent. for the whole period, as well as the growth of the population :—

CATTLE IN EACH COLONY.

Numbers and increase of Cattle.

Colony.	1861.	1890.	Increase or Decrease per cent. per annum, 1861-1889.	
			Cattle.	Population.
New South Wales.....	2,271,923	1,909,009	*0.6	4.0
Victoria	628,092	1,782,978	3.7	2.6
Queensland.....	560,196	5,558,264	9.1	8.8
South Australia.....	265,434	574,032	2.5	3.3
Western Australia	33,795	130,970	4.8	4.0
Tasmania	87,114	162,440	2.2	1.7
New Zealand	193,285	831,831	5.2	6.6
Australasia.....	4,039,839	10,949,524	3.5	3.9

* Decrease.

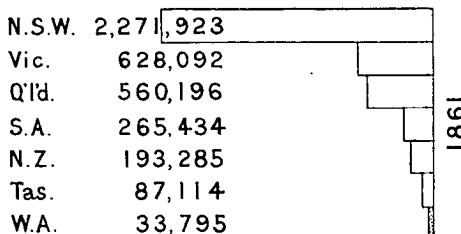
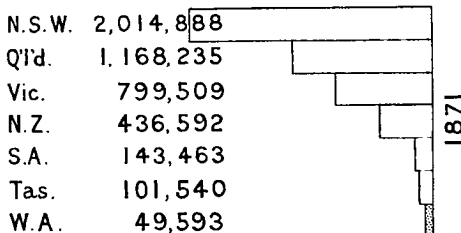
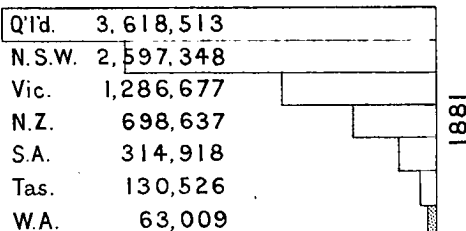
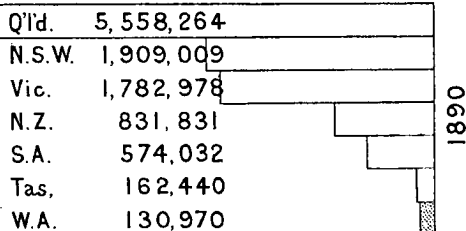
Proportion of
cattle in each
Colony.

The proportion of cattle belonging to each Colony in 1861 and 1890 is shown in the next table. It will be noticed that Queensland has increased its position from 13.9 to 50.8 per cent. The increase in some of the other Colonies has been slight, as in Victoria from 15.5 to 16.3 per cent., in Western Australia from 0.8 to 1.2 per cent., and in New Zealand from 4.8 to 7.6 per cent. South Australia and Tasmania show a slight decrease, the former Colony from 6.6 to 5.2 per cent., and the latter from 2.2 to 1.5 per cent. ; but New South Wales shows the very large decrease from 56.2 to 17.4 per cent. :—

Proportion of Cattle in each Colony.

Colony.	1861.	1889.
	Per cent.	Per cent.
New South Wales	56.2	17.4
Victoria	15.5	16.3
Queensland	13.9	50.8
South Australia	6.6	5.2
Western Australia.....	0.8	1.2
Tasmania	2.2	1.5
New Zealand	4.8	7.6
Australasia.....	100.0	100.0

LIVE-STOCK — HORNEDED CATTLE



Lithographed and Printed at the Department of Lands, Sydney, N. S. W. 1892
No. of Lithograph 2726

The value of the cattle in Australasia at the close of 1890 may be set down at £56,822,000, thus divided amongst the various provinces :—

	£
New South Wales	10,690,000
Victoria	11,768,000
Queensland	23,623,000
South Australia	3,444,000
Western Australia	753,000
Tasmania	1,137,000
New Zealand.....	5,407,000
Australasia	£56,822,000

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 the high name which was acquired by the horses of Australasia was largely due to this cause. 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 abundance of natural provender allowed a large increase in the stock of the settlers, which would have been a great advantage, had it not been that the general cheapness of horses 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 the breed of horses, and such was the case in Victoria. In New South Wales it was far otherwise. The best of the stock of that Colony, 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 New South Wales greatly deteriorated. One class

Horse-breeding.

Excellence of native grasses.

Partial deterioration of stock.

of stock only escaped. The thoroughbred racer was probably improved both by the importation of fresh stock from England, and by the judicious selection of mares.

Saddle and harness horses.

The Colonies are specially adapted for 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 of horses 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, this has been due to breeding from weedy mares for racing purposes and from the effect of droughts.

Endurance of colonial horses.

Demand for horses for India.

Although the demand for horses in India is considerable and Australia is a natural market from which supplies may be derived there is no one employed habitually by the Indian Government to make himself acquainted with the resources of the Colonies, or to furnish information to intending shippers. The speculation of sending horses to India is one open to many risks, as, apart from the dangers of the voyage, there is always an uncertainty as to the stock being accepted. Owing, therefore, to the limited demand, it has not been found advantageous to breed horses for any but local requirements.

Foreign demand for horses limited.

Number of horses in Australasia.

The following table shows the number of horses in each Colony for 1861 and 1890, also the proportion in each case to the total at each period. In 1861, New South Wales possessed 50·7 per cent. of all the horses in Australasia, Victoria being second, with 18·3 per cent. In 1890, New South Wales still held the leading position as regards numbers, but her proportion to the whole had fallen to 25·6 per cent. Queensland and New Zealand exhibit the most relative progress, having increased their respective proportions of the total from 6·3 and 6·2 per cent. in 1861 to

21·1, and 12·2 per cent. in 1890. The numbers and proportion for each Colony were :—

Horses.

Colony.	Number.		Percentage of each Colony to total of Australasia.	
	1861.	1890.	1861.	1890.
New South Wales...	233,220	444,163	50·7	25·6
Victoria	84,057	436,459	18·3	25·2
Queensland.....	28,983	365,812	6·3	21·2
South Australia.....	52,597	199,605	11·4	11·5
Western Australia...	10,720	44,384	2·3	2·6
Tasmania	22,118	31,165	4·8	1·8
New Zealand	28,275	211,040	6·2	12·2
Australasia	459,970	1,732,628	100·0	100·0

The following table gives the flocks and herds of each of the great divisions of the globe, the returns are the latest available, and are based on figures given in the report of the Statistician to the American Department of Agriculture :—

Flocks and herds of the world.

	Cattle.	Horses.	Sheep.	Swine.
Europe	104,166,000	34,865,000	214,499,000	46,152,000
Asia	70,850,000	4,443,000	71,669,000	417,000
Africa	8,203,000	721,000	60,820,000	840,000
America	117,249,000	21,920,000	143,581,000	53,974,000
Australasia.....	10,950,000	1,733,000	116,042,000	1,206,000
Total.....	311,418,000	63,682,000	606,611,000	102,589,000

STOCK CARRYING CAPACITY OF AUSTRALASIA.

None of the Colonies are stocked to their full capacity, while in the large territory of Western Australia, and the Northern territory of South Australia, the process has only begun. A clear idea of the comparative extent to which each Colony is stocked cannot be given unless the different classes of stock are reduced to a common value. Assuming, therefore, that one head of large stock is equivalent to ten sheep, and stating cattle and horses in terms

Capacity of the Colonies to carry stock.

of sheep, it will be found that the number of acres per sheep for each Colony is as follows :—

Stock carried by each Colony.

Colony.	No. of acres per sheep.
New South Wales	2·5
Victoria.....	1·6
Queensland	5·5
South Australia	39·1
Western Australia	158·6
Tasmania	4·7
New Zealand	2·3
Australasia	8·3

Limit of produc-
tion not yet
reached.

The most closely stocked Colony is Victoria, with 1·6 acres per sheep, but this is by no means the limit of the carrying capacity of that Colony. On the contrary, there is still a considerable tract yet to be brought under the sway of the pastoralist. Neither New Zealand, with 2·3 acres per sheep, nor New South Wales, with 2·5 acres, can be said to have reached their full carrying capacity. If the present average of New South Wales be taken as the possible limit to which Australasia may be stocked, then there is room in these Colonies for 570 million of sheep, or 57 million cattle more than now depastured. That Australasia can carry 1 sheep to 2·5 acres is an improbable supposition. In almost every Colony 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 in regard to 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 the artificial cultivation of grasses, the Colonies where agriculturé 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 Colonies are capable of maintaining, in ordinary seasons, stock equivalent to 390,000,000 sheep; that is, about 150,000,000 sheep, or their equivalent in cattle, more than are now depastured.

Stock-carrying
capacity of the
Colonies.

The number of stock in Australasia, expressed in terms of sheep, the number of acres per sheep, and number of sheep per head of population for the various dates herein mentioned, were :—

Stock in terms of Sheep.

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	29·4	54·3
1871	49,773,584	47,138,200	7,825,580	104,737,364	19·3	53·2
1881	78,063,426	87,096,280	12,497,650	177,657,356	11·4	62·9
1890	116,041,707	109,495,240	17,326,280	242,863,227	8·3	64·1

The total value of pastoral property, that is, improvements, plant, and stock, was estimated at the beginning of 1891 at £242,653,000, and of this large sum £78,756,000, or nearly one-third, belonged to New South Wales. In the amount quoted the value of stock alone (excluding swine), comes to about £116,776,000. No account is here 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 was £35,920,600, the share of each Colony in the total production being :—

Value of Australasian Pastoral Products.

1890-91.

New South Wales	£13,359,800
Victoria	6,041,300
Queensland	5,984,200
South Australia.....	2,176,300
Western Australia	500,200
Tasmania	748,300
New Zealand	7,110,500
Australasia	£35,920,600

Dairy cattle not included.

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:—

Return from each class of Australasian Stock.

Sheep.....	£25,943,100
Cattle	6,917,300
Horses	3,060,200
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	£35,920,600

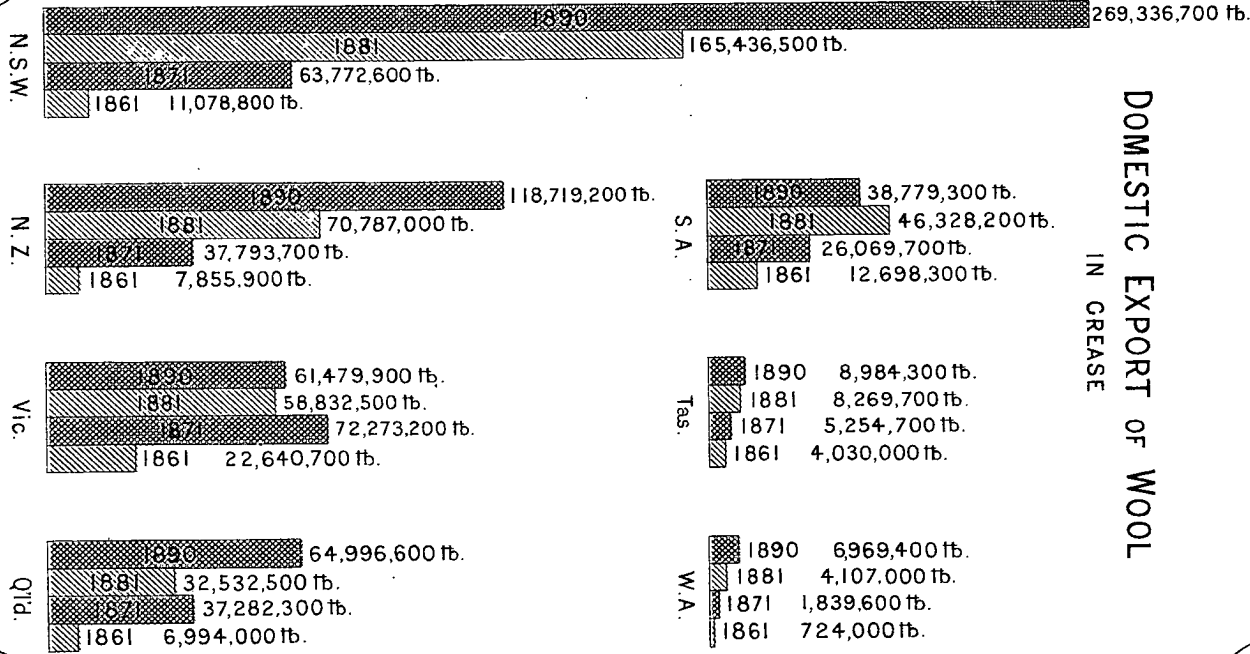
Export of Wool.

As might be supposed the greater part of the value of stock returns is due to wool. Thus, out of the £35,920,600 quoted above, £19,555,400 is the value of wool, viz:—£19,209,100 for wool exported, and £346,300 for wool used locally. The wool export of the Australasian Colonies during 1890 was 569,265,400 pounds weighed in the grease, the export value being £20,349,300—that is to say, £1,140,200 more than the value of that portion of the clip which was exported, as shown above. The latter sum represents the cost of freight, handling, and brokerage between the sheep-walks and the port of shipment.

Export of wool in the grease.

The quantity and export value of the wool clip in the grease is given for each Colony in the subjoined table for 1881 and 1890. The values of the clip for the latter year for South Australia and Tasmania do not compare favourably with those of 1881; indeed there has been in South Australia a serious fall, not only in value, but in the quantity exported. All the other Colonies show an increase both in quantity and value of the clip, but this increase was relatively greatest in Queensland, New Zealand, and New South Wales, in the order named. New South Wales maintains its high position as a wool producer, nor can it be denied that in New Zealand sheep-breeding is a flourishing concern, for though the number of sheep in 1890 was only slightly in excess of that in 1885, this is mainly due to the heavy demand upon the resources of the Colony for the supply of stock to meet the requirements of the London market in regard to frozen meat.

DOMESTIC EXPORT OF WOOL IN GREASE



Lithographed and Bound at the Department of Lands, Sydney, N. S. W. 1892.
 No. of Sheets 72 & II

AVERAGE PRICE OF WOOL.

Net Export of Wool for each Colony, 1881 and 1890.

Colony.	Weight of clip in grease.		Values.	
	1881.	1890.	1881.	1890.
	lb	lb	£	£
New South Wales.....	165,436,500	269,336,700	7,175,200	8,955,600
Victoria	58,832,500	61,479,900	2,562,800	2,743,400
Queensland.....	32,532,500	64,996,600	1,331,900	2,524,700
South Australia.....	46,328,200	38,779,300	1,573,300	1,295,700
Western Australia	4,107,000	6,969,400	256,700	261,300
Tasmania	8,269,700	8,984,300	498,400	419,200
New Zealand	70,787,000	118,719,200	2,910,600	4,149,400
Australasia.....	386,293,400	569,265,400	16,308,900	20,349,300

The average price per lb. obtained for wool in grease, at the London Wool Sales, for the five series during each year from 1885, for the principal producing Colonies was:—

Year.	New South Wales. (Merino).	Victoria. (Merino).	New Zealand. (Merino.)
	d.	d.	d.
1885	8½	10¾	8¾
1886	8½	10½	9½
1887	9¾	10¾	9¾
1888	8¾	10½	9½
1889	10	11½	10
1890	10	11¾	10½
1891	8¾	11¾	10½

It will be noticed that Victorian wool averages about 2d. per lb. higher than New South Wales wool. The figures must be taken with 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 Colony of which it is the produce.

The domestic export trade of frozen and preserved meat is now largely confined to New Zealand, where the industry is in a flourishing condition. In 1881 the value of the trade done by

Price of wool in grease.

New South Wales wool exported *via* Melbourne.

Frozen and preserved meats.

that Colony was only £22,391, or 6 per cent. of that of Australasia; in 1890 it had increased to £1,237,752, or 81 per cent. of the total. New South Wales and Queensland are the principal exporters in this trade after New Zealand, the value of export being £150,091 for New South Wales, and £121,176 for Queensland. In 1881 New South Wales and Victoria exported meat to the total value of £304,909; in 1890 their joint export had decreased to £172,436, two-thirds of the decrease being due to Victoria. A revival of this industry may, however, be looked for in the near future.

Quantity and value of meats exported.

The following table shows the quantity of fresh and preserved meats exported, the produce of each Colony, in 1881 and 1890:—

Domestic Export of Fresh and Preserved Meats.

Colony.	Quantity.			
	1881.		1890.	
	Fresh and Frozen.	Salt and Preserved.	Fresh and Frozen.	Salt and Preserved.
	Cwt.	Cwt.	Cwt.	Cwt.
New South Wales...	17,740	62,094	73,257	44,165
Victoria	8,136	35,947	1,078	8,896
Queensland.....	.....	22,051	54,053	25,643
South Australia.....	22	746	250	1,291
Western Australia..	.....	.....	.....	.....
Tasmania .....	.....	.....	.....	.....
New Zealand .....	.....	9,595	896,914	72,766
Australasia.....	25,898	130,433	1,025,552	152,761

In view of the large increase of stock which the three favourable seasons have brought to the flock-masters of Australasia, the question of the disposal of the surplus cast has become a matter of very serious consequence. Omitting from consideration New Zealand, which has solved the difficulty, it may be assumed

that there is a surplus of from 60,000 to 100,000 head of cattle, and 4,500,000 sheep, which in any ordinary year could be exported without trenching upon the local requirements. Efforts have been made during the past few years to deal with this question of surplus stock, and it is hoped a satisfactory solution of the difficulty will be found in a large export trade to Europe of frozen mutton and preserved meats, which there seems every prospect of being established. In the table on the preceding page is given the quantity of beef and mutton exported during 1890. Excluding New Zealand, the weight stated represents the produce of 838,800 sheep, and 7,000 cattle; that is in the one case 19 per cent., and in the other 9 per cent. of the exportable surplus.

DAIRY-FARMING.

Dairy-farming has of late years made fair progress in Australasia, especially in New South Wales, Victoria, and New Zealand. The introduction of the factory system at convenient centres, and the use of the cream separator, have done much to cause the extension of this industry. The number of dairy cows and the milk produced by them in each Colony were as follows in 1890 :—

Progress of dairy-farming.

Dairy Cows and Milk Produced.

Colony.	Dairy Cows.		Quantity of milk produced (estimated).
	No.	Gallons.	
New South Wales.	333,023	119,888,000	
Victoria.	395,091	142,233,000	
Queensland.	120,000*	36,000,000	
South Australia.	81,022	29,168,000	
Western Australia.	10,000*	3,600,000	
Tasmania.	33,189	13,275,000	
New Zealand.	206,906	82,762,000	
Australasia,	1,179,231	426,926,000	

* Estimated.

PRODUCTION OF DAIRY PRODUCE.

The 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 Colony in 1890 were :—

Value of Dairy Produce, 1890.

Colony.	Value of Milk, Butter, and Cheese.	Value of Return from Swine.	Total Value of Dairy and Swine Produce.
	£	£	£
New South Wales	2,556,800	330,800	2,887,600
Victoria	3,210,400	396,200	3,606,600
Queensland	853,300	135,800	989,100
South Australia	604,800	165,600	770,400
Western Australia.....	100,400	33,800	134,200
Tasmania.....	265,700	114,600	380,300
New Zealand	1,499,200	331,000	1,830,200
Australasia	9,090,600	1,507,800	10,598,400

Butter and
cheese.

The production of butter and cheese for 1890 in each Colony is estimated to have been as follows :—

Production of Butter and Cheese, 1890.

Colony.	Butter.	Cheese.
	lb.	lb
New South Wales	18,534,000	4,797,000
Victoria	19,249,000	4,893,000
Queensland	6,007,000	596,000
South Australia	5,610,000	1,348,000
Western Australia.....	405,000	68,000
Tasmania	2,317,000	628,000
New Zealand	16,310,000	6,976,000
Australasia	68,432,000	19,306,000

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

Export of butter and cheese.

Net Export of Dairy Produce, 1890.

Colony.	Quantity.	
	Butter.	Cheese.
	lb.	lb.
New South Wales	279,200	66,800
Victoria	944,400	.....
South Australia	329,000	.....
New Zealand	3,899,400	4,529,300
Total.....	5,452,000	4,596,100

The Colonies which, on the other hand, are obliged to import butter and cheese are shown below :—

Import of butter and cheese.

Net Import of Dairy Produce, 1890.

Colony.	Quantity.	
	Butter.	Cheese.
	lb.	lb.
Victoria .....	.....	18,000
Queensland	363,000	1,113,700
South Australia .....	.....	68,800
Western Australia	368,900	139,600
Tasmania	30,200	1,700
Total.....	762,100	1,341,800

From the foregoing figures it will be seen that those Colonies which produce a surplus of butter and cheese have, after providing for the deficiency of the other Colonies, a balance available for external exportation. The quantity in 1890 amounted to 4,689,900 lb. butter, and 3,254,300 lb. cheese, valued at £160,000 and £60,000 respectively. An export trade in butter and cheese has long been maintained from New Zealand, but during 1890 and 1891 Victorian and New South Wales butter was sent to the London market, and its very favourable reception there gave a fresh stimulus to the dairying industry in those Colonies.

Butter and cheese for export.

From latest advices it would appear that the price obtained for Australian butter in London, was fully 50 per cent. 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 Colonies. In connection with this subject it may be mentioned that the value of the butter, cheese, and eggs imported into the United Kingdom during 1890 was £10,598,848, £4,975,134, and £3,428,806 respectively. The supply is chiefly drawn from the Continent of Europe, and from America.

Breeding of swine.

The breeding of swine is usually carried on in conjunction with dairy-farming. Below will be found a return of the number of swine in each Colony in 1861, and in 1890, together with the proportion owned by each Colony in comparison with the total stock. It will be observed that the actual number owned by the various Colonies has in all cases increased, though the relative proportions have altered considerably. New South Wales, for instance, held over 40 per cent. of the stock of swine in 1861, but in 1890 the proportion had receded to 23·5 per cent. In the same interval New Zealand had increased from nearly 12 per cent. to something over 26 per cent. of the whole:—

Swine.

Colony.	Number.		Percentage of each Colony to total of Australasia.	
	1861.	1890.	1861.	1890.
	No.	No.	Per cent.	Per cent.
New South Wales.....	146,091	283,061	40·3	23·5
Victoria.....	43,480	282,457	12·0	23·4
Queensland.....	7,465	96,836	2·1	8·0
South Australia.....	69,286	118,083	19·1	9·8
Western Australia.....	11,984	28,985	3·3	2·4
Tasmania.....	40,841	81,716	11·3	6·8
New Zealand.....	43,270	314,644	11·9	26·1
Australasia.....	362,417	1,205,782	100·0	100·0

The products of the swine—bacon, ham, lard, and salt pork—
are still imported by all the Colonies with the exception of South
Australia and New Zealand, as is shown in the following table,
which relates to the year 1890 :—

Products of the
swine.

Colony.	Bacon and ham.	Salt pork.	Lard.	Net value imported.
	£	£	£	£
New South Wales...	53,407	*3,897	*234	49,276
Victoria	11,263	*1,584	*93	9,586
Queensland	21,408	8,336	77	29,821
South Australia	1,439	*78	.....	1,361
Western Australia...	4,615	.....	372	4,987
Tasmania	463	1,339	.....	1,802
New Zealand	*32,090	*5,026	*724	*37,840
Australasia	60,505	*910	602	58,993

The figures marked (*) show an excess of exports, all the others represent an excess of imports. There seems to be considerable scope for an extension of this particular branch of farming in most of the Colonies. The minor products of dairying, such as poultry, eggs, and honey, are produced to the value of over £1,000,000 by the Colonies taken as a whole. The most remarkable feature is the trade in eggs between South Australia as supplier and Victoria and New South Wales as buyers. The figures for 1890 show that during that year South Australia exported eggs to the value of £44,204, viz., £30,344 to Victoria, £13,709 to New South Wales, and £151 to Western Australia.

Poultry, eggs,
and honey.