

AGRICULTURE.

AUSTRALASIA may, as a whole, be considered as in the first phase of agricultural settlement, indeed several Colonies have not yet emerged from the pastoral stage. Nevertheless, the value of agricultural produce, estimated at farm prices, is considerable, and amounts to £22,506,080, which is about two-thirds the value of the pastoral produce. The return from agriculture in each Colony for the season 1891-92 was, approximately :—

	Total value of Crops.	Average value of produce per acre under Crop.	Percentage of value to total value of Australasia.
	£	£ s. d.	
New South Wales	3,584,490	4 4 7	15·9
Victoria	7,009,097	3 6 3	31·1
Queensland	1,922,044	7 18 5	8·6
South Australia	3,045,247	1 11 7	13·5
Western Australia	380,921	5 18 8	1·7
Tasmania	1,046,263	6 5 0	4·7
New Zealand	5,518,018	3 17 5	24·5
Australasia	22,506,080	3 6 3	100·0

From this estimate it would seem that the value of crops, per acre cultivated, is much larger in Queensland and Tasmania than in the other Colonies, which, in the case of Queensland, is due to the proportionately large area under sugar-cane, while in Tasmania the area devoted to fruit and hops, and the higher returns of cereals, account for the average per acre which the province shows. In point of gross value Victoria occupies a position much in advance of the other members of the group, the produce of that province having a value little short of one-third of that of

VALUE OF PRINCIPAL CROPS.

Value of principal crops.

all Australasia. The value of the principal crops, and the percentage of each to the total production, are given in the following statement :—

Name of Crop.	Value.	Percentage to Total.
	£	
Wheat	7,154,928	31·8
Maize	1,153,599	5·1
Barley	265,725	1·2
Oats	1,485,420	6·6
Other grain	248,093	1·1
Hay	4,551,462	20·2
Potatoes	1,252,662	5·6
Other root-crops	843,883	3·8
Sugar-cane	928,637	4·1
Tobacco	35,810	0·2
Grapes for wine, table, and other purposes	820,113	3·6
Green forage	301,896	1·3
Hops	87,118	0·4
Orchards and market-gardens	3,076,326	13·7
Other crops	300,405	1·3
Total	22,506,080	100·0

Value of produce per head.

The average value of agricultural produce per head of the population in each of the Australasian colonies during the season 1891-2, is represented by the figures below which also illustrate the fact that in the colonies of South Australia, New Zealand, Tasmania, and Victoria, the development of agricultural resources is attracting the attention of the colonists to a greater extent than is the case in the other provinces of Australasia.

Colony.	Average value per head of population.
	£ s. d.
New South Wales	3 1 6
Victoria	6 1 1
Queensland	4 13 8
South Australia	9 6 11
Western Australia	7 3 0
Tasmania	6 17 1
New Zealand	8 14 1
Australasia	5 15 5

Compared with the principal countries of the world Australasia does not take a high position in regard to the gross value of the produce of its tillage, but in value per inhabitant it compares fairly well; indeed some of the Colonies, such as South Australia and New Zealand show an average equalling that of Denmark and France. The following figures, designed to illustrate this, are taken from various places in Mulhall's latest issue of the *Dictionary of Statistics* :—

Countries.	Value.	Per head.
	Million	
	£	£
United Kingdom	141	3·3
France	322	8·3
Germany	262	5·4
Russia	373	4·0
Austria	225	5·6
Italy	153	5·0
Spain	126	7·1
Portugal ..	23	4·9
Sweden	31	6·5
Norway	9	4·5
Denmark ..	20	9·5
Holland ..	20	4·3
Belgium ..	41	6·7
Switzerland	9	3·0
United States	467	7·5
Canada	35	7·0
Cape Colony	2	1·3
Argentina	18	5·8
Uruguay	2	3·3
Australasia (1891)	24	5·8

The following figures, giving the areas under the principal grain and other crops, and the total extent of land under cultivation in each of the Colonies at different epochs since the year 1861, will serve to illustrate the progress agriculture has made. In this table, as well as throughout the whole of the chapter, the years 1861, '71, '81, and '91 embrace the periods from 1st April in those years to the 31st March subsequently.

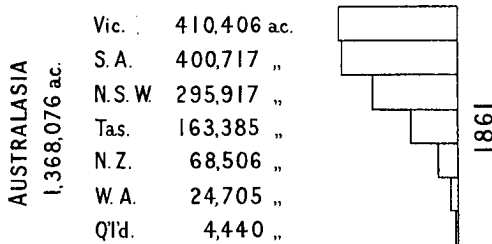
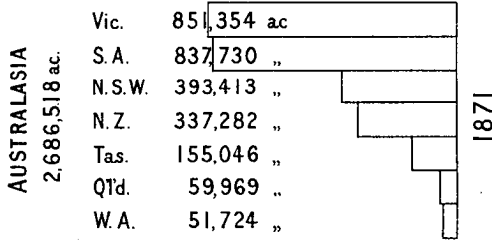
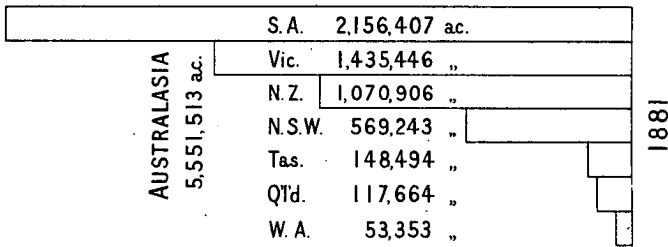
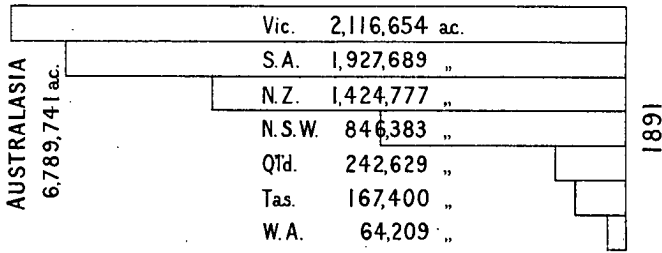
Area under cultivation in Australasia, 1861-91.

Agricultural year.

Colony.	Year.	Area under								Total Area under Crops.	Land under Permanent Artificial Grasses.
		For Grain.				Potatoes.	Vines.	Hay.	Other Crops.		
		Wheat.	Oats.	Maize.	Barley.						
		Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	
New South Wales ...	1861	123,468	7,224	57,959	2,924	10,040	1,692	45,175	47,435	295,917	1,658
	1871	154,030	13,795	119,956	3,461	14,770	6,618	51,805	28,978	393,413	24,388
	1881	221,888	16,348	117,478	6,427	15,943	6,624	146,610	37,925	569,243	75,825
	1891	356,666	12,958	174,577	4,459	22,560	8,281	163,863	103,019	846,383	333,238
Victoria.....	1861	196,922	91,061	1,714	3,419	27,174	1,464	74,681	13,971	410,406	12,654
	1871	334,609	175,944	1,709	16,772	39,064	5,523	103,206	174,527	851,354	6,282
	1881	926,729	146,995	1,783	48,652	39,129	4,923	212,150	55,085	1,435,446	241,947
	1891	1,332,683	190,157	8,230	45,021	57,334	24,483	369,498	89,248	2,116,654	174,982
Queensland ..	1861	392	69	1,914	13	512	40	280	1,220	4,440	.....
	1871	3,024	131	20,329	971	3,121	568	3,828	27,997	59,969	838
	1881	10,958	88	46,480	256	5,086	1,212	16,926	36,658	117,664	8,565
	1891	19,306	715	101,598	739	9,173	1,988	30,655	78,455	242,629	20,921
South Australia ..	1861	310,636	1,638	18	10,637	2,612	3,918	62,874	8,384	400,717	838
	1871	692,508	3,586	.....	17,225	3,156	5,455	97,812	17,988	837,730	5,213
	1881	1,768,781	3,023	.....	11,953	6,136	4,202	333,467	28,845	2,156,407	16,438
	1891	1,552,423	12,637	.....	11,461	6,892	12,314	304,171	17,811	1,927,689	17,519

AREA UNDER CROPS.

AREA UNDER CROP



Colony.	Year.	Area under.								Total Area under Crops.	Land under Permanent Artificial Grasses.
		For Grain.				Potatoes.	Vines.	Hay.	Other Crops.		
		Wheat.	Oats.	Maize.	Barley.						
		Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	
Western Australia	1861	13,584	507	73	2,412	277	457	6,676	719	24,705	.....
	1871	25,697	1,474	113	5,083	494	692	.....	18,171	51,724	.....
	1881	21,951	827	36	3,679	278	527	24,445	1,610	53,353	.....
	1891	26,866	1,301	23	3,738	532	1,004	28,534	2,211	64,209	.....
Tasmania	1861	58,823	29,022	.....	7,279	9,349	.....	31,803	27,109	163,385	.....
	1871	63,332	29,631	.....	4,275	8,154	.....	31,578	18,076	155,046	90,247
	1881	51,757	27,535	.....	4,597	9,670	.....	34,790	20,145	148,494	136,321
	1891	47,217	28,242	.....	2,644	16,368	.....	45,338	27,591	167,400	208,481
New Zealand	1861	29,531	15,872	770	3,457	7,292	.....	.....	11,584	68,506	157,994
	1871	108,720	139,185	.....	13,305	11,933	.....	30,717	33,422	337,282	792,529
	1881	365,715	243,387	3,177	29,808	22,540	.....	68,423	337,856	1,070,906	3,369,646
	1891	402,273	323,508	5,447	24,268	27,266	.....	145,728	496,287	1,424,777	7,403,881
Australasia ..	1861	733,356	145,393	62,448	30,141	57,256	7,571	221,489	110,422	1,368,076	173,144
	1871	1,381,920	363,746	142,107	61,092	80,692	18,856	318,946	319,159	2,686,518	929,497
	1881	3,367,779	438,203	168,954	105,372	98,782	17,488	836,811	518,124	5,551,513	4,348,742
	1891	3,737,434	569,518	289,875	92,330	140,125	48,070	1,087,787	824,602	6,789,741	8,159,022

AREA UNDER CROPS.

INCREASE OF AREA CULTIVATED.

Great increase
of area under
crop.

The following table indicates the increase in area and the proportional yearly increase of cultivation in each Colony during the period of 30 years under review :—

Colony.	Increase in acreage from 1861 to 1891.	Rates of increase in acreage per annum.
	Acres.	Per cent.
New South Wales	550,466	3·6
Victoria	1,706,248	5·5
Queensland	238,189	13·4
South Australia	1,526,972	5·3
Western Australia	39,504	3·2
Tasmania	4,015	0·1
New Zealand	1,356,271	10·1
Australasia	5,421,665	5·3

Thus, although the provinces of Victoria, South Australia, New Zealand, and New South Wales have, during this period, provided the largest increase in the area of land cultivated, Queensland shows a much greater proportional increase, whilst agriculture in Tasmania has remained almost stationary. Considering the Colonies as a whole it will be seen that the area under crop in Australasia is now little less than five times as large as it was in 1861. If, however, the land artificially grassed be included the total is 14,948,763 acres, or more than nine and a half times the area under cultivation in 1861. A comparison with the increase of population may perhaps best serve to give an idea of the progress of agriculture. The following table gives the acreage under crop per inhabitant :—

Increase per
head of the
people.

Colony.	1861.	1871.	1881.	1891.
	Acres.	Acres.	Acres.	Acres.
New South Wales.....	0·8	0·8	0·7	0·7
Victoria	0·8	1·1	1·7	1·8
Queensland.....	0·1	0·5	0·5	0·6
South Australia.....	3·2	4·5	7·5	5·9
Western Australia	1·6	2·0	1·8	1·2
Tasmania	1·8	1·5	1·2	1·1
New Zealand	0·7	1·3	2·1	2·2
Australasia.....	1·1	1·4	2·0	1·7

The increase of agriculture, for the whole of Australasia, as compared with that of population, will be clearly seen in the following table, which shows their relative growth for each period :—

	1861-1871.	1871-1881.	1881-1891.	Whole period 1861-1891.
	Per cent.	Per cent.	Per cent.	Per cent.
Increase of acreage under crop	96·4	106·6	22·3	396·2
Increase of population... ..	55·6	43·2	38·1	208·0

During the period covered by the table the population of Australasia was more than trebled, but the breadth of land devoted to agriculture increased to nearly five-fold, so that the ratio of increase of agriculture was one and three-quarters that of the population. This improvement took place entirely during the period from 1861 to 1881, and chiefly during the latter portion of that time; while in the years from 1881 to 1891 the rate of increase in the acreage under crops fell far short of the increase of the population. This is what naturally might be expected, as the gold fever had altogether subsided about the end of the first period, 1861-71, and a large portion of the population was seeking employment of a more settled nature than was afforded by the gold-fields. The comparative decrease noticeable in the latter period, 1881-91, is owing to various causes, such as the general tendency, elsewhere alluded to, of the population to congregate in the several metropolitan centres, the difficulty of taking up good land within easy access to markets; and also to the fact that there have been large accessions to the numbers of those engaged in other callings, without a corresponding increase in the agricultural classes. Under any circumstances the area of land devoted to agriculture cannot be increased illimitably, and although enormous tracts of land adapted for tillage still remain untouched by the plough, it is not likely their cultivation will be attempted until a more certain market is assured for the produce.

Area under crop compared with population.

Limit to increase of agriculture.

Proportion of
areas under crop.

In the following table will be found the proportion of land under crop to the total area of each Colony, and to Australasia as a whole. In instituting comparisons between the several Colonies, however, it must be borne in mind that other circumstances than the mere area under cultivation require to be taken into consideration. It would not be fair, for instance, to compare Tasmania, with 5·6 persons per square mile, to Western Australia, which has only 0·05 inhabitant to the square mile. The table has a value chiefly because it shows how each province has progressed in regard to cultivation during the periods named :—

Colony.	1861.	1871.	1881.	1891.
	Per cent.	Per cent.	Per cent.	Per cent.
New South Wales	·15	·20	·29	·44
Victoria	·73	1·51	2·55	3·76
Queensland.....	·001	·01	·03	·06
South Australia.....	·07	·15	·37	·33
Western Australia	·004	·008	·009	·01
Tasmania	·97	·92	0·88	·99
New Zealand	·10	·50	1·60	2·13
Australasia	·07	·13	·27	·34

Proportion of
land under
various crops.

The subjoined table shows the proportion of cultivated area devoted to the principal crops in each province, as well as in the whole taken together. It will be seen that with two exceptions wheat and hay form the greater proportion of their tillage. This is especially the case in regard to South Australia, where little else is grown, and in Victoria the proportion of wheat amounts to 63 per cent. of the total area cultivated, while there is more than 17 per cent. under hay crops.

Percentage of tillage devoted to each of the principal crops.

Crops.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	New Zealand.	Australasia.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Wheat	42·1	62·9	7·9	80·5	41·8	28·2	28·2	55·0
Oats	1·5	9·0	0·3	0·7	2·0	16·9	22·7	8·4
Maize	20·6	0·4	41·9	.....	0·1	.....	0·4	4·3
Barley	0·5	2·1	0·3	0·6	5·8	1·6	1·7	1·4
Potatoes	2·7	2·7	3·8	0·4	0·8	9·8	1·9	2·0
Vines	1·0	1·2	0·8	0·6	1·6	.....	.....	0·7
Hay	19·4	17·5	12·6	15·8	44·4	27·0	10·2	16·0
Sugar-cane	2·6	.....	21·0	.....	.....	.....	.....	1·1
Other crops	9·6	4·2	11·4	1·4	3·5	16·5	34·9	11·1
Total.	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0

PROPORTION OF EACH CROP.

Relative proportion of principal crops.

The relative position of each of the principal agricultural products, in proportion to the total area under crop in Australasia since the year 1861, may be ascertained from the following table. The figures should, however, be used with the table on page 178, which gives the actual areas operated upon, since a decline in the proportion of land under any particular form of cultivation does not necessarily mean a falling off in the area devoted to it; on the contrary, in few instances has there been any actual retrogression. It will be satisfactory to observe that the proportion of cultivation of the more valuable crops is gradually increasing. Thus, in 1891, the percentage devoted to vines, sugar-cane, and "other crops," under which are included gardens and orchards, was 12·9, as against 9·6 in 1881 and 8·6 in 1861.

Product.	1861.	1871.	1881.	1891.
	Per cent.	Per cent.	Per cent.	Per cent.
Wheat	53·6	51·4	60·7	55·0
Oats.....	10·6	13·5	7·9	8·4
Maize	4·6	5·3	3·0	4·3
Barley	2·2	2·3	1·9	1·4
Potatoes.....	4·2	3·0	1·8	2·0
Vines	0·5	0·7	0·3	0·7
Hay.....	16·2	11·9	15·1	16·0
Sugar-cane.....	.....	0·5	0·7	1·1
Other crops	8·1	11·4	8·6	11·1
Total	100·0	100·0	100·0	100·0

WHEAT.

Wheat-producing Colonies.

Only three of the seven Colonies of Australasia—Victoria, South Australia, and New Zealand—produce sufficient wheat for their own requirements; but after the deficiencies of the rest of Australasia are supplied by them, there is, in most seasons, a large balance for export, which finds a ready market in Great Britain, where Australian wheat is well and favourably known.

The amount of wheat exported, the produce of each of these Colonies, to countries outside Australasia, during 1891, was

10,838,996 bushels, valued at £2,133,909, of which 8,306,987 bushels, or over 76 per cent., were despatched to Great Britain.

The subjoined table shows the progress of wheat-growing for 31 years :— Progress of wheat-growing.

Colony.	1861.	1871.	1881.	1891.
	Acres.	Acres.	Acres.	Acres.
New South Wales	123,468	154,030	221,888	356,666
Victoria	196,922	334,609	926,729	1,332,683
Queensland	392	3,024	10,958	19,306
South Australia	310,636	692,508	1,768,781	1,552,423
Western Australia	13,584	25,697	21,951	26,866
Tasmania	58,923	63,332	51,757	47,217
New Zealand	29,531	108,720	365,715	402,273
Australasia	733,356	1,381,920	3,367,779	3,737,434

The production during the same period was :—

Colony.	1861.	1871.	1881.	1891.
	Bushels.	Bushels.	Bushels.	Bushels.
New South Wales	1,606,034	2,229,642	3,405,966	3,963,668
Victoria	3,607,727	4,500,795	8,714,377	13,629,370
Queensland	5,880	36,288	39,612	392,309
South Australia	3,410,756	3,967,079	8,087,032	6,436,488
Western Australia	160,155	345,368	153,657	288,810
Tasmania	1,380,913	847,962	977,365	930,841
New Zealand	772,531	2,448,203	8,297,890	10,257,738
Australasia	10,943,996	14,375,337	29,675,899	35,899,224

The production of wheat per acre varies from 6 bushels in South Australia to 24·8 bushels in New Zealand, the average for the whole of Australasia being a little short of 10 bushels. In the Yield of wheat per acre.

AVERAGE PRODUCTION OF WHEAT.

following statement is given the average yield for each province during the 10 years which closed with 1891 :—

Colony.	Average for the ten years, 1882-91.
	Bushels.
New South Wales	12·9
Victoria	10·2
Queensland	12·9
South Australia	6·0
Western Australia	12·1
Tasmania	18·1
New Zealand	24·8
Australasia	9·8

Small average yield per acre.

A yield of 10 bushels per acre is certainly small compared with the average obtained in European countries, but a bare statement of averages may mislead. Thus, in South Australia it is found that, owing to favourable conditions of culture, a yield of 7 bushels is financially as satisfactory a crop as one of 15 bushels in New South Wales, or 20 bushels in New Zealand. These averages, however, are susceptible of being much increased if cultivation were to be adopted in the colonies of a more scientific character. As a rule the seed is simply put into the ground, and little is done to assist the natural growth of the crops.

Wheat produced by each Colony.

The proportion of wheat produced by each province, compared with the total Australasian production in 1881 and 1891, is exemplified in the following figures :—

Colony.	1881.	1891.
	Per cent.	Per cent.
New South Wales	11·5	11·0
Victoria	29·4	38·0
Queensland	0·1	1·1
South Australia	27·2	17·9
Western Australia	0·5	·8
Tasmania	3·3	2·6
New Zealand	28·0	28·6
Australasia	100·0	100·0

Victoria takes the lead among the seven Colonies with regard to the production of wheat, having to its credit more than one-third of the total yield. New Zealand comes next with 28·6 per cent. of the total production, and South Australia, though in 1881 it provided 27·2 per cent., and in 1890, 28·6 per cent., of the wheat grown in Australasia shows a decline in the percentage to 17·9, while New South Wales is about stationary for the two periods Tasmania, in 1881, produced wheat to the extent of 3·3 of the total Australasian production, and was able to export a trifling quantity, but in 1891 that Colony only produced 2·6 per cent., and had to import wheat and flour to the amount of 224,947 bushels.

Compared with most European countries, and with North America, the yield of wheat in Australasia is inconsiderable, both in regard to the total quantity obtained, and the produce per acre. Thus, in the United Kingdom the average yield for the last five years was 28·5. In the United States the average was 11·9 bushels; the average for Manitoba during the same time was 18·4 bushels, and for Ontario 16·5 bushels, as against the Australasian yield of 9·8 bushels. With regard to other European countries the averages for the last available five-year periods are—Holland, 27·6 bushels; Germany, 18 bushels; France, 17·1 bushels; Hungary, 15·3 bushels; and Russia (excluding Poland), 7·4 bushels.

The following table shows the net imports or exports of wheat and flour of each of the colonies during 1891, flour being stated in terms of wheat, on the assumption of 1 ton of flour being equal to 48 bushels:—

Colony.	Net Imports.	Net Exports.
	Bushels.	Bushels.
New South Wales	3,038,181	.....
Victoria .....	.....	6,666,002
Queensland	1,863,694	.....
South Australia .....	.....	9,177,355
Western Australia	97,172	.....
Tasmania	224,947	.....
New Zealand .....	.....	1,624,758
Net exports .....	.....	12,244,121

Yield of wheat
in other
countries.

YIELD AND CONSUMPTION OF WHEAT.

Wheat trade of the world.

According to a statement made under the authority of the Statistician of the Department of Agriculture, Washington, U.S.A., Australasia ranks fifth on the list of the wheat exporting countries. Nevertheless the present contribution to the markets of Europe does not amount to more than one-twentieth of the demand, so that these Colonies cannot be said to form, as yet, a considerable factor in the wheat trade of the world.

The figures contained in the statement herewith represent for the most part an average for several years:—

Importing Countries.	Net Imports.	Exporting Countries.	Net Exports.
	Bushels.		Bushels.
Belgium	19,170,059	Austria-Hungary	5,846,800
France	37,426,407	Bulgaria	5,690,996
Germany	18,767,319	Roumania	19,200,979
Greece	8,975,790	Russia	83,170,011
Italy	19,931,234	Servia	2,236,912
Norway and Sweden ..	1,909,362	India	30,946,842
Netherlands	8,591,639	United States.....	83,343,864
Portugal	3,663,852	Argentine Republic ...	3,747,733
Spain	6,111,449	Canada	2,416,821
Switzerland	10,867,766	Chili.....	3,924,346
United Kingdom.....	105,527,648	Australasia.....	12,244,121
Total	240,942,525	Total	252,769,425

Yield and consumption of wheat in each Colony.

The following table shows the average annual yield and consumption of each Colony for the ten years ending with 1891, with the surplus or deficiency in each case:—

Colony.	Yield, less required for Seed.	Consumption.	Surplus available for Export.	Deficiency Imported.
	Bushels.	Bushels.	Bushels.	Bushels.
New South Wales.....	3,607,000	6,451,000	.....	2,844,000
Victoria	9,861,000	6,057,000	3,804,000	.....
Queensland.....	117,000	2,016,000	.....	1,899,000
South Australia	10,263,000	2,363,000	7,900,000	.....
Western Australia ...	299,000	453,000	.....	154,000
Tasmania	674,000	845,000	.....	171,000
New Zealand.....	7,539,000	4,730,000	2,809,000	.....
Australasia.....	32,360,000	22,915,000	9,445,000	.....

The acreage under wheat in 1891 in the various Colonies is compared below with that of 1881 :—

Year.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	New Zealand.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1891	356,666	1,332,083	19,300	1,552,423	26,806	47,217	402,273	3,737,434
1881	221,888	926,729	10,958	1,768,781	21,951	51,757	365,715	3,367,779
Increase	134,778	405,054	8,348	*216,358	4,915	*4,540	36,558	369,655

* Decrease.

From the above table it will be found that the extension of this cultivation has not been uniform, for, while South Australia and Tasmania have decreased their acreage, there has been a tendency in the other provinces to increase the area devoted to this cereal. Taking Australasia as a whole, however, the area under wheat in 1891 was only 369,655 acres in excess of that of 1881, notwithstanding that in Victoria and New South Wales, 540,732 acres were added to the breadth of land previously under this grain crop. As already pointed out the greater portion of the area devoted to agriculture is laid under wheat, and in an ordinary season the produce of over 1,200,000 acres is available for export to Europe. Whether the extension of wheat-growing for export, after supplying local demands, will be profitable is for the present a matter determined by the prices obtained in the London markets. But as far as present indications can be followed, it is hardly possible that any large expansion of this industry can be expected, unless perhaps in New South Wales, the only Colony of importance which, though adapted for wheat-growing, produces less than the requirements of its population.

Extension of wheat culture not uniform.

In the subjoined table is given the value of the yield per acre for three of the Colonies estimated on the market rates ruling in February and March of each year. It will be seen that a considerable decline has taken place since 1883, due for the most part to the fall in prices rather than to any decrease of production.

Value of yield per acre.

VALUE OF AUSTRALASIAN WHEAT CROP.

In regard to the value per acre the fall has been most marked in New South Wales :—

Year. ending March.	Average.					
	Yield in Bushels per acre.			Value of Yield per acre.		
	New South Wales.	Victoria.	South Australia.	New South Wales.	Victoria.	South Australia.
	Bushels.	Bushels.	Bushels.	£ s. d.	£ s. d.	£ s. d.
1883	16·3	9·0	4·2	4 4 3	2 2 9	1 1 6
1884	15·0	14·1	7·8	3 3 9	2 11 8	1 11 3
1885	15·5	9·5	7·5	2 18 2	1 11 8	1 5 4
1886	10·4	9·0	*	2 5 1	1 14 6	°
1887	17·4	11·5	*	3 8 2	2 3 2	°
1888	12·1	10·8	*	2 2 10	1 16 0	*
1889	4·8	7·1	*	1 2 10	1 12 6	*
1890	15·6	9·7	7·8	2 14 7	1 15 7	1 8 0
1891	10·9	11·1	5·6	2 0 10	1 19 9	0 19 7
1892	11·1	10·3	4·3	2 2 6	2 2 3	0 17 11

* No returns.

British market
for wheat.

The United Kingdom is the largest importer of wheat, and the British demand largely influences the price throughout the world. The average rate per bushel in 1892 in London was 3s. 8d. In the latter months of 1892 the price of wheat fell as low as 2s. 9d. per bushel, which is said to be the lowest recorded for many years. The opening local prices at the beginning of 1893 showed but a slight upward tendency, from 2s. 11d. to 3s. 1d. only being offered to farmers ; so the Australian wheat crop of 1892-3, plentiful as it is, may not represent a total value much in advance of that realised in the season of 1891-2, which is shown below :—

Colony.	Value.
	£
New South Wales	759,703
Victoria	2,792,851
Queensland	73,558
South Australia	1,340,935
Western Australia	74,509
Tasmania	190,046
New Zealand	1,923,326
Australasia	7,154,928

The average London prices during the last decennial period were the following :— London prices for wheat.

Year.	Price.	Year.	Price.
	s. d.		s. d.
1883	5 2½	1888	4 0
1884	4 5½	1889	3 9
1885	4 1	1890	4 0
1886	3 10½	1891	4 7
1887	4 1	1892	3 8

The importance of Australasia as a producer of wheat is but small when compared with the great wheat-producing centres of the world. Out of 2,358,621,365 bushels produced in 1891, only 35,899,000 bushels, or 1·5 per cent., were of Australasian growth. The subjoined statement, based on the returns of the United States Department of Agriculture, except as regards Australasia, gives the approximate crop of the world for the year mentioned :— Relative importance of Australasian wheat.

Countries.	Bushels.	Countries.	Bushels.
Europe—		Asia—	
Austria	41,143,750	India	255,434,667
Hungary	126,268,750	Asia Minor.....	37,029,375
Belgium	14,187,500	Caucasus	74,269,440
Denmark	3,713,472	Persia	20,630,400
France	232,360,236	Syria	12,343,125
Germany	126,254,663	Africa—	
Great Britain	74,400,714	Algeria	21,281,250
Ireland	2,615,437	Egypt	11,140,416
Greece	5,675,000	Cape Colony	4,126,080
Italy	128,801,916	Tunis	4,256,250
Netherlands.....	3,713,472	North America—	
Portugal	8,252,160	United States....	611,780,000
Roumania.....	53,073,684	Canada	61,592,822
Russia	181,789,628	South America—	
Servia	7,945,000	Argentina	33,069,000
Spain	71,349,094	Chili	14,187,500
Sweden	4,551,350	Australasia	35,899,224
Norway.....	412,608		
Switzerland	4,041,766	Total	2,358,621,365
Turkey	33,008,640		
Bulgaria	40,022,976		

Wheat crop of the world.

Consumption of
wheat.

The following figures show that the average consumption for Australasia is higher than that of any other part of the world for which records are available, with the exception of France:—

	Consumption per Head. (Bushels.)
United Kingdom.....	5·9
France	8·1
Germany	3·0
Russia	2·1
Austria	2·9
Italy	5·4
Spain and Portugal.....	6·4
Belgium and Holland.....	5·0
Scandinavia	1·4
Turkey	6·1
United States	5·0
Canada	6·5
Australasia	6·6

That of the Australasian Colonies will be found below:—

New South Wales	6·5
Victoria.....	6·0
Queensland	6·1
South Australia	6·5
Western Australia	9·3
Tasmania	6·7
New Zealand	7·5

The figures for Western Australia may appear abnormal, but are the result of a careful computation from the official returns for the last seven years.

OATS.

Cultivation of
oats.

The cultivation of oats, coming next in importance to wheat as a grain crop, is increasing, as the following figures show:—

Colony.	1861.	1871.	1881.	1891.
	Acres.	Acres.	Acres.	Acres.
New South Wales...	7,224	13,795	16,348	12,958
Victoria	91,061	175,944	146,995	190,157
Queensland.....	69	131	88	715
South Australia.....	1,638	3,586	3,023	12,637
Western Australia..	507	1,474	827	1,301
Tasmania	29,022	29,631	27,535	28,242
New Zealand	15,872	139,185	243,387	323,508
Australasia.....	145,393	363,746	438,203	569,518

The production for the same periods was as follows :—

Colony.	1861.	1871.	1881.	1891.
	Bushels.	Bushels.	Bushels.	Bushels.
New South Wales...	152,426	280,887	350,566	276,259
Victoria	2,136,430	3,299,889	3,612,111	4,412,730
Queensland.....	.....	.....	1,121	16,669
South Australia.....	33,160	33,894	32,219	80,876
Western Australia..	8,162	28,330	8,270	18,539
Tasmania	751,475	593,477	783,129	873,173
New Zealand.....	512,665	3,726,810	6,924,848	11,009,020
Australasia.....	3,594,318	7,968,287	11,718,264	16,687,266

The average yield per acre in each province for the ten years which closed with 1891, was :— Average production of oats.

Colony.	Bushels.
New South Wales	21·9
Victoria	22·5
Queensland	17·7
South Australia	10·8
Western Australia	17·5
Tasmania	27·1
New Zealand	31·5
Australasia.....	27·7

The average yield of oats for the group was therefore 27·7 High yield of New Zealand. bushels per acre, New Zealand, with its high average yield, furnishing nearly 71 per cent. of the total production. The cultivation of this cereal is comparatively neglected in New South Wales ; in Victoria, however, it is next in importance to wheat, whilst in Queensland, South Australia, and Western Australia, the yield being small and the climate ill-adapted, oats count for very little in the total grain production.

The average yield of oats in the United Kingdom for the last available quinquennial period was 26·2 bushels ; the average for the United States was 25 bushels ; for Holland, 43·2 bushels ; France, 25·9 bushels ; Hungary, 20·3 bushels ; Austria, 16·5 Average yield of oats in foreign countries.

bushels; Russia in Europe, 14·5 bushels; while the Australasian average was 27·7 bushels.

Value of the
oats crop.

The total value of the oats crop and the return per acre in each of the Australasian Colonies for the season 1891-2, will be found below :—

Colony.	Value.	Value per acre.
	£	£ s. d.
New South Wales	27,626	2 2 8
Victoria	514,818	2 14 2
Queensland	2,292	3 4 1
South Australia	9,435	0 14 11
Western Australia.....	3,703	2 16 11
Tasmania	101,870	3 12 2
New Zealand	825,676	2 11 0
Australasia	1,485,420	2 12 2

Import and
export of oats.

The net import or export of oats for each of the Colonies is given below. New Zealand was the only province which exported to any considerable extent, the major part of her export being to the neighbouring Colonies; but, nevertheless, 1,886,081 bushels were forwarded to the United Kingdom :—

Colony.	Oats.	
	Net Imports.	Net Exports.
	Bushels.	Bushels.
New South Wales	1,439,334	.....
Victoria.....	234,114	.....
Queensland	93,548	.....
South Australia	110,318	.....
Western Australia	210,488	.....
Tasmania .....	.....	5,060
New Zealand .....	.....	4,052,132
Net Exports.....	.....	1,969,390

The World's
production of
oats.

According to a carefully compiled estimate of the average production of oats throughout the world, recently issued by the

United States Agricultural Department, the commercial supply of this grain is represented by the following condensed results :—

	Bushels.
Europe (official estimates)	1,592,114,138
„ (unofficial estimates)	34,050,000
United States	594,961,401
Australasia	17,045,346
Canada (estimated)	90,000,000
Total	2,328,170,885

MAIZE.

Maize is the principal crop grown in Queensland, and is one of the most important products of New South Wales ; in the other Colonies the climate is little adapted to its growth, and the cultivation of this cereal does not extend to more than 14,000 acres.

The following figures show that fair progress has been made in the cultivation of maize since 1861. The first table shows the area under maize for grain in four decennial periods ; the second gives the quantities produced :—

Progress of the industry.

Colony.	1861.	1871.	1881.	1891.
	Acres.	Acres.	Acres.	Acres.
New South Wales...	57,959	119,956	117,478	174,577
Victoria ..	1,714	1,709	1,783	8,230
Queensland	1,914	20,329	46,480	101,598
New Zealand	770	.....	3,177	5,447
Other Colonies	91	113	36	23
Australasia	62,448	142,107	168,954	289,875

Colony.	1861.	1871.	1881.	1891.
	Bushels.	Bushels.	Bushels.	Bushels.
New South Wales...	1,727,434	4,015,973	4,330,956	5,721,706
Victoria ..	20,788	30,833	81,007	461,447
Queensland	42,100	508,000	1,313,655	3,077,915
New Zealand	31,570	.....	127,257	238,746
Other Colonies	367	2,000	648	483
Australasia	1,822,259	4,556,806	5,853,523	9,500,297

MAIZE PRODUCED BY EACH COLONY.

Rate of production of maize.

The following is the average rate of production of each Colony, and of the whole group for the ten years ending with 1891 :—

Colony.	Bushels.
New South Wales	30·9
Victoria.....	48·2
Queensland	24·2
Western Australia	17·7
New Zealand	*42·1
Australasia	29·4

* Last five years only.

The figures for Victoria and New Zealand are worth little, as the land under maize is small in area, and very favourably situated, while Western Australia had but 86 acres under cultivation, producing 1,500 bushels. The average yield of maize in the United States for the last five years was 23·3 bushels, while for Austria and Hungary the average was a little over 19 bushels, and Italy produced at the rate of about 16 bushels. Little good, however, is to be gained by placing these figures with the Australasian averages, as the acreage devoted to maize in Australasia is too small to make any such comparison useful.

Value of the maize crop.

The total value of the maize crop of 1891-2 and the average return per acre of the maize-growing colonies of Australasia will be found below :—

Colony.	Total value of Crop.	Average value per acre.
New South Wales	£ 667,532	£ s. d. 3 16 6
Victoria	65,372	7 18 10
Queensland	384,739	3 15 9
New Zealand	35,811	6 11 6
Other Colonies.....	145	6 6 0
Australasia	1,153,599	3 18 3

The high average value of production of maize per acre in Victoria and New Zealand is due to the fact that the area operated

upon is small, and the local average prices are relatively higher than in New South Wales and Queensland, where large areas are devoted to the cultivation of this cereal.

The net import or export of maize for each Colony during 1891 was :— Imports and exports of maize.

Colony.	Net Imports.	Net Exports.
	Bushels.	Bushels.
New South Wales	273,160	.....
Victoria	3,794	.....
Queensland .....	.. .....	311,565
South Australia	4,156	.....
Western Australia.....	2,120	.....
Tasmania	3,492	.....
New Zealand .....	.....	43,307
Net imports.....	.....	68,150

New South Wales is the only Colony importing maize to any extent from abroad, chiefly from United States and New Caledonia. The balance in favour of exports is owing to the fact that Queensland exported last year 311,565 bushels chiefly to the United Kingdom. From the above it may be readily understood that Australasia practically consumes the whole of its production of maize. In this part of the world, however, corn does not enter into consumption as an article of food as it does in other countries, and particularly in America, which produces and consumes nearly 80 per cent. of the whole maize crop of the world as the following figures—compiled on the authority of the Department of Agriculture in the United States—will show :— Consumption of maize.
Maize crop of the World.

	Bushels.
Europe (official)	311,820,759
„ (unofficial)	54,196,250
Asia (official)	823,868
Africa „	2,904,979
„ (unofficial)	13,620,000
United States (official)	1,680,696,600
America (unofficial)	229,109,606
Australasia	9,500,297
Various Islands (unofficial)	30,147
	2,302,702,506

BARLEY.

Cultivation of
barley.

Barley is the least cultivated of the cereal productions of Australasia. The area and production for each period under review were as follow :—

Colony.	1861.	1871.	1881.	1891.
	Acres.	Acres.	Acres.	Acres.
New South Wales.....	2,924	3,461	6,427	4,459
Victoria	3,419	16,772	48,652.	45,021
Queensland.....	13	971	256	739
South Australia.....	10,637	17,225	11,953	11,461
Western Australia	2,412	5,083	3,679	3,738
Tasmania	7,279	4,275	4,597	2,644
New Zealand	3,457	13,305	29,808	24,268
Australasia.....	30,141	61,092	105,372	92,330

Colony.	1861.	1871.	1881.	1891.
	Bushels.	Bushels.	Bushels.	Bushels.
New South Wales.....	41,054	55,284	135,218	93,446
Victoria	68,118	335,506	927,566	830,741
Queensland.....	158	11,836	3,207	21,302
South Australia.....	168,137	164,161	137,165	107,183
Western Australia	2,412	5,083	36,790	48,594
Tasmania	169,381	76,812	102,475	71,400
New Zealand	96,658	287,646	664,093	688,683
Australasia.....	545,918	936,328	2,006,514	1,861,349

Production of
barley.

The average production of barley per acre for each Colony is given in the following table for the ten years period 1882-91.

Colony.	
	Bushels.
New South Wales	19·4
Victoria	18·6
Queensland	24·4
South Australia	12·2
Western Australia.....	15·3
Tasmania.....	24·4
New Zealand	28·3
Australasia	20·5

The trade in barley and malt for each Colony in 1891 was :— Barley and malt.

Colony.	Barley.		Malt.	
	Net Imports.	Net Exports.	Net Imports.	Net Exports.
	Bushels.	Bushels.	Bushels.	Bushels.
New South Wales	60,031	.....	383,697	.....
Victoria .....	.....	54,968	.....	44,950
Queensland	473	.....	110,912	.....
South Australia	21,557	.....	49,098	.....
Western Australia	3,160	.....	5,704	.....
Tasmania	14,523	.....	211	.....
New Zealand .....	.....	83,666	.....	118,581
	.....	38,890	386,091	.....

Barley is not cultivated to the extent it deserves. In fruitful seasons, Australasia produces sufficient barley, exclusive of that required for malt, for home requirements, and a small surplus for export; but if the combined trade in barley and malt be considered, all the Colonies, with the exception of Victoria and New Zealand, are dependent upon external sources. The high import duties in Victoria on both these articles practically prohibit importations. Limited cultivation of barley.

The total value of the barley crop and the average return of this cereal per acre during the season 1891-2 in each of the provinces of Australasia will be found below :— Value of barley crop.

Colony.	Total value of Barley Crop.	Average value per acre.
	£	£ s. d.
New South Wales ..	10,513	2 7 2
Victoria	124,611	2 15 4
Queensland	2,752	3 14 6
South Australia	16,077	1 8 0
Western Australia	10,326	2 15 3
Tasmania	12,495	4 14 7
New Zealand	88,954	3 13 4
Australasia	265,728	2 17 7

POTATOES.

Cultivation of
potatoes.

The cultivation of the potato is not confined to any particular Colony, but Victoria and New Zealand are the leading growers, as will be seen from the subjoined table:—

Colony.	1861.	1871.	1881.	1891.
	Acres.	Acres.	Acres.	Acres.
New South Wales.....	10,040	14,770	15,943	22,560
Victoria	27,174	39,064	39,129	57,334
Queensland	512	3,121	5,086	9,173
South Australia.....	2,612	3,156	6,136	6,892
Western Australia	277	494	278	532
Tasmania	9,349	8,154	9,670	16,368
New Zealand	7,292	11,933	22,540	27,266
Australasia.....	57,256	80,692	98,782	140,125

The production for the same periods was:—

Colony.	1861.	1871.	1881.	1891.
	Tons.	Tons.	Tons.	Tons.
New South Wales..	30,942	44,758	44,323	62,283
Victoria	59,364	125,841	134,290	109,786
Queensland.....	1,080	6,585	11,984	25,018
South Australia.....	7,726	10,989	18,154	27,824
Western Australia	817	1,457	556	1,596
Tasmania	47,428	22,608	33,565	62,995
New Zealand..	37,554	42,130	121,890	162,046
Australasia	184,911	254,368	364,762	451,548

Production of
potatoes.

The average production of potatoes per acre, expressed in tons, for Australasia and for each of the separate Colonies is next given, for the ten years which ended with 1891. New Zealand, it will be seen, shows a considerably larger return per acre than any of the other provinces:—

Colony.	Per acre.
	Tons.
New South Wales	2·7
Victoria.....	3·7
Queensland	2·2
South Australia	3·6
Western Australia	2·9
Tasmania	4·0
New Zealand	5·3
Australasia	3·9

Only three of the Colonies are in a position to export potatoes, Imports and exports of potatoes.
Tasmania, New Zealand, and Victoria ; but the surplus available for export in the last-mentioned province, though at one time considerable, has now very much decreased.

The following were the Imports and Exports of Potatoes :—

Colony.	Net Imports.	Net Exports.
	Tons.	Tons.
New South Wales	51,011	.....
Victoria .....	.....	8,300
Queensland	12,269	.....
South Australia	175	.....
Western Australia	1,680	.....
Tasmania .....	.....	23,049
New Zealand .....	.....	35,609
Net Export.....	.....	1,823

The total value of the potato crop and the average return per Value of potato crop.
acre for 1891-2, in the Australasian Colonies, will be found below :—

Colony.	Total Value of Crop.	Average value per acre.
	£	£ s. d.
New South Wales	249,132	11 0 10
Victoria	356,804	6 4 5
Queensland	93,817	10 4 6
South Australia	125,208	18 3 4
Western Australia	14,763	27 15 0
Tasmania	149,613	9 2 10
New Zealand	263,325	9 13 2
Australasia	1,252,662	8 18 6

In the above table, the average for Western Australia may appear excessive, but it is due to the very small area under this crop which is principally raised as a kitchen garden crop. As regards South Australia, the high average is due to the prices obtained during the year in the Adelaide market, which were higher

than those ruling in the other Colonies. Victoria, Tasmania and New Zealand are exporting countries, producing largely in excess of their requirements, hence the comparatively small returns owing to the low price of the produce in their local markets.

HAY.

Considerable quantities of wheat, oats, and barley are grown for the purpose of being converted into hay. This crop in point of value is second in importance of the agricultural production. The area under crop for hay has since 1881 steadily and largely increased, as will be seen from the table herewith.

Colony.	1861.	1871.	1881.	1891.
	Acres.	Acres.	Acres.	Acres.
New South Wales.....	45,175	51,805	146,610	163,863
Victoria	74,681	103,206	212,150	369,498
Queensland.....	280	3,828	16,926	30,655
South Australia	62,874	97,812	333,467	304,171
Western Australia	6,676	*14,342	24,445	28,534
Tasmania.....	31,803	31,578	34,790	45,338
New Zealand	†27,160	30,717	68,423	145,728
Australasia.....	248,649	333,288	836,811	1,087,787

* In 1869.

† In 1867.

Production of
hay.

The production for the same periods was :—

Colony.	1861.	1871.	1881.	1891.
	Tons.	Tons.	Tons.	Tons.
New South Wales.....	57,363	77,460	198,532	209,417
Victoria	92,497	144,637	238,793	505,246
Queensland.....	459	6,278	19,640	58,842
South Australia.....	78,886	98,266	240,827	193,317
Western Australia	6,609	14,288	24,445	28,534
Tasmania	59,851	30,891	44,957	66,996
New Zealand	36,666	35,674	89,081	243,716
Australasia.....	332,331	407,494	856,275	1,306,068

The average production of hay per acre for each Colony will be found in the next table, the period embraced by the average being the ten years which closed with 1891 :—

Colony.	Average yield of hay.
New South Wales	1·2
Victoria.....	1·2
Queensland	1·7
South Australia	1·0
Western Australia	1·0
Tasmania	1·2
New Zealand.	1·4
Australasia	1·2

The greater portion of the hay is made from wheat, though large quantities of oaten and lucerne hay are produced in Victoria, New South Wales, and New Zealand. Hay is, for the most part, grown in each province in quantities sufficient for its own requirements, New South Wales being the only one which imports to any extent.

The net import or export of hay and chaff for each Colony for the year 1891 was :—

Colony.	Net Imports.	Net Exports.
	Tons.	Tons.
New South Wales	57,472	.....
Victoria.....	.....	45,817
Queensland.....	2,324	.....
South Australia.....	.....	6,456
Western Australia.....	1,563	.....
Tasmania .. .. .	.....	6,291
New Zealand.....	.....	581
Net imports.....	2,214	.....

Value of the hay crop.

The total value of the hay crop and the average return per acre for the season 1891-2 in the Australasian Colonies will be found below :—

Colony.	Total Value of Hay Crop.	Average Value per Acre.
	£	£ s. d.
New South Wales	732,959	4 9 5
Victoria	1,389,426	3 15 2
Queensland	164,424	5 7 3
South Australia	869,927	2 17 2
Western Australia	185,471	6 10 0
Tasmania	251,235	5 10 10
New Zealand	958,020	6 11 6
Australasia	4,551,462	4 3 8

GREEN FORAGE AND SOWN GRASSES.

Area under crops for green fodder.

The cultivation of maize, sorghum, barley, oats, and other cereals for the purpose of green food, and the laying down of lands under lucerne and grass, engage attention in the districts where dairy-farming is carried on. The agricultural returns of some of the Colonies do not admit of a distribution being made between these forms of cultivation prior to 1887. The following table shows the area under such green food for 1887 and 1891, and it will be seen that there have been large developments in most of the Colonies, chiefly in New Zealand. After a consideration of the figures relating to the last-mentioned province, little difficulty will be experienced in accounting for its superiority in the dairy-farming industry :—

	Green Food.		Sown Grasses.	
	1887.	1891.	1887.	1891.
	Acres.	Acres.	Acres.	Acres.
New South Wales	20,403	32,138	192,678	333,238
Victoria	6,036	9,202	154,612	174,982
Queensland	9,582	10,727	13,619	20,921
South Australia	10,079	6,416	23,217	17,519
Western Australia .....	.....	238	.....	.....
Tasmania	1,246	2,255	184,653	208,481
New Zealand	421,719	21,087	5,869,247	7,403,881
Australasia	469,065	82,063	6,438,026	8,159,022

THE VINE.

The history of the vine in Australia dates from the year 1828, when cuttings from the celebrated vineyards of France, Spain, and the Rhine Valley, were planted in the Hunter River District of New South Wales, and formed the nursery for the principal vineyards of that Colony. Years afterwards the vine was planted in the Murray River District and other parts of New South Wales, and was afterwards introduced into Victoria and South Australia, and is now cultivated in all the provinces of the Australian continent. In South Australia a large proportion of Germans are employed in the industry of wine-making.

Introduction of the grape-vine in Australia.

The climate and soil of Australia are peculiarly adapted to the successful cultivation of the vine, and with a demand which the present production hardly satisfies, and also the opening up of a market in England, where Australian wines have obtained due appreciation, the future expansion of wine-growing appears fairly assured. The depreciation which French and other foreign wines have suffered, both in quantity and quality, owing to the devastation of the vineyards by phylloxera is an additional reason for the vine-growers of this continent looking forward to largely increased operations for their industry.

Climate and soil adapted to the vine.

The progress of vine cultivation since the year 1861 is illustrated by the table subjoined. The areas given include the vines grown for table use, as well as for wine-making; also the young vines not yet in bearing :—

Progress of vine cultivation.

Colony.	1861.	1871.	1881.	1891.
	Acres.	Acres.	Acres.	Acres.
New South Wales	1,692	6,618	6,624	8,281
Victoria	1,464	5,523	4,923	24,483
Queensland	40	568	1,212	1,988
South Australia.....	3,918	5,455	4,202	12,314
Western Australia	457	692	527	1,004
Australasia	7,571	18,856	17,488	48,070

Area devoted to vines.

Until the year 1881 New South Wales contained the principal wine-growing districts, but at present the area devoted to vines is much larger in Victoria and South Australia. Of recent years great attention has been paid to the industry in Victoria, and that province now produces more than half the wine made in Australasia. The following table shows the progress made during thirty-one years :—

Colony.	1861.		1871.		1881.		1891.	
	Wine.	Table Grapes.	Wine.	Table Grapes.	Wine.	Table Grapes.	Wine.	Table Grapes.
New South Wales	Gallons.	Tons.	Gallons.	Tons.	Gallons.	Tons.	Gallons.	Tons.
Victoria.....	85,328	224	413,321	508	513,658	1,103	913,107	3,694
Queensland.....	47,568	840	713,589	1,545	539,191	740	1,554,130	2,791
South Australia..	312,021	1,161	852,315	1,692	72,121	255	168,526	1,169
Western Australia	....	....	....	....	313,060	1,498	801,835	4,590
Australasia	444,917	2,234	1,979,225	3,745	99,600	....	166,664	....
					1,537,660	3,596	3,604,262	12,244

Average production of wine.

It is impossible to tabulate the averages of all the Colonies, as in many instances the acreage under cultivation for wine-making purposes cannot be separated from young unproductive vineyards, or areas cultivated for table varieties of grape only. Making, however, due allowance for this fact, it would appear that the average production for the season 1891-92 was about 166 gallons in Western Australia, 160 gallons in South Australia, 170 gallons in Victoria, 237 gallons in New South Wales, and 247 gallons in Queensland. Taking an average year, the production for Australasia may be set down at 190 gallons. The average production in gallons per acre for other countries is shown by the following figures :—

Country.	Gallons per acre.	Country.	Gallons per acre.
Algeria	300	France	133
Cape Colony.....	220	Spain	130
Switzerland	210	Russia	130
Germany	185	Hungary	117
Portugal	175	Chili.....	100
Austria	152	Argentine Republic...	100
Servia	150	Italy	89
Roumania	150		
United States	140	Australia	190

Compared with the wine production of other countries, as given hereunder, that of Australia appears small, but the prospects of this industry are sufficiently promising to encourage a hope that the coming years will witness important developments :—

The World's production of wine.

Country.	Production in million gallons.	Country.	Production in million gallons.
Italy	715	Roumania	30
France	624	Turkey and Cyprus...	20
Spain	550	Chili	20
Hungary	100	United States	18
Austria	90	Switzerland	15
Portugal	90	Argentine Republic..	6
Germany	55	Cape Colony.....	6
Servia	45	Australia	4
Russia	40		
Algeria	40	Total	2,502
Greece	34		

The following table illustrates the progress of the Australian wine trade with Europe since 1881. The total value of this trade in 1891, it will be noticed, had grown to ten times what it was in 1881, while the number of gallons exported to Europe had increased over sixteen fold :—

Wine trade with Europe.

Colony.	1881.		1891.	
	Quantity.	Value.	Quantity.	Value.
	Gallons.	£	Gallons.	£
New South Wales	13,271	3,520	9,451	2,255
Victoria	5,588	2,341	136,213	24,727
Queensland	124	60	.....	.....
South Australia	2,859	580	226,587	38,630
Australasia.....	21,842	6,501	372,251	65,612

GROWTH AND MANUFACTURE OF SUGAR.

Including the trade of one province with another, as well as the foreign trade, the exports of each during the same years is shown as under :—

Colony.	1881.		1891.	
	Gallons.	£	Gallons.	£
New South Wales.....	22,377	7,233	54,143	11,644
Victoria	12,544	5,388	160,982	32,516
Queensland.....	124	60	.....	.....
South Australia.....	57,812	12,879	286,188	58,684
Australasia.....	92,857	25,560	501,313	102,844

Value of grape crop.

The total value of the grape crop, and the average return per acre for the year 1891 in the Australian Colonies, will be found below :—

Colony.	Total value of Crop.	Average value per acre.
	£	£ s. d.
New South Wales	211,510	25 10 10
Victoria	340,846	13 8 5
Queensland	29,251	14 14 3
South Australia	196,320	15 18 10
Western Australia	42,186	42 0 4
Australasia	820,113	17 1 3

SUGAR-CANE.

Sugar-cane plantations.

The growth of the cane and manufacture of sugar are important features in the industry of Queensland and New South Wales, but whilst the climate of the former Colony renders the employment of white labour in the field almost impossible, the plantations of the latter are worked without the assistance of coloured labour. The owners of Queensland plantations usually combine the functions of cane-growers and sugar manufacturers, but in New South Wales, where the numerous holdings are, as a rule, small in area, the cane is purchased from the planters principally by the Colonial

Sugar Refining Company, whose various crushing mills and refinery are fitted with machinery of the most modern character. The importation of coloured labour into Queensland has been renewed under stringent regulations to protect the Kanakas. The attempt made in 1891 by the planters to solve the difficult problem as to whether successful sugar-growing is compatible with the employment of white labour, by the introduction of Italian farm-labourers under contract to work in the sugar plantations for a number of years, was a failure. Japanese immigrants are now being introduced.

Coloured labour in Queensland.

The area under cane for the years specified below was :—

	1864.	1871.	1881.	1891.
	Acres.	Acres.	Acres.	Acres.
New South Wales	22	4,394	12,167	22,262
Queensland	94	9,581	28,026	50,948
Total	116	13,975	40,193	73,210

The progress of this industry has been very rapid, especially in Queensland, the area of suitable land being very large in that Colony. Some years ago sugar-growing was started on the Daly River, in the Northern territory of South Australia, but no statistics are available regarding acreage or production.

Progress of sugar-growing.

The area given includes all the cane planted, whether cut during the year or not. The following table shows the acreage actually cut during the last six years :—

	1886.	1887.	1888.	1889.	1890.	1891.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
New South Wales ...	5,915	8,380	4,997	7,348	8,344	8,623
Queensland	34,657	36,806	32,375	29,438	40,208	36,821
Total...	40,572	45,186	37,372	36,786	48,552	45,444

Acreage of cane actually cut.

The returns of the sugar industry, both for Queensland and New South Wales, are incomplete. In those of the former Colony the yield of cane per acre is not stated; and in the latter the production of sugar per ton of cane crushed is not given. As regards the latter it varies, of course, with the density of the juice, but in ordinary seasons it may be set down at something over 9 per cent.

Quantity of
sugar produced

The production of sugar from cane crushed for the last six years was as follows :—

	1886. Tons.	1887. Tons.	1888. Tons.	1889. Tons.	1890. Tons.	1891. Tons.
New South Wales ...	13,750	22,500	11,279	19,016	26,533	25,245
Queensland	56,859	57,960	34,022	44,411	68,924	51,219
Total	70,609	80,460	45,301	63,427	95,457	76,464

The figures in the foregoing are from the returns made by the mill-owners, and, possibly, as regards Queensland, somewhat understate the truth.

Australasian
imports of
sugar.

The net imports of sugar by each Colony for 1891 are shown in the subjoined table. Queensland was the only Colony that was able to supply sugar enough for its own requirements, and spare some for export. The surplus amounted to 40,856 tons valued at £630,612, which was mostly exported to the other Colonies, only 4,378 tons having been for foreign export. The following figures include the 36,478 tons from Queensland :—

	Quantity.	Value.
	Tons.	£
New South Wales	31,245	563,927
Victoria	54,043	875,450
South Australia	17,998	293,586
Western Australia	2,416	60,410
Tasmania	5,123	97,230
New Zealand	27,531	371,523
Australasia	138,356	2,262,126

The imports, therefore, amounted to 97,500 tons, valued at £1,631,514, of which only 91,225 tons, of the value of £1,419,129, can be traced to the original country of shipment, viz. :—

Country.	Quantity.	Value.
	Tons.	£
Mauritius	22,712	455,378
Fiji	18,271	208,311
Java	43,567	624,745
Hong Kong	118	2,136
Other countries	6,557	128,559
Total	91,225	1,419,129

The total value of the sugar crop, and the average return per acre, for the year 1891, in the sugar-growing Colonies of Australia, will be found below :—

Colony.	Value of Cane grown.	Average value per acre.
	£	£ s. d.
New South Wales	138,943	6 4 10
Queensland	281,705	7 13 0

TOBACCO.

The cultivation of the tobacco plant has received attention in the three eastern Colonies. The following table shows the area and production of tobacco for four decennial periods :—

Year.	New South Wales.		Victoria.		Queensland.		Australasia.	
	Acres.	cwt. of leaf.	Acres.	cwt. of leaf.	Acres.	cwt. of leaf.	Acres.	cwt. of leaf.
1861	224	2,647	220	2,552	..	.. .. .	444	5,199
1871	567	4,475	209	2,307	44	.....	910	0,782
1881	1,025	18,311	1,461	12,876	68	521	3,154	31,708
1891	880	9,314	545	2,579	790	7,704	2,221	19,597

Owing to over production, and the want of a foreign market, the area devoted to tobacco culture has greatly declined since 1888, when 6,341 acres were devoted to this industry, and 70,251 cwt. of leaf was grown. The Australasian tobacco leaf has not yet been prepared in such a way as to find acceptance abroad, and until such is accomplished it will be useless to expect the cultivation of the plant to become a settled industry. The soil and climate of Australia appear to be suitable for the growth of the plant, but sufficient care and skill have not been expended upon the preparation of the leaf. The quantity just mentioned as having been produced in 1888 was so greatly in excess of local requirements that very low prices only could be obtained, and a

Decline of the industry.

AVERAGE PRODUCTION OF TOBACCO.

large portion of the crop was left upon the growers' hands. The result was that many farmers abandoned the cultivation of tobacco, so that the area under this crop during 1889 was only 3,239 acres in New South Wales, and 955 acres in Victoria, producing respectively 27,724 cwt. and 4,123 cwt. of leaf—less than half the crop of the previous year. In 1891 the acreage showed a further decline to 886 acres in New South Wales, and 545 acres in Victoria, with a yield of 9,314 cwt. and 2,579 cwt. respectively. In Queensland, on the other hand, the acreage increased from 123 acres in 1888 to 540 acres in 1890 and 790 in 1891.

Average
production.

The average production of tobacco per acre for the year which closed with December, 1891, was :—

Colony.	Cwt.
New South Wales	10·7
Victoria	5·8
Queensland	8·1
New Zealand	5·3
Australasia	8·7

Tobacco cultivation in foreign countries.

This average is somewhat larger than that of countries where the plant is grown under like circumstances, but the cultivation in Australia is altogether too restricted to make any comparison with those countries valuable. The following table shows the production per acre in foreign countries :—

Country.	Cwt. per acre.	Country.	Cwt. per acre.
Russia	13·6	Turkey	7·8
Germany	12·3	Manilla, &c.	7·4
France	11·4	United States	7·0
Austria	9·3	Brazil	7·0
West Indies	8·8	India ..	5·9
Java	8·4		
Japan	8·0	Australia	8·7

The Agricultural Department of Queensland is endeavouring to assist the tobacco-growers by the importation of American seed of first quality, suitable to the Queensland climate. New Zealand also has commenced the cultivation of tobacco, but it is only so far in the condition of an experiment.

The following table shows the imports for home consumption of tobacco, cigars, and cigarettes into Australasia during 1891 :— Imports of tobacco, &c.

Colony.	Quantity.
	lb.
New South Wales	2,333,964
Victoria	2,002,202
Queensland	981,480
South Australia	815,062
Western Australia	287,002
Tasmania	278,183
New Zealand	1,482,176
Australasia	8,180,069

The total value of the tobacco crop and the average gross return per acre for the year 1891 in the Australasian Colonies are given below :— Value of the tobacco crop.

Colony.	Total value of Crop.	Average value per acre.
	£	£ s. d.
New South Wales	15,213	17 3 4
Victoria	5,158	9 9 3
Queensland	15,408	19 10 0
New Zealand	31	5 3 4
Australasia ..	35,810	15 8 0

As will be seen from the above table, in Queensland and New South Wales the returns are fairly comparative, but in Victoria they are very small, whilst the experimental stage of the industry in New Zealand gives no test of its possible value.

GARDENS AND ORCHARDS.

Cultivation of fruit.

The cultivation of fruit does not attract anything like the attention it deserves, although the soil and climate of large areas in all the provinces are well adapted to fruit-growing. Nevertheless, some progress has been made, especially of recent years. In 1891 the proportion of the total cultivation allotted to fruit was 2·1 per cent., while in 1881 the proportion was 1·5; the area per 1,000 persons in the first-named year was 36 acres; in 1881 it was 29·4 acres. Grapes, oranges, apples, pears, and peaches are the principal fruits grown, but with an unlimited area suitable for this class of cultivation, and the climatic conditions so varied, varying from extreme cold in New Zealand and the high lands of New South Wales and Victoria, to tropical heat in Queensland, a large variety of fruits could be cultivated, and the industry only languishes for want of sustained demand for fruit products. The area under orchards and gardens in 1881 and 1891 was:—

Colony.	1881.		1891.	
	Area.	Percentage to total area under Crops.	Area.	Percentage to total area under Crops.
	acres.		acres.	
New South Wales.....	24,565	4·3	40,116	4·7
Victoria	20,630	1·4	37,435	1·8
Queensland	3,262	2·8	9,758	4·0
South Australia.....	9,864	0·4	14,422	0·7
Tasmania	6,717	4·5	10,696	6·4
New Zealand.....	16,360	1·5	29,235	2·0
Australasia.....	81,398	1·5	141,662	2·1

Exportation of fruit.

With the extension of artificial irrigation, and the increased facilities of export by the adoption of the cool chambers for the preservation of fruit for long voyages the fruit growers of Australasia are now enabled to compete with foreign states in the fruit supply for the English market, which in 1891 was valued at over £8,000,000. The Tasmanian fruit trade with England has passed

the experimental stage, and every season large steamers visit Hobart to receive fruit for the home market.

The following table shows the import and export trade of each Colony in green fruit and pulp for 1891, from which it will be seen that with the exception of Tasmania all the other Colonies import considerably more than is exported :—

Colony.	Imports.	Exports of Domestic Produce.
	£	£
New South Wales	335,809	130,703
Victoria	319,859	33,329
Queensland	101,652	47,950
South Australia	45,011	35,387
Western Australia	10,214	.....
Tasmania	25,578	125,588
New Zealand	126,528	3,343
Australasia.....	964,651	376,600

The total value of the gardens and orchards crop, and the average returns per acre of this branch of agriculture in 1891 in each Colony, save Western Australia, were :—

Colony.	Total value of Crop.	Average value per acre.
	£	£ s. d.
New South Wales	487,548	12 2 1
Victoria	1,123,050	30 0 0
Queensland	259,170	26 11 2
South Australia.....	432,660	30 0 0
Tasmania.....	191,253	17 17 7
New Zealand.....	582,645	19 18 7
Australasia	3,076,326	21 14 3

The average returns per acre of gardens and orchards in each Colony have but little value for purposes of comparison, as much depends on the proportion of the areas under certain kinds of fruit, and under vegetable gardens, which would tend to raise or decrease, as the case may be, the general average returns per acre in certain provinces. In New South Wales, the smallness of the average is explained by the fact that in a great number of instances,

owing to a lack of facilities for disposing of the fruit crops, which is a source of complaint from the growers, the produce of the orchards did not reach the markets, and, in some cases, was not even gathered. In Tasmania and New Zealand, stone fruits are principally grown, the gross returns from which are much smaller than those obtained from the cultivation of grapes and sub-tropical fruits such as the orange, and citron, &c., which tend to increase the average returns in the continental and northern provinces.

MINOR CROPS.

Minor Crops.

Besides the crops already specifically noticed there are small areas on which are grown a variety of products, chiefly rye, bere, onions, beans, peas, turnips, mangel wurzel, pumpkins, melons, and hops, but none of these crops are sufficiently important to warrant a special notice. The area under such crops for each province in 1891 was:—

Colony.	Area.
	Acres.
New South Wales	7,617
Victoria	42,050
Queensland	6,232
South Australia	6,953
Western Australia	1,973
Tasmania	14,640
New Zealand	445,959
Australasia	525,424

Condition of
Agriculture in
the Colonies.

Although considerable progress has of late years been made in some directions, it must be admitted generally, that agriculture in the Australasian Colonies has scarcely passed the tentative stage. The typical Australian agriculturist, relying largely on a bountiful nature, does not exercise upon crops anything approaching the same patience, care, and labour that are bestowed by the European cultivator; nor, as a rule, does he avail himself of the benefits of scientific farming and improved implements to the extent that

prevails in America and Europe. It may be expected that improvements will take place in this respect and that the efforts made by the Governments of New South Wales, Victoria, and South Australia for the promotion of scientific farming, will bear good fruit. Agricultural colleges and model farms have been established in the three Colonies, and travelling lecturers are sent to agricultural centres.

IRRIGATION.

Originally cultivation in Australia was confined to the banks of the coastal rivers, and the country near the sea, and within the influence of regular rainfall. Now, however, that cultivation has spread beyond the coastal districts and the adjacent tablelands, into the interior of the continent, where the irregular character of the rainfall makes harvesting uncertain, irrigation has become necessary to insure successful husbandry. For some years past small areas have been irrigated by private enterprise; 29,343 acres were returned as irrigated in New South Wales during 1891, and in 1889 there were 24,574 acres irrigated in Victoria. Necessity for irrigation.

A few years ago a special Act was passed by the Victorian Legislature, enabling the Government to hand over to the firm of Chaffey Brothers an area of 250,000 acres of mallee scrub, situated at Mildura, in the Swan Hill district, about 340 miles north-west of Melbourne. The land was then uninhabited and practically valueless. Now it has grown into a flourishing Colony, with about 3,000 inhabitants. The Act obliged the promoters to spend £35,000 on the land within the first five years, but they actually expended £275,000 within less than four years, and have thus become entitled to the freehold of 40,000 acres, holding the balance of the 250,000 acres on lease. In addition to the sum mentioned it is estimated that the settlers have spent at least £100,000 in improving the land. Mildura.

The raisin industry is so far the leading one at Mildura, but all kinds of fruit grow to perfection, and out of 6,500 acres cultivated no less than 6,000 acres are orchards and gardens. Production of raisins.

Irrigation in
Victoria.

A number of irrigation trusts have been formed in Victoria, and extensive works constructed in various districts, chiefly on the Goulburn, Loddon, Wimmera, and Avoca Rivers.

Irrigation in
New South
Wales.

In New South Wales matters are in a more backward state. The water conservation branch attached to the Department of Works is at present engaged in obtaining sufficient hydrographical data to form the basis of a scheme of irrigation for vast areas in the vicinity of the Murray, Murrumbidgee, Lachlan, Macquarie, and Darling Rivers.

Mulgoa.

A company of capitalists has also commenced operations under what appears to be great promise of success, and has secured an area of about 20,000 acres in the Mulgoa district, within a distance of 30 miles of the metropolitan market. The soil consists chiefly of a rich friable loam, but the district suffers from an unequal rainfall. An Act, passed by the New South Wales Legislature in 1890, gives the right to tap the Nepean, and if necessary the Warragamba River, for the purpose of irrigating this area, and it is proposed to devote the land chiefly to the cultivation of vines and fruit-trees.

Renmark.

In October, 1888, the firm of Chaffey Brothers commenced operations in South Australia, at a place called Renmark, situated on the river Murray, close to the boundary of New South Wales, and about 70 miles below Mildura, where an area of 250,000 has been set apart for irrigation purposes, and although Renmark has not progressed so rapidly as Mildura, it promises in time to become an important settlement.

ARTESIAN WELLS.

Underground
Water Supply.

The necessity of providing water for stock in the dry portions of the interior of the Australian Continent, induced the various Governments to devote certain funds for the purpose of sinking for water and bringing to the surface such supplies as might be obtained from the underground sources which geologists stated to exist in the tertiary drifts and the cretaceous beds which extend under an immense portion of the area of Central Australia, from

the Western districts of New South Wales to a yet unknown limit into Western Australia.

In New South Wales the question of the existence of under-ground waters had long been a subject of earnest discussions, but doubts were set at rest in 1879 by the discovery, on the Killara Run, at a depth of 140 feet, of an artesian supply of water which rose 26 feet above the surface. The Government undertook the work of searching for water, and since the year 1884 the sinking of artesian wells has proceeded in a scientific and systematic manner, under the direction of specially trained officers. Private enterprise, which had shown the way, has also followed up its first successes. It has been ascertained from official sources that contracts have already been let by the Government of New South Wales for the sinking of fifty-two wells; of these, nineteen have been completed, nine are in progress, and the others will shortly be commenced. From the completed wells a total of about 5,000,000 gallons of water flow every day to the surface; at the Mongulla bore and at the Native Dog bore the daily supply reaches respectively 1,750,000 and 1,500,000 gallons. But these are far from being the most successful artesian wells in New South Wales, for some wells sunk by private enterprise have tapped much larger supplies; the Coomburrah well, for instance, has a daily flow of 5,000,000 gallons, and those at Leila Springs, Tinenburrah, Lissington, Briwara, &c., give aggregate flows exceeding 2,000,000 gallons of water per diem. A better idea of the importance of these wells to the community will be obtained when it is known that the aggregate flow of under-ground water brought to the surface since the year 1884 reaches the enormous quantity of over 40,000,000 gallons of water in New South Wales alone.

The Queensland Hydraulic Engineer reports that in the year 1891 eleven bores had been successfully completed by private contractors on Government account, the more remarkable being that at Charleville, where a daily supply of 3,000,000 gallons was struck at a depth of 1,370 feet. The number of private bores is

given at ninety-one, of which seventy-five were successfully sunk ; in some cases, however, the supply is sub-artesian, and has to be pumped to the surface. The largest daily supply was yielded by the well at Burrumbilla, where a flow of 4,000,000 gallons was struck at a depth of 1,811 feet ; on the Noorama Run there are three wells yielding, respectively, 3,456,000 gallons, and 1,500,000 gallons. Several other wells yield over 1,000,000 gallons of water per diem, and the aggregate flow from artesian sources in Queensland, at the date of this report was about 46,000,000 gallons per day.

South Australia. In South Australia a number of bores have been put down with success in widely distant parts of the territory, and an essay was made on the Great Australian Bight, which resulted in a supply being struck on the Nullarbor Plain, at a depth of 777 feet, yielding 68,000 gallons per diem, the supply is, however, sub-artesian ; other wells have been sunk since with better results, the water rising to the surface in several instances. The most successful wells, however, are situated in the central portion of the territory, those at Hergott Springs, Coward, Strangways, and Mungamurtree, giving supplies of 50,000 to 1,200,000 gallons per diem.

Western Australia.

The Government of Western Australia, following the example set by those of the Eastern Colonies, has lately entered into contracts for the sinking of a line of wells in the direction of the South Australian Border.

Victoria.

In the province of Victoria the Government have since the year 1886, spent a sum of £42,700 in experimental borings, but, so far, the results have not been encouraging. Artesian water has, however, been struck at Sale, in Gippsland, where the first artesian well was bored, in the year 1880, and also lately at Mordialloc.

The fears so long entertained that the search for underground water might prove unsuccessful have now been dissipated by the results already attained, and both private firms and the State are emulating each other in extending their operations throughout the arid portions of the continent, meeting generally with the most pronounced success.