

CHAPTER XIX.

FORESTRY.

§ 1. Forestry.

1. **General.**—Economic forestry aims at the preservation and development of existing forest areas by safeguarding against fire and other destructive agencies, by expert supervision of the removal of timber, by judicious thinning, and by re-afforestation of denuded areas with suitable new growths of local or exotic origin. It provides also for the continuance of an indispensable form of national wealth by the afforestation of available bare lands adapted to the growth of various timbers. Though large areas of virgin forests still remain in Australia, the inroads made by timber-getters, by agriculturists, and by pastoralists—who have destroyed large areas by “ring-barking”—are considerable, and it is not unlikely that climatological changes are caused thereby. It is stated that beneficial consequences follow on the planting of trees on denuded lands, or along eroding coasts, and that a forest-covering beneficially regulates the effects of rainfall.

Successful planting of exotics in various parts of Australia has demonstrated that the climate is suitable for the cultivation of a large number of the most valuable and beautiful of the world's timber trees.

2. **Extent of Forests.**—(i) *Australia.* Although no definite survey of forest lands has been made on a uniform basis for the different States of Australia, the following table gives the results of careful estimates made for each State:—

ESTIMATED FOREST AREA—AUSTRALIA, 1922.

State.	Total Forest Area.	Percentage of Total Area.
	Acres.	%
New South Wales	11,000,000	5.54
Victoria	8,000,000	14.22
Queensland	24,000,000	5.59
South Australia	3,800,000	1.56
Western Australia	16,494,000	2.64
Tasmania	5,760,000	34.33
Total	(a) 69,054,000	3.63

(a) Excluding Northern Territory.

(ii) *Comparison with other Countries.* The absolute and relative forest areas of Australia and other countries are shown below :—

FOREST LANDS.—RELATIVE AREAS, VARIOUS COUNTRIES.

Country.	Total Wooded Area.	Percentage on Total Area.	Country.	Total Wooded Area.	Percentage on Total Area.
	Sq. Miles.	%		Sq. Miles.	%
United States ..	733,594	24.24	France	38,172	17.95
Russia (Europe) ..	601,852	36.31	Poland	32,781	21.99
Canada (a) ..	390,625	10.47	Norway	27,434	21.95
India (British) ..	250,949	22.96	Rumania	26,436	21.62
Argentine Republic	162,623	14.10	Spain	18,965	9.74
Australia	107,897	3.63	Italy	18,088	16.35
French Indo-China	96,523	37.58	Czecho-Slovakia ..	17,996	33.17
Sweden	91,666	52.98	New Zealand	17,969	17.30
Japan	71,923	27.53	Austria	11,795	38.34
Germany	49,469	26.96	United Kingdom	4,662	3.83
Finland	48,988	32.75			

(a) In addition, the pulpwood forests of Canada are estimated at 541,791 sq. miles.

3. *Distribution.*—The characteristics of the forest areas are given in some detail for each State in Official Year Book No. 6, pp. 446-9. The more conspicuous timber regions of Australia as a whole are the eastern and southern portions, including Tasmania, and the south-western portion northwards and eastwards from Cape Leeuwin. In regard to distribution, on the eastern side of the continent the largest timber is found on the crests and coastal slopes of the mountain ranges, but in the south-west, in addition to the vegetation between mountains and sea, a large area of forest stretches inland from the coastal ranges. The hills encircling Adelaide and Yorke and Eyre Peninsulas also bear good forest. The Kimberley district is timbered, and in the Northern Territory and round the shores of the Gulf of Carpentaria there are considerable forest areas. In the coastal regions of parts of West and North-West Australia, and along the shores of the Great Australian Bight and Encounter Bay, there is little forest. The areas in the centre of the continent are thinly timbered.

Special articles relating to Australian Eucalyptus timbers and the chemical products of Eucalyptus will be found in Official Year Book No. 10, pp. 85-98.

§ 2. Forestry Departments.

1. *Functions.*—Each State has organized a separate Department or Commission specially charged with the control and management of the State forests and timber reserves. Extensive survey work is carried on with a view to the classification of forest lands and the proclamation of State forests. The forests are improved by systematic cutting and silvicultural treatment, by judicious thinning and ringbarking, and by the making of roads and the establishment of fire-breaks, together with the removal and destruction of debris, and stunted, diseased and suppressed growth. Provision is made for effective patrols in forest districts to check the ravages caused by fire, often due, it is believed, to carelessness. The training of forest officers, the conduct of research work, and the collection of forestry statistics are also undertaken.

2. *Forest Reservations.*—At the Interstate Conference on Forestry, held at Hobart in 1920, the forestry authorities of the various States estimated that to meet the future

requirements of Australia an area of 24,500,000 acres of indigenous forest lands will be necessary, this estimate being based on the following distribution among the States:—

		Acres.	
New South Wales	8,000,000	Western Australia	3,000,000
Victoria	5,500,000	Tasmania	1,500,000
Queensland	6,000,000		
South Australia	500,000	Total	24,500,000

Having been endorsed by the Premiers' Conference held later in the same year, this area has been adopted as the Australian forest ration towards which the authorities are now aiming for permanent reservation. The progress made in the various States to the end of June, 1923, is set out in the following table:—

AREA OF FOREST RESERVATIONS, 30th JUNE, 1923.

Particulars.	N.S.W.	Vic.	Q'land. (a)	S. Aust.	W. Aust.	Tas.	Total.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Dedicated State forests ..	5,315,689	3,401,738	1,410,364	203,258	52,389	29,199	10,412,637
Timber reserves	1,561,270	747,281	2,972,697	..	859,266	1,695,985	7,836,499
National parks	..	..	153,540	..	..	..	153,540
Total ..	6,876,959	4,149,019	4,536,601	203,258	911,655	1,725,184	18,402,676

(a) 31st December, 1922.

The area of State forests reserved in perpetuity amounted in June, 1923, to 10,412,637 acres, or 42 per cent. of the quota adopted for Australia, while the timber reserves, which may be cancelled at any time, embraced an area of 7,836,499 acres, making—with the addition of the Queensland National Parks—a total area of nearly 18,500,000 acres under the control of the Forestry Departments. Of this area a considerable proportion consists of inaccessible mountainous country and cut-over lands, while the Australian quota recommended refers to merchantable forest only. The foresters of Australia are, therefore, faced with a difficult task in improving and preserving the existing forests, and in securing the reservation of further suitable forest country to ensure a permanent supply of accessible timber.

3. *Sylvicultural Nurseries and Plantations.*—Recognition of the necessity for systematic sylviculture has led to the creation in all of the States of a number of sylvicultural nurseries and plantations. The locality of these establishments, together with a brief statement of the nature of their activities, is given in previous issues of the Year Book. (Reference may be made to Official Year Book No. 6, pp. 451-3.) Details regarding forest nurseries and plantations are given hereunder:—

SYLVICULTURAL NURSERIES AND PLANTATIONS, 1922-23.

Particulars.	New South Wales.	Victoria.	Q'land.	South Australia.	Western Australia.	Tasmania.	Total.
State Forest Nurseries—							
Area (acres)	29	40	10	30	17	8	134
Plantations—							
Area planted during year .. (acres)	1,625	1,161	381	866	379	..	4,412
Area of effective plantations .. (acres)	5,100	13,508	1,612	25,580	1,559	..	47,359
Number of persons employed in Forestry Departments—							
Administrative	31	26	24	1	1	1	94
Professional	5	5	40	1	6	5	62
General	227	111	213	150	98	7	806

4. Revenue and Expenditure.—The revenue and expenditure of the State Forestry Departments from 1918-19 to 1922-23 are given below :—

FORESTRY DEPARTMENTS.—REVENUE AND EXPENDITURE, 1918-19 TO 1922-23.

State.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
REVENUE.					
	£	£	£	£	£
New South Wales	97,592	147,041	190,742	217,841	168,698
Victoria	57,731	67,298	95,517	155,160	163,076
Queensland	71,985	100,584	145,802	220,950	267,816
South Australia	23,880	22,003	23,872	11,234	8,362
Western Australia	41,015	45,278	53,617	88,529	87,658
Tasmania	3,860	7,340	20,444	18,891	19,346
Total	296,063	389,544	534,994	712,605	714,956
EXPENDITURE.					
	£	£	£	£	£
New South Wales	121,162	134,997	179,540	186,588	137,108
Victoria	60,193	64,213	71,386	130,076	138,714
Queensland	21,877	35,158	72,718	201,865	158,618
South Australia	21,968	26,404	33,924	36,467	40,822
Western Australia	23,656	15,331	27,632	47,885	38,827
Tasmania	1,204	1,433	2,621	7,069	8,293
Total	250,060	277,536	387,821	609,950	522,382

5. Instruction in Scientific Forestry.—Several schools have been established in which, while general scientific instruction is imparted, special attention is paid to forestry. In the classes, theoretical forestry, botany, geology, physics, land surveying, etc., are taught; while in outside work trainees receive practical instruction in the preparation of seed-beds, seed-sowing, propagation, planting out, pruning, the general care and improvement of plantations and natural forests, and the employment of timber to the best advantage. Courses of lectures are also given at various centres, and, at some of the higher technical schools, members of the forest staffs are afforded opportunities of qualifying in special subjects. Methods of training, etc., are not uniform in the various States, and one of the prime objects of a Conference held in 1916 was the evolution of a system which, while aiming at uniformity, would be sufficiently elastic to provide for special needs in any State.

6. Forest Congresses.—Interstate Conferences on Forestry were held in 1911 and 1912, chiefly with a view of securing uniformity of management. An International Forest Congress was held at Paris in June, 1913, when a Professor of South Kensington Imperial College represented the Commonwealth Government. The papers and reports dealt chiefly with the threatened shortage of timber, and the measures necessary to avert the danger. An Imperial Forestry Conference was held in London in the summer of 1920, at which also Australia was represented. Important Interstate Forestry Conferences were held in Adelaide in May, 1916; at Perth in November, 1917; at Hobart in April, 1920, and at Brisbane in April, 1922.

§ 3. Production.

1. **Timber.**—Estimates of the quantity and value of local timber sawn and hewn in each State are given hereunder :—

LOCAL TIMBER SAWN AND HEWN, 1918-19 TO 1922-23.

State.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	1,000 sup. feet.	1,000 sup. feet.	1,000 sup. feet.	1,000 sup. feet.	1,000 sup. feet.
New South Wales ..	131,617	155,114	156,112	143,593	147,108
Victoria ..	91,540	99,142	113,215	112,008	118,336
Queensland (a) ..	118,436	144,389	136,005	112,987	126,088
South Australia ..	6,223	6,178	5,598	3,398	1,187
Western Australia (a) ..	83,881	121,685	131,271	163,991	149,158
Tasmania (a) ..	46,481	54,291	59,047	54,518	45,564
Total ..	477,178	580,799	601,248	590,495	587,441

(a) Year ended 31st December.

2. **Other Forest Products.**—(i) *Eucalyptus Oil.* Oil may be distilled from the foliage of all varieties of eucalyptus and several of them furnish a product widely known for its commercial and medicinal uses. Complete information regarding Australian production and consumption of eucalyptus oil is not available, but large quantities are manufactured, particularly in Victoria. Oversea exports amounted in 1920-21 to £107,000, in 1921-22 to £24,000, and in 1922-23 to £33,990, the bulk of the product being forwarded to the United Kingdom and the United States.

(ii) *Tan Barks.* The forests of Australia contain a wealth of tanning materials, all the eucalypts being capable of furnishing a percentage of tannin. For many years tan bark has been obtained in Australia from the golden, and the black or green wattle, but this source of supply has been largely depleted by the gradual destruction of the trees, and the bark is now imported from Natal where the plantations were originally started from Australian seed. In addition to the wattle bark, a valuable tan bark is obtained from the mallet (*E. occidentalis*) of Western Australia. Its exploitation has, however, been so rapid that the available supply is now comparatively small. An investigation of the resources in tanning materials of Western Australia recently completed by the Institute of Science and Industry proved that barks of common trees such as karri, gimlet and ridge-gum, formerly regarded as waste materials, are rich in tannin and excellent tanning agents. Investigations in the other States would probably reveal additional sources of supply. In Western Australia, moreover, there are extensive areas of red-gum which exudes considerable quantities of a kino (gum) possessing a very high percentage of tannin. This material has not been very largely used, however, owing to the red colour it imparts to the leather, but this disadvantage has been overcome by the Institute of Science and Industry, which has applied for a patent covering the preparation of the tan solution from raw kino. The production of tan bark in Australia is estimated at about 30,000 tons per annum.

3. **Value of Production.**—Though the valuation of the quantity of firewood consumed in Australia presents serious difficulty, an estimate of the total value of forest production is annually compiled with the following results for the past five years :—

VALUE OF FOREST PRODUCTION.—AUSTRALIA, 1918-19 TO 1922-23.

Production.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Total ..	5,882,000	8,631,000	8,877,000	8,998,000	9,344,000

§ 4. Commercial Uses of Principal Australian Timbers.

1. **General.**—The uses of the more important Australian timbers are many and various, and are indicated in previous issues of this work. (See Official Year Book No. 6, pp. 454–6; and Official Year Book No. 10, Section III., § 7 and 8.)

The Commonwealth Government utilizes Australian woods for rifle stocks, telephone switch boards, aeroplane parts, etc. Queensland maple (*Flindersia chatawaiana*) is largely used for rifle stocks, and coachwood is available for the same purpose. Australian timber is also seasoned and stored, depots having been established by the Commonwealth Government at Canberra and Newington in New South Wales, and at Maribyrnong in Victoria; by State Governments at the principal centres; and by private enterprise as required.

2. **Lack of Uniformity in Nomenclature.**—Unfortunately the vernacular names applied to the gums, ironbarks, etc., in the various States, and even in different parts of the same State, do not always refer to identical timbers. The resulting confusion has not only been productive of loss, but it has, to some extent, prejudicially affected the timber trade. This subject is referred to at some length in the special article "Australian Eucalyptus Timbers," in Section III., § 7 and 8, in Official Year Book No. 10. At the 1916 Forestry Conference alluded to above, the matter came up for special consideration, and steps were taken to establish a uniform nomenclature.

§ 5. Oversea Trade.

1. **Imports.**—(i) *Dressed Timber.* The quantity and value of timber imports into Australia during the four years 1919–20 to 1922–23 inclusive are shown according to countries of origin in the following tables:—

DRESSED TIMBER.—IMPORTS, AUSTRALIA, 1919–20 TO 1922–23.

Country of Origin.	Quantity.				Value.			
	1919–20.	1920–21.	1921–22.	1922–23.	1919–20.	1920–21.	1921–22.	1922–23.
	sup. ft.	sup. ft.	sup. ft.	sup. ft.	£	£	£	£
United Kingdom	105,970	4,750	230	625	584	34	21	33
Canada	348,385	2,285,721	1,761,394	4,119,889	3,557	36,750	15,218	44,113
India	..	19,530	200	..	..	3,055	1	..
Other British Countries	1,350	200	3,982	2,995	20	1	54	124
Norway	9,433,921	34,241,593	13,794,952	49,971,566	201,593	808,562	242,092	724,507
Sweden	4,251,630	12,883,503	9,094,263	30,299,618	87,779	325,864	120,127	421,307
United States	67,438	1,712,904	2,508,918	7,196,660	2,838	34,599	34,189	63,998
Other Foreign Countries	..	2,329	6,059	67,307	109	421	1,998	6,468
Total	14,211,023	51,154,260	27,231,846	92,088,449	296,480	1,209,286	413,700	1,260,550

The figures in the table above are exclusive of items such as architraves, veneers, etc., quantities for which are either not shown, or are expressed in dissimilar units in the Customs entries. The total value of the items so excluded amounted to £87,274 in 1922–23, including plywood, veneered or otherwise, £68,752.

The bulk of the imports of dressed timber comes from Norway, Sweden, and the United States. Practically the whole of this timber consists of softwoods—deal and pine—used for lining, weatherboards, flooring, shelving, doors, box-making, etc.

(ii) *Undressed Timber.* Australian imports of undressed timber for the latest available four years are given hereunder:—

UNDRESSED TIMBER, INCLUDING LOGS (b).—IMPORTS, AUSTRALIA, 1919-20 TO 1922-23.

Country of Origin.	Quantity.				Value.			
	1919-20.	1920-21.	1921-22.	1922-23.	1919-20.	1920-21.	1921-22.	1922-23.
	sup. ft.	sup. ft.	sup. ft.	sup. ft.	£	£	£	£
United Kingdom	33,861	205,546	7,179	28,736	1,803	4,929	259	1,216
Canada ..	5,766,395	12,361,386	17,679,952	43,548,208	90,882	181,072	174,878	314,978
India ..	129,395	639,964	24,382	62,909	8,022	62,094	482	769
Malaya (British)	817,675	400,625	226,145	237,433	8,147	5,890	1,944	2,057
New Zealand ..	56,470,627	61,548,649	49,038,544	42,822,742	673,922	879,960	660,824	533,962
Other British Countries ..	802,860	1,234,127	1,854,686	1,699,662	8,504	10,452	13,852	14,471
Japan ..	6,362,400	5,727,148	3,943,538	6,116,548	188,823	210,152	86,686	130,550
Java ..	578,538	a 1,925,464	a 1,051,820	a 884,416	6,436	a 28,337	a 6,753	a 8,097
Norway ..	44,600	117,142	339,185	406,720	836	2,390	14,290	5,761
Sweden ..	165,934	2,114,819	816,902	3,220,682	2,609	52,507	10,669	44,012
United States ..	70,976,919	104,085,707	98,849,251	169,636,426	1,069,341	2,048,517	968,259	1,665,312
Other Foreign Countries ..	1,059,665	2,097,200	2,668,107	3,871,076	19,781	37,845	40,962	69,751
Total ..	143,208,872	192,457,777	176,499,691	272,535,558	2,078,906	3,524,145	2,009,853	2,790,936

(a) Including other Dutch East Indian possessions.

(b) Exclusive of timber not measured in super. feet.

By far the larger proportion of the undressed timber imports also consists of softwoods such as yellow pine, redwood, and oregon from the United States and Canada; kauri, rimu, and white pine from New Zealand; pine from Japan, and (prior to the war) red deals from Russia, Norway, and Sweden. Amongst the hardwoods imported, the principal are oak from the United States of America and Japan, and teak from India.

2. *Exports.*—The quantity and value of undressed timber exported from 1918-19 to 1922-23 are given below, the countries of destination being also shown:—

UNDRESSED TIMBER, INCLUDING LOGS (a).—EXPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Country to which Exported.	Quantity.					Value.				
	1918-19	1919-20	1920-21	1921-22	1922-23	1918-19	1919-20	1920-21	1921-22	1922-23
	1,000 sup. ft.	1,000 sup. ft.	1,000 sup. ft.	1,000 sup. ft.	1,000 sup. ft.	£	£	£	£	£
United Kingdom	536	375	18,078	8,824	5,731	4,458	4,617	181,451	116,017	75,556
Canada ..	103	59	32	136	41	2,364	1,405	912	3,030	866
Ceylon ..	..	1,567	340	6,203	1,898	..	10,448	3,316	61,759	19,392
Egypt ..	..	2,171	6,890	402	1,981	..	14,472	55,800	4,696	19,963
Hong Kong ..	188	276	395	462	334	2,197	2,969	4,934	6,580	3,883
India ..	100	467	10,220	9,161	2,672	650	3,500	83,650	91,358	28,468
Malaya (British)	20	..	2	2	176	..	135	..	24	5,045
Mauritius ..	..	458	1,834	2,706	2,367	..	2,342	22,014	50,591	24,546
New Zealand ..	5,533	12,431	25,354	23,874	24,845	81,276	170,730	459,597	358,960	324,052
Pacific Islands—										
Fiji ..	428	742	1,011	845	664	4,490	11,224	17,236	12,604	10,307
Territory of New Guinea	41	226	158	95	157	906	4,254	4,254	2,401	2,883
Other Islands	272	665	896	586	474	4,157	13,763	20,684	12,597	8,339
Papua ..	99	140	189	99	217	1,877	3,155	10,990	2,391	3,814
South African Union ..	10,931	32,437	34,935	37,261	42,370	75,358	234,657	353,434	395,026	472,564
Belgium ..	..	1	2,597	1,766	595	..	24	24,897	18,790	5,949
China ..	..	760	3,420	1,939	3,149	..	5,996	39,682	19,798	27,418
Japan ..	105	355	625	128	173	2,276	6,921	8,360	2,478	2,169
Pacific Islands—										
New Caledonia	92	155	55	51	32	1,502	3,081	1,600	1,234	538
Other Islands	225	85	140	62	63	3,373	1,689	3,648	1,426	1,329
U.S. of America	2,189	275	668	469	439	41,867	6,588	17,466	12,550	11,196
Other Foreign Countries ..	72	5	380	303	122	1,503	43	6,126	4,417	1,865
Total ..	20,934	53,647	108,217	96,394	88,500	228,389	502,881	1,325,083	1,178,725	1,050,142

(a) Exclusive of timber not measured in super. feet.

As the table shows, the bulk of the exports of undressed timber was consigned to South Africa, New Zealand, and the United Kingdom, and consisted of Australian hardwoods, which have earned an excellent reputation for such purposes as railway sleepers, harbour works, wood paving, etc. There was a notable increase in the quantity supplied to the United States of America in the later war years.

3. Classification of Imports and Exports.—(i) *General.* The quantities of timber classified according to varieties imported and exported during the year 1922-23 are given in the next table:—

TIMBER, VARIETIES IMPORTED AND EXPORTED.—QUANTITIES, AUSTRALIA, 1922-23.

Description.	Unit of Quantity.	Imports.	Exports.	Excess of Imports over Exports.
Dressed	sup. ft.	92,088,449	388,445	91,700,004
Undressed, including logs	"	272,535,558	88,499,562	184,035,996
Architraves, mouldings, etc.	lin. ft.	840	155,552	—154,712
Plywood, veneered or otherwise	sq. ft.	3,781,264	(b)	(b)
Palings	No.	..	352,802	—352,802
Pickets	"	87,000	..	87,000
Shingles	"	2,796,855	..	2,796,855
Staves—				
Dressed, etc.	"	32,717	12,859	19,858
Undressed	"	1,651,968	80	1,651,888
Laths—				
For blinds	"	(a)	(a)	(a)
Other	"	47,897,734	260,170	47,637,564
Doors	"	10,890	(a)	(a)
Wood pulp	ton.	8,952	(b)	(b) 8,952
Veneers	—	(a)	(b)	(b)
Spokes, rims, felloes, hubs.	—	(a)	(a)	(a)
Other	—	(a)	(a)	(a)

(a) Quantity not available.

(b) Exports not recorded separately.

NOTE.—The minus sign — denotes an excess of exports.

Similar particulars relative to the values of imports and exports during the year 1922-23 are shown hereunder:—

TIMBER, VARIETIES IMPORTED AND EXPORTED.—VALUES, AUSTRALIA, 1922-23.

Description.	Imports.	Exports.	Excess of Imports over Exports.
	£	£	£
Dressed	1,260,550	8,895	1,251,655
Undressed, including logs	2,790,936	1,050,142	1,740,794
Architraves, mouldings, etc.	6	1,483	—1,477
Plywood, veneered or otherwise	68,752	(b)	(b) 68,752
Palings .. .. .	..	4,065	—4,065
Pickets	870	..	870
Shingles	6,271	..	6,271
Staves—			
Dressed, etc.	3,158	938	2,220
Undressed	14,514	2	14,512
Laths—			
For blinds .. .. .	..	316	—316
Other	92,772	752	92,020
Doors	9,747	595	9,152
Wood pulp	138,750	(b)	(b) 138,750
Veneers	9,041	(b)	(b) 9,041
Spokes, rims, felloes, hubs.	12,086	7,002	5,084
Other	1,033	..	1,033
Total	4,408,486	1,074,190	3,334,296

NOTE.—The minus sign — denotes an excess of exports.

(b) Exports not recorded separately.

(ii) *Sandalwood*. A considerable amount of sandalwood is annually exported, principally from Western Australia to China, where it is highly prized, and largely used for artistic and ceremonial purposes.

SANDALWOOD.—EXPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Country to which Exported.	Quantity.					Value.				
	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	ton.	ton.	ton.	ton.	ton.	£	£	£	£	£
United Kingdom ..	..	20	1	4	..	..	385	110	267	2
Hong Kong ..	6,225	9,363	6,495	3,334	4,657	92,518	174,659	111,730	57,714	66,460
India ..	121	98	424	333	489	1,573	1,860	7,736	6,144	8,131
Malaya (British) ..	1,699	4,081	1,793	228	352	22,063	71,522	35,191	3,935	5,322
Other British Countries ..	1	..	..	2	2	15	..	..	36	30
China ..	1,474	1,300	2,419	575	2,419	18,767	18,307	39,798	7,611	30,876
Other Foreign Countries ..	271	35	7	6	..	4,009	626	136	128	3
Total ..	9,791	14,897	11,139	4,482	7,899	138,945	267,359	194,701	75,830	110,824

(iii) *Tan Bark*. Tan bark figures both as an export and import in the Australian trade returns, as the following tables show. The first table refers to exports :—

TAN BARK.—EXPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Country to which Exported.	Quantity.					Value.				
	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	cwt.	cwt.	cwt.	cwt.	cwt.	£	£	£	£	£
United Kingdom ..	1,220	3,700	360	1	12	860	2,561	202	1	3
New Zealand ..	27,320	60,900	58,360	17,047	12,718	13,801	37,616	39,356	11,927	8,299
Other British Possessions ..	..	..	100	..	309	..	..	88	..	194
Foreign Countries ..	60	7,780	8,400	822	4,490	14	4,050	7,084	534	2,220
Total ..	28,600	72,380	65,220	17,870	17,529	14,675	44,227	46,730	12,462	10,716

Prior to the war there was a fairly considerable export of tan bark to Germany and also to Belgium. The exports westward have naturally dwindled away, and at the present time New Zealand receives the largest share of the available export, while there is also some trade with Japan, China, and Java. During recent years the largest proportion of the exports consisted of wattle bark from Tasmania, Victoria and New South Wales.

A comparison of the imports and exports of tan bark during the last five years is given in the next table :—

TAN BARK.—IMPORTS AND EXPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Particulars.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	cwt.	cwt.	cwt.	cwt.	cwt.
QUANTITIES—					
Imports	102,480	78,800	48,100	34,328	93,769
Exports	28,600	72,380	65,220	17,870	17,529
Excess of exports over imports ..	- 73,880	- 6,420	17,120	- 16,458	- 76,240
VALUES—					
	£	£	£	£	£
Imports	43,319	33,733	20,002	15,954	37,349
Exports	14,675	44,227	46,730	12,462	10,716
Excess of exports over imports ..	- 28,644	10,494	26,728	- 3,492	- 26,633

NOTE.—The minus sign — denotes excess of imports.

The imports consist almost exclusively of wattle bark from the plantations in South Africa. One variety of Australian wattle is found to flourish in the sandy belts near the coast, but it is the *Acacia decurrens*, var. *mollis*, which is chiefly relied upon for the production of wattle bark in the South African plantations. Seed has been tried from New South Wales, Tasmania, and Victoria, but it is stated that most of the seed is obtained from the best wattle bark areas in eastern Tasmania and western Victoria.

Two reasons are given to account for the success of the industry in South Africa. (a) It is found that the treeless, grassy highlands of Natal are specially suitable for wattle culture, and the trees can therefore be grown in rows and economically attended to, while the necessary bark sheds and other appurtenances can be placed in the most advantageous positions. (b) There is an abundance of cheap and efficient Hindu labour available for employment on the plantations.