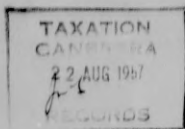


COMMONWEALTH BUREAU OF CENSUS AND STATISTICS, CANBERRA,
AUSTRALIA.

MANUFACTURING INDUSTRIES. 1955-56.



No. 28. PULP AND PAPER MAKING.



PREPARED UNDER INSTRUCTIONS FROM
THE RIGHT HONORABLE THE TREASURER,
BY
S. R. CARVER,
ACTING COMMONWEALTH STATISTICIAN.

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2021.

P A R E F A C E

1. GENERAL: The Bulletins in the series for 1955-56 are listed on the back of the cover of this Bulletin and incorporate the same range of industries as the 1954-55 series.

Where a number of industries are combined in one Bulletin the introductory paragraph on Page 3 specifies the industries so included.

2. CLASSIFICATION OF FACTORIES: For purposes of industry classification, factories in Australia are classified according to the nature of their product. Where two or more distinct types of industrial activity are carried on in one establishment, a separate return is obtained, wherever practicable, for each activity in order to allow classification on this basis. In cases where this is not practicable, factories are classified according to predominant activity and these cases are encountered most frequently in the Metal Trades, (e.g. General Engineering firms also producing Agricultural Implements or Stoves, etc.), and to a lesser degree in factories concerned with Skins, Leather, Clothing and Wood products.

Each of the summaries in the "Manufacturing Industries" series relates, generally, to the operations of factories classified to the industry specified. Figures shown in the quantity tables herein represent total recorded production of the articles listed and include quantities produced, as subsidiary production in industries otherwise classified.

3. BASIS OF THE STATISTICS: The scope of the factory statistics is fully explained in the annual Secondary Industries Bulletin.

Briefly, a "factory" is defined as an establishment in which four or more persons are employed or where power (other than manual) is used in any manufacturing process. It should be noted that details relating to small establishments not classified for statistical purposes as factories are not included in the figures shown herein.

All persons employed in the manufacturing activities of the factory are counted as factory employees. The figures relating to employment, therefore, exclude all those engaged in selling and distribution, such as salesmen, travellers, collectors, carters engaged solely on outward delivery of manufactured goods, and retailing storemen. The figures, however, do include proprietors who work in their own businesses as well as "out-workers".

The value of materials used includes the value, in the usual sense, of the materials used, stores used, containers, tools replaced and materials used in repairs to plant. In general, it does not include the value of customers' articles or materials repaired, assembled or treated by the factory.

The value of output is the selling value, at the factory, (exclusive of all delivery costs and charges and excise duties, but inclusive of bounty and subsidy payments to the manufacturer of the finished article) of all goods made during the year. In addition it includes the value of other work done, such as repair work, assembling and making-up for customers.

The value of production is the value added to raw materials by the process of manufacture. It is calculated by deducting from the value of factory output the value (at the factory) of the materials used, containers and packing, power, fuel and light used, tools replaced and materials used in repairs to plant (but not depreciation charges). The value of production is the source from which such items as wages, interest, depreciation, profits, taxation, advertising and other sundry charges are met. As full details of costs of production are not collected, the amount of profit resulting from factory operations cannot be ascertained from the figures contained herein.

S. R. CARVER
ACTING COMMONWEALTH STATISTICIAN

CANBERRA, A.C.T.

MANUFACTURING INDUSTRIES, AUSTRALIA, 1955-56
PULP AND PAPER MILLS

1. INTRODUCTION: The paper manufacturing industry has been established in Australia for many years but there was no marked development until the establishment, about 1938-39, of pulping plants for the production of pulp from native timber.

The industry is operating in all States but is chiefly centred in New South Wales, Victoria and Tasmania. The number of establishments operating comprise four in New South Wales, seven in Victoria, one in Queensland, one in South Australia, one in Western Australia, and three in Tasmania.

Pulping plants, producing pulp from eucalyptus timber, are operating in Victoria and Tasmania, whilst in South Australia pulp is being produced from locally-grown softwoods. The total production of pulp has increased from 6,165 tons in 1938-39 to 186,053 tons in 1955-56 while the total consumption of pulp in 1955-56 amounted to 262,588 tons compared with 42,538 tons in 1938-39.

2. SUMMARY OF STATISTICS: The following table furnishes a summary of the principal statistics of the factories engaged in the manufacture of pulp and paper in Australia for the years 1938-39, 1945-46 and 1953-54 to 1955-56.

TABLE 1 : PULP AND PAPER MILLS : AUSTRALIA

Year	Factories	Persons Employed	Salaries and Wages paid	Power Fuel and Light, etc. Used	Value of Materials etc. used	Value of Production	Value of Output
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Number	Number	£'000	£'000	£'000	£'000	£'000
1938-39	7	1,961	467	201	1,096	1,005	2,302
1945-46	12	4,705	1,577	599	3,802	3,017	7,418
1953-54	18	7,179	6,130	2,048	15,198	15,451	32,697
1954-55	20	7,611	7,095	2,560	17,474	18,294	38,325
1955-56	(g) 17	7,480	7,813	2,735	18,963	17,330	39,028

(a) Average over whole year; includes Working Proprietors. (b) Excludes amounts drawn by Working Proprietors. (c) Includes Water and Lubricating Oil. (d) Includes also value of containers, packing, etc., replacements of tools and repairs to plant. (e) Value of Production equals column (7) less total of columns (4) and (5). (f) Value of goods produced. (g) The fall in the number of establishments is due to the reclassification of several factories engaged in processing but not manufacturing paper.

3. AVERAGE SALARIES, OUTPUT AND PRODUCTION: Particulars of the average salary and wage paid, together with the average values of output and production per person engaged and the ratio of salaries and wages to value of production are shown in the following table for the years 1938-39, 1945-46 and 1953-54 to 1955-56.

TABLE 2 : PULP AND PAPER MILLS : AVERAGE SALARIES AND WAGES PAID, OUTPUT, ETC.
PER EMPLOYEE
AUSTRALIA

Year	Salaries and Wages per Employee (a)	Value of Output Per Person Engaged (b)	Value of Production Per Person Engaged (b)	Ratio of Salaries and Wages to Value of Production
	£	£	£	%
1938-39	238	1,173	512	46.41
1945-46	335	1,577	641	52.28
1953-54	854	4,555	2,152	39.67
1954-55	932	5,036	2,404	38.78
1955-56	1,045	5,217	2,317	45.09

(a) Excludes working Proprietors and amounts drawn by them. (b) Includes Working Proprietors.

4. MATERIALS USED AND ARTICLES PRODUCED: In the following table details are given of the quantities and values of materials used and articles produced in Australia for the years 1945-46 and 1953-54 to 1955-56.

TABLE 3 : PULP AND PAPER MAKING ; AUSTRALIA
(Tons)

Particulars	1945-46	1953-54	1954-55	1955-56
WOOD PULP MAKING				
<u>Materials Used -</u>				
Wood	258,953	418,358	504,818	517,066
<u>Articles Produced -</u>				
Wood Pulp - Chemical and Mechanical	82,711	136,646	173,477	186,053
PAPER AND BOARD MAKING				
<u>Materials Used -</u>				
Pulp - Own Pulping, and purchased or made in previous years	120,604	198,975	246,192	262,588
Straw	8,705	5,454	3,497	3,832
Old or Waste Paper	56,640	83,955	113,923	113,820
<u>Articles produced -</u>				
Paper - Newsprint	28,128	60,406	73,608	79,015
Blotting	517	664	721	732
Duplicating	1,344	2,543	2,931	4,122
Printing and Writing	22,165	27,687	34,941	43,363
Wrapping - Kraft	29,002	37,374	40,629	46,490
Other	4,958	3,103	3,985	1,227
Felt and Carpet Felt	2,061	3,323	4,144	3,739
Other	8,151	22,173	34,521	35,124
Total Paper:	96,326	157,273	195,480	213,812
Boards, Straw and Other	71,909	122,354	140,222	140,257

NOTE: Production of Newsprint in 1956-57 was 79,602 tons.

5. PRODUCTION AND CONSUMPTION OF PULP FOR PAPER MAKING: In the next table particulars are given of the total quantity of pulp made in Australia, the quantity of pulp imported and the total quantity of pulp used in the manufacture of paper for the years 1938-39, 1945-46 and 1948-49 to 1955-56.

TABLE 4 : PRODUCTION AND CONSUMPTION OF PULP : AUSTRALIA
(Tons)

Year	Quantity of Pulp			Quantity of Pulp used in Paper Mills
	Produced in Australia	Imported into Australia	Total	
1938-39	6,165	37,704	43,869	42,538
1945-46	82,711	37,752	120,463	120,604
1948-49	82,964	51,047	134,011	121,092
1949-50	87,837	33,024	120,861	130,087
1950-51	94,626	39,637	134,263	144,208
1951-52	100,847	56,243	157,090	150,943
1952-53	97,414	30,195	127,609	137,691
1953-54	136,646	71,846	208,492	198,975
1954-55	173,477	82,817	256,294	246,192
1955-56	186,053	81,428	267,481	262,588

NOTE: Import of Pulp in 1956-57 was 99,715 tons.

6. **PRODUCTION AND IMPORTS OF PAPER AND BOARDS:** In the following table, details are given of the production of paper and boards in Australia for the years 1938-39, 1945-46 and 1948-49 to 1956-57. Particulars of the quantities imported into Australia, and the total of production and imports, are also given.

TABLE 5 : PAPER AND BOARDS : PRODUCTION AND IMPORTS : AUSTRALIA
(Tons)

Year	Paper		Boards	Total
	Newsprint	Other		
<u>PRODUCTION</u>				
1938-39	-	42,244	54,906	97,150
1945-46	28,128	68,198	71,909	168,235
1948-49	30,260	77,893	85,895	194,048
1949-50	30,472	75,205	99,519	205,196
1950-51	30,967	81,400	109,116	221,483
1951-52	32,648	85,776	114,821	233,245
1952-53	34,010	79,796	70,449	184,255
1953-54	60,406	96,867	122,354	279,627
1954-55	73,608	121,872	140,222	335,702
1955-56	79,015	134,797	140,257	354,069
1956-57 (a)	79,602	(b)	(b)	(b)
<u>IMPORTS</u>				
1938-39	178,007	(o)(d) 63,578	11,225	252,810
1945-46	101,842	(o)(d) 24,377	1,217	127,436
1948-49	95,455	(o)(d) 71,032	23,886	190,373
1949-50	146,218	(o) 42,116	17,403	205,737
1950-51	121,773	(o) 99,328	30,767	251,868
1951-52	165,540	(o) 146,996	52,275	364,811
1952-53	96,519	(o) 42,866	6,868	146,253
1953-54	153,563	(o) 83,533	12,953	250,049
1954-55	213,672	(o) 118,923	18,678	351,273
1955-56	182,881	(o) 96,708	14,805	294,394
1956-57 (a)	177,519	(o) 72,526	10,009	260,054
<u>TOTAL PRODUCTION AND IMPORTS</u>				
1938-39	178,007	105,822	66,131	349,960
1945-46	129,970	92,575	73,126	295,671
1948-49	125,715	148,925	109,781	384,421
1949-50	176,690	117,321	116,922	410,933
1950-51	152,740	180,728	139,883	473,351
1951-52	198,188	232,772	167,096	598,056
1952-53	130,529	122,662	77,317	330,508
1953-54	213,969	180,400	135,307	529,676
1954-55	287,280	240,795	158,900	686,975
1955-56	261,896	231,505	155,062	648,463
1956-57(a)	257,121	(b)	(b)	(b)

(a) Preliminary figures, subject to revision.

(b) Not yet available.

(c) Excludes Waxed Paper

(d) Partly estimated

7. **EMPLOYMENT:** The number of employees shown in Tables 1 and 7 has been adjusted to represent the average employment over the whole year in those cases where short time was worked. In the following table Pulp and Paper Mills have been classified for the years 1938-39, 1945-46 and 1953-54 to 1955-56 according to the average number employed during the actual period worked.

TABLE 6 : PULP AND PAPER MILLS CLASSIFIED ACCORDING TO PERSONS EMPLOYED : AUSTRALIA

Number of Persons Employed in each Factory	1938-39		1945-46		1953-54		1954-55		1955-56 (a)	
	No. of Fac-	No. Em- ployed	No. of Fac-	No. Em- ployed	No. of Fac-	No. Em- ployed	No. of Fac-	No. Em- ployed	No. of Fac-	No. Em- ployed
Under 4	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	1	4	-	-
5 to 10	-	-	1	7	-	-	-	-	-	-
11 to 20	-	-	-	-	2	32	1	14	2	34
21 to 50	1	33	1	43	2	74	4	123	2	75
51 to 100	1	74	1	60	2	179	1	100	1	57
101 to 200	5	1,930	1	124	1	132	2	281	2	321
201 to 300			2	481	5	1,302	3	778	3	768
301 to 400			1	352	-	-	2	696	-	-
401 to 500			1	477	1	443	1	446	2	937
501 and over			4	3,161	5	5,075	5	5,215	5	5,422
TOTAL:	7	2,037	12	4,705	18	7,237	20	7,657	17	7,614
Average No. Employed per Factory	291		392		402		383		448	

(a) See note (g) to Table No. 1

Further details of employment are furnished in the two tables which follow. In Table 7, the numbers of males and females employed are shown for the years 1938-39, 1954-55 and 1955-56 according to the nature of their employment, but, because of the change in classification of occupational status adopted in 1945-46, group comparison between 1938-39 and the later years shown is not possible.

TABLE 7 : PULP AND PAPER MILLS : PERSONS EMPLOYED CLASSIFIED ACCORDING TO OCCUPATIONAL STATUS AUSTRALIA

Occupational Status	Males			Females		
	1938-39	1954-55	1955-56	1938-39	1954-55	1955-56
Working Proprietor	-	1	-	-	-	-
Managerial and Clerical Staff, including Salaried Managers and Working Directors	1,704	641	672	255	204	217
Chemists, Draftsmen and other Laboratory and Research Staff		225	212		30	27
Foreman and Overseers		310	335		8	7
Workers in Factory (Skilled and Unskilled)		5,571	5,388		426	448
Other (Carters, Messengers, etc.)		2	191		4	-
TOTAL:	1,706	6,939	6,781	255	672	699

In the following table the number of persons employed in June in the years 1939, 1946 and 1954 to 1956 are shown according to age and sex distribution.

TABLE 8 : PULP AND PAPER MAKING : DISTRIBUTION OF EMPLOYEES ACCORDING

TO AGE AND SEX

AUSTRALIA

(Excluding Working Proprietors)

June	Under 16 years	16 years	17 years	18 years	19 years	20 years	Total 16 to 20 years	21 years and over	Total All Ages
MALES									
1939(a)	20	(b)	(b)	(b)	(b)	(b)	289	1,655	1,964
1946(a)	33	54	87	101	93	46	381	4,107	4,521
1954(o)	13	51	72	74	83	72	352	6,548	6,913
1955(o)	20	55	70	84	71	91	371	6,426	6,817
1956(o)	16	69	104	74	85	75	407	6,664	7,087

FEMALES

1939(a)	44	(b)	(b)	(b)	(b)	(b)	110	154	308
1946(a)	15	34	28	36	39	20	157	314	486
1954(o)	13	57	54	40	28	29	208	455	676
1955(o)	15	43	79	65	41	51	279	406	700
1956(o)	8	45	64	71	58	38	276	436	720

(a) Pay day nearest 15th June. (b) Details not collected. (c) Last pay day in June.

8. **POWER EQUIPMENT:** Statistics of the Power Equipment installed are given in the next table. The details given include the rated horsepower of engines ordinarily in use together with those in reserve or idle.

TABLE 9 : PULP AND PAPER MILLS : TYPES AND RATED HORSEPOWER OF ENGINES :

AUSTRALIA

Class of Engine	Rated Horsepower of Engines					
	Ordinarily in Use			Reserve or Idle		
	1938-39	1954-55	1955-56	1938-39	1954-55	1955-56
Steam - Reciprocating	5,105	730	730	3,205	-	-
Turbine	13,870	33,500	38,000	4,550	-	-
Internal Combustion -						
Gas	-	-	-	-	-	-
Petrol or Other						
Light Oils	-	120	120	-	-	-
Heavy Oils	-	1,770	1,770	-	-	-
Water	-	-	-	-	-	-
Total Prime Movers:	18,975	36,120	40,620	7,755	-	-
Motors Driven by Electricity -						
Purchased	12,573	121,828	123,503	1,244	21,257	17,296
Own Generation	(a) 23,236	(a) 39,635	(a) 42,938	1,868	5,120	5,265
Total Electricity:	35,809	161,463	166,441	3,112	26,377	22,561
TOTAL POWER EMPLOYED	31,548	157,948	164,123	10,867	26,377	22,561

(a) These motors are driven by electricity generated by Prime Movers shown above, and to avoid duplication are excluded from statistics of total power employed.

9. POWER, FUEL AND LIGHT, ETC. USED: Details of the quantities and values of the various items of Power, Fuel and Light used are shown in the following table for the years 1938-39, 1954-55 and 1955-56.

TABLE 10 : PULP AND PAPER MILLS : POWER, FUEL AND LIGHT, ETC. USED : AUSTRALIA

Particulars	Unit of Quantity	Quantity			Value (£)		
		1938-39	1954-55	1955-56	1938-39	1954-55	1955-56
Power, Fuel & Light -							
Coal - Black	ton	85,958	211,489	215,765	138,143	990,426	1,041,487
Brown	"	1,500	369,936	418,373	2,184	551,071	595,372
Brown Coal Briquettes	"	(a)	15,225	16,809	(a)	52,377	62,298
Coke	"	-	733	13	-	2,236	122
Wood	"	28,214	67,983	76,889	19,462	140,805	174,183
Fuel Oil	'000 gal.	-	2,112	2,343	-	144,158	163,061
Tar (Fuel)	"	-	-	-	-	-	-
Electricity	-	-	-	-	27,979	585,436	602,118
Gas	-	-	-	-	19	339	417
Other (Charcoal etc.)	-	(b)	(b)	(b)	-	-	-
Water and Lubricating Oil Used	-	-	-	-	13,211	92,729	95,552
TOTAL:		(b)	(b)	(b)	200,998	2,559,577	2,734,610

(a) Included with Brown Coal. (b) Value only available.

10. VALUE OF LAND AND BUILDINGS, PLANT AND MACHINERY: Particulars of the book values of premises occupied and plant installed in Paper and Pulp Mills at the 30th June for each of the years 1938-39, 1945-46 and 1953-54 to 1955-56 are shown in the next table. Details of the values of additions and replacements made and depreciation allowed during the same period are also shown. It should be noted that the amounts shown are those recorded by factories which were operating during each year and that changes in their number, as well as other factors, affect comparison from year to year.

TABLE 11 : PULP AND PAPER MILLS : VALUE OF LAND AND BUILDINGS, PLANT AND MACHINERY ETC. : AUSTRALIA (£)

Year	Book Value as at 30th June (a)		Additions and Replacements made during year		Depreciation allowed during year	
	Land and Buildings	Plant and Machinery	Land and Buildings	Plant and Machinery	Land and Buildings	Plant and Machinery
1938-39	849,578	1,712,662	10,709	65,007	17,915	115,401
1945-46	1,525,187	2,509,426	80,201	163,816	53,780	391,324
1953-54	8,106,260	16,809,937	726,378	2,033,024	179,452	1,189,783
1954-55	8,255,265	18,049,917	837,433	3,696,893	279,046	1,535,353
1955-56	9,311,639	18,639,533	1,671,342	3,217,088	316,976	1,669,607

(a) Includes estimated value of rented premises and machinery.

11. EXTERNAL TRADE: The quantities and values of imports of pulp for paper making and paper including boards are given in the following table for the years 1938-39 and 1954-55 to 1956-57.

TABLE 12 - IMPORTS OF PULP AND PAPER - AUSTRALIA

Particulars	1938-39		1954-55		1955-56		1956-57 (a)	
	Tons	£A'000	Tons	£A'000	Tons	£A'000	Tons	£A'000
Pulp for Paper-making	37,704	367	82,817	4,444	81,428	4,958	99,715	6,064
PAPER -								
Newsprinting	178,007	2,289	213,672	13,777	182,881	11,844	177,519	12,336
Other Printing	28,187	801	57,427	5,441	47,455	4,924	39,783	3,904
Boards	11,225	279	18,678	1,799	14,805	1,582	10,009	1,235
Wrapping	7,629	276	25,381	4,144	18,192	3,346	11,035	2,786
Writing and Typewriting	15,095	567	13,869	2,116	13,534	2,170	7,355	1,113
All Other Paper	(b)12,667	663	(a)22,246	4,118	(a)17,527	3,681	(a)14,353	3,321
TOTALs	(b)252,810	4,875	(a)351,273	31,395	(a)294,394	27,547	(a)260,054	24,695

(a) Preliminary subject to revision.

(b) Excludes Waxed Paper n.e.i. and Wall Paper and Boards; and, prior to 1949-50, Cigarette Papers.

NOTE: Values are expressed in £A f.o.b. port of shipment.

S. R. CARVER
ACTING COMMONWEALTH STATISTICIAN

COMMONWEALTH BUREAU OF CENSUS AND STATISTICSCANBERRA, A.C.T. 13TH AUGUST, 1957.

LIST OF INDUSTRIES INCLUDED IN THE SERIES.

- No. 1. CEMENT AND CEMENT GOODS.
" 2. BRICKS, TILES, POTTERY AND EARTHENWARE.
" 3. CHEMICALS, DRUGS AND MEDICINES.
" 4. WHITE LEAD, PAINTS AND VARNISH.
" 5. CHEMICAL FERTILIZERS.
" 6. SOAP AND CANDLES.
" 7. BASIC METAL INDUSTRIES.
" 8. METAL FABRICATING INDUSTRIES.
" 9. MOTOR VEHICLES AND CYCLES.
" 10. COTTON MILLS.
" 11. WOOLLEN MILLS.
" 12. ROPE AND CORDAGE.
" 13. TANNERIES.
" 14. BOOTS AND SHOES.
" 15. CLOTHING (INCLUDING HOSIERY AND KNITTED GOODS).
" 16. FLOUR AND OTHER GRAIN MILLS.
" 17. BISCUITS.
" 18. CONFECTIONERY.
" 19. JAM, FRUIT, VEGETABLES, PICKLES, SAUCES, CONDIMENTS, ETC.
" 20. BACON CURING.
" 21. BUTTER, CHEESE AND CONDENSED, CONCENTRATED, ETC., MILK.
" 22. AERATED WATERS AND CORDIALS.
" 23. MEAT AND FISH PRESERVING.
" 24. BREWERIES.
" 25. WINERIES AND DISTILLERIES.
" 26. TOBACCO, CIGARS AND CIGARETTES
" 27. SAWMILLING.
" 28. PULP AND PAPER MAKING.
" 29. RUBBER WORKS.
" 30. BROOMS AND BRUSHES.
" 31. ELECTRIC LIGHT AND POWER WORKS.
" 32. GAS WORKS.
" 33. PLASTIC MOULDING AND PRODUCTS.