

MANUFACTURING INDUSTRIES
1966-67

No. 5
CHEMICAL FERTILISERS



COMMONWEALTH BUREAU OF CENSUS AND STATISTICS
CANBERRA, AUSTRALIA

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<u>Table</u>	<u>CONTENTS</u>	<u>Page</u>
	Explanatory notes	2
1.	Chemical fertiliser factories : Summary, Australia, 1962-63 to 1966-67	4
2.	Chemical fertiliser factories : Summary, States, 1966-67	4
3.	Chemical fertiliser factories : Average salaries and wages paid per employee, output and production per person employed, Australia, 1962-63 to 1966-67	5
4.	Chemical fertiliser factories : Persons employed, Australia, 1962-63 to 1966-67	5
5.	Chemical fertiliser factories : Persons employed by occupational status and sex, Australia, 1964-65 to 1966-67	6
6.	Chemical fertiliser factories : Employees by age and sex, Australia, 1962-63 to 1966-67	6
7.	Chemical fertiliser factories : Class of engine and rated horsepower, Australia, 1964-65 to 1966-67	7
8.	Chemical fertiliser factories : Power, fuel, light, etc. used, Australia, 1964-65 to 1966-67	7
9.	Chemical fertiliser factories : Value of land and buildings, plant and machinery etc., Australia, 1962-63 to 1966-67	7
10.	Selected materials used in chemical fertiliser factories : Australia, 1964-65 to 1966-67	8
11.	Selected articles produced in all factories : Australia, 1964-65 to 1966-67	8
12.	Principal articles produced in all factories : Australia, 1957-58 to 1966-67; Monthly 1967-68	9
13.	Exports of specified items : Australia, 1966-67	10
14.	Imports of natural phosphates : Australia, 1966-67	10
15.	Imports of specified items : Australia, 1966-67	11

EXPLANATORY NOTES

GENERAL. The range of bulletins in this series for 1966-67 is the same as for 1965-66. A complete list of the series is shown inside the back cover. Where a number of industries are combined in one bulletin, the introductory paragraph on page 4 specifies the industries so included.

For years prior to 1964-65 only statistics of the number of factories, persons employed, salaries and wages, value of fuel, materials, production and output, etc., exclude details for the Northern Territory and Australian Capital Territory. Statistics of materials used and articles produced however, exclude the Northern Territory and Australian Capital Territory for all years.

CLASSIFICATION OF FACTORIES. For purposes of industry classification, factories are classified to sub-classes according to the nature of their products. Where two or more distinct types of industrial activity are carried out 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. 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, in general, to the operations of factories classified to the industry specified. However, the statistics of articles produced represent total recorded production in all factories, irrespective of industry classification.

BASIS OF THE STATISTICS. The scope of the factory statistics is fully explained in the annual bulletin Manufacturing Industry, which contains comprehensive statistics both for all factory sub-classes separately and in total.

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. The figures do not include details relating to small establishments not classified for statistical purposes as factories.

Factory employment relates only to persons employed in the manufacturing activities of the factory. The figures relating to employment, therefore, include working proprietors as well as out-workers, but 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 value of materials, etc., 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 power, fuel, light, etc., used includes the cost of lubricants and water.

The value of factory output is the value of the goods manufactured or their value after passing through the particular process of manufacture and includes the amount received for repair work, work done on commission and receipts for other factory work. The basis of valuation of the output is the selling value of the goods 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.

The value of production is the value added to 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, in addition to wages and salaries, such items as interest, depreciation, profits, taxation, advertising and other sundry charges are met. As details of these other costs of production are not collected, the amount of profit resulting from factory operations cannot be ascertained from figures contained herein.

There are many miscellaneous expenses, such as maintenance of buildings, etc., depreciation, workers' compensation insurance, other insurances, pay-roll tax, income tax, advertising, interest on borrowed money, bad debts and many other sundry charges, which are not taken into account. Consequently it must not be inferred that, when wages and salaries are deducted from value of production, the whole of the surplus is available for profits.

ROUNDING OF FIGURES. Any discrepancies between totals and sums of components in tables are due to rounding.

TABLE 3. - CHEMICAL FERTILISER FACTORIES
AVERAGE SALARIES AND WAGES PAID PER EMPLOYEE, OUTPUT AND PRODUCTION

PER PERSON EMPLOYED

AUSTRALIA

Year	Salaries and wages per employee (a)	Value of output per person employed (b)	Value of production per persons employed (b)	Ratio of salaries and wages to value of production
	\$	\$	\$	%
1962-63	2,492	19,431	5,622	44.21
1963-64	2,651	20,952	5,822	45.44
1964-65	2,900	24,038	6,715	43.12
1965-66	3,152	26,731	6,546	48.03
1966-67	3,333	33,839	9,338	35.64

(a) Excludes working proprietors and amounts drawn by them.

(b) Includes working proprietors.

TABLE 4. - CHEMICAL FERTILISER FACTORIES

PERSONS EMPLOYED (a) : AUSTRALIA

Number employed in each factory	1962-63		1963-64		1964-65		1965-66		1966-67	
	No. of fac-tories	No. em-plied	No. of fac-tories	No. em-plied	No. of fac-tories	No. em-plied	No. of fac-tories	No. em-plied	No. of fac-tories	No. em-plied
Under 4	13	31	14	34	12	27	11	26	12	29
4	4	16	1	4	2	8	2	8	..	..
5 to 10	3	24	7	58	6	44	6	46	7	51
11 " 20	5	62	3	39	4	53	5	73	6	91
21 " 50	2	66	3	100	3	97	3	103	2	87
51 " 100	4	281	4	307	5	360	6	448	4	261
101 " 200	7	923	6	827	7	1,039	6	864	9	1,183
201 " 300	6	1,316	7	1,654	5	1,186	5	1,235	4	1,008
301 and over	4	1,721	3	1,460	4	1,831	4	2,004	4	2,033
<u>TOTAL</u>	48	4,440	48	4,483	48	4,645	48	4,807	48	4,748
Average number employed per factory	93		93		97		100		99	

(a) Average number employed during the period of operation whether for the whole or only part of the year. Includes working proprietors.

TABLE 5. - CHEMICAL FERTILISER FACTORIES
PERSONS EMPLOYED (a) BY OCCUPATIONAL STATUS AND SEX
AUSTRALIA

Occupational status	Males			Females		
	1964-65	1965-66	1966-67	1964-65	1965-66	1966-67
Working proprietors	7	11	7	..	..	..
Managerial and clerical staff, including salaried managers and working directors	370	367	368	96	118	116
Chemists, draughtsmen and other laboratory and research staff	207	217	193	17	21	19
Workers in factory (skilled and unskilled), foremen and overseers, carters (excl. delivery only), messengers and persons working regularly at home	3,888	4,014	3,978	48	54	60
<u>TOTAL</u>	4,472	4,609	4,546	161	193	195

(a) Average number employed, calculated on a "whole-year" basis, i.e. in factories operating for less than the full year, the average number of persons employed during the period of operation is reduced to a whole year equivalent.

TABLE 6. - CHEMICAL FERTILISER FACTORIES
EMPLOYEES BY AGE AND SEX : AUSTRALIA

Last pay day in June	20 years and under		21 years and over		Total all ages		
	Males	Females	Males	Females	Males	Females	Persons
1963	239	40	3,759	93	3,998	133	4,131
1964	258	46	4,234	100	4,492	146	4,638
1965	243	48	4,168	126	4,411	174	4,585
1966	286	50	4,341	139	4,627	189	4,816
1967	268	47	4,046	148	4,314	195	4,509

TABLE 7. - CHEMICAL FERTILISER FACTORIES
CLASS OF ENGINE AND RATED HORSEPOWER : AUSTRALIA

Class of engine	Rated horsepower of engines					
	Ordinarily in use			In reserve or idle		
	1964-65	1965-66	1966-67	1964-65	1965-66	1966-67
Steam - Turbine	8,186	13,950	13,950	..	..	..
Internal combustion - Petrol and other light oils	275	1,149	1,04C	217	115	345
Heavy oils	..			..
<u>Total hp prime movers</u>	8,461	15,099	14,990	217	115	345
Motor driven by electricity - Purchased	66,006	76,122	70,241	16,849	19,542	17,920
Own generation	(a) 5,864	(a) 11,667	(a) 19,162	732	988	4,594
<u>Total hp electric motors</u>	71,870	87,789	89,403	17,581	20,530	22,514
<u>TOTAL POWER EMPLOYED</u>	74,467	91,221	85,231	17,798	20,645	22,859

(a) These motors are driven by electricity generated by prime movers and, to avoid duplication, are excluded from statistics of total power employed.

TABLE 8. - CHEMICAL FERTILISER FACTORIES
POWER, FUEL, LIGHT, ETC. USED : AUSTRALIA

Particulars	Unit of quantity	Quantity			Value (\$'000)		
		1964-65	1965-66	1966-67	1964-65	1965-66	1966-67
Power, fuel and light -							
Coal - Black	ton	1,909	2,055	2,010	20	22	21
Coke	"	52	56	52	1	1	:
Wood	"	404	389	384	3	3	3
Fuel oil	'000 gal	1,484	1,907	1,822	137	251	195
Electricity	-	}	(a)	(a)	2,007	2,419	2,472
Gas - Town	-				1	1	1
Other (charcoal, etc.)	-				1	1	2
Water and lubricating oil	-				224	260	310
<u>TOTAL</u>	-	(a)	(a)	(a)	2,395	2,959	3,004

(a) Value only available.

TABLE 9. - CHEMICAL FERTILISER FACTORIES
VALUE OF LAND AND BUILDINGS, PLANT AND MACHINERY ETC. : AUSTRALIA
(\$'000)

Year	Book value as at 30 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
1962-63	12,712	18,761	623	3,906	481	2,642
1963-64	14,412	20,739	573	4,571	462	2,448
1964-65	16,238	27,167	2,120	10,564	569	3,222
1965-66	16,525	37,618	1,088	19,436	580	4,121
1966-67	19,639	46,997	2,899	12,733	744	5,339

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

TABLE 10. - SELECTED MATERIALS USED IN SUB-CLASS 0310

CHEMICAL FERTILISER FACTORIES : AUSTRALIA (a)

Materials used	Commodity code No.	1964-65		1965-66		1966-67	
		Quantity	Value	Quantity	Value	Quantity	Value
		'000 tons	\$'000	'000 tons	\$'000	'000 tons	\$'000
Meat works refuse	209.02	9	348	10	450	8	379
Copper ore	253.02	2	263	1	124	1	107
Limestone	275.33	16	102	16	95	31	135
Phosphate rock	279.51	2,384	35,119	2,590	39,910	2,870	53,006
Ground phosphate	279.55	2,378	(b)	2,424	(b)	2,860	(b)
Sulphuric acid (100%)	401.59	1,369	(b)	1,523	(b)	1,680	(b)
Sulphate of ammonia	405.36	122	5,652	129	6,183	111	5,655
Copper sulphate	405.90	6	1,543	4	1,264	4	1,501
Muriate of potash	407.12	69	2,918	73	3,110	81	3,229
Sulphate of potash	407.16	9	518	8	545	9	572
Nitrate of soda	407.98	2	165	2	118	2	135
sulphur	408.35	300	8,239	353	12,007	391	16,167
Zinc oxide	411.08	2	363	1	244	1	237
Superphosphate	415.07	517	(b)	698	(b)	641	(b)
Lime	479.06	4	38	5	48	5	39

(a) Excludes Northern Territory and Australian Capital Territory.

(b) Quantity only available.

TABLE 11. - SELECTED ARTICLES PRODUCED IN ALL FACTORIES : AUSTRALIA (a)

(NOTE. These details relate to production in all factories irrespective of classification.)

Item	Commodity code No.	1964-65		1965-66		1966-67	
		Quantity	Value	Quantity	Value	Quantity	Value
		'000 tons	\$'000	'000 tons	\$'000	'000 tons	\$'000
Ground phosphate	279.53	2,379	(b)	2,511	(b)	2,861	(b)
Sulphate of ammonia	405.36	108	4,353	118	4,716	110	4,504
Superphosphate	415.07	(c)3,703	(b)	(d)4,265	(b)	(d)4,430	(b)
Mixed chemical fertilisers (incl. complete manures)	415.18	763	33,740	833	37,013	892	43,094
Leaf and foliage type fertilisers -		'000 lb		'000 lb		'000 lb	
In dry form	415.22	591	95	724	120	900	166
In liquid form	415.24	35	3				
Manures (without added chemical fertilisers) of -		'000 tons		'000 tons		'000 tons	
Blood, bone and/or offal	415.32	32	1,699	29	1,729	29	1,709
Other materials	415.34	(e)	(e)	1	28	1	26

(a) Excludes Northern Territory and Australian Capital Territory. (b) Quantity only available. (c) Source : Department of Primary Industry. Figures from June 1961 to June 1965 include double and triple superphosphate and ammonium phosphate expressed in terms of single superphosphate i.e. 22% P₂O₅ equivalent. (d) Excluding ammonium phosphate. (e) Not available for publication.

TABLE 12. - PRINCIPAL ARTICLES PRODUCED IN ALL FACTORIES : AUSTRALIA (a)

(NOTE. These details relate to production in all factories irrespective of classification.)

Year	Annual production					Monthly production 1967-68 (b)		
	Super-phosphate (c)	Sulphate of ammonia	Mixed chemical fertilisers (including complete manures)	Manures without added chemical fertilisers		Month	Super-phosphate	Sulphate of ammonia
Commodity code No.	415.07	405.36	415.18	415.32 (d)	415.34 (e)	Commodity code No.	415.07	405.36
	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons	1967 -	'000 tons	'000 tons
1957-58	2,220	119	476	34	2	July	262	8.65
1958-59	2,124	117	437	40	1	August	342	6.44
1959-60	2,380	105	495	35	1	September	326	6.34
1960-61	2,531	99	504	29	5	October	361	5.35
1961-62	2,591	104	581	33	1	November	350	5.01
1962-63	2,862	93	613	31	1	December	364	4.62
1963-64	3,347	85	709	28	1	1968 -		
1964-65	3,703	108	763	32	(f)	January	437	4.53
1965-66	(g)4,265	118	833	29	1	February	415	4.17
1966-67	(g)4,430	110	892	29	1	March	348	9.76
						April	384	4.55
						May	390	4.97
						June	256	5.98
						Twelve mths ended June 1968	4,296	70.4

- (a) Excludes Northern Territory and Australian Capital Territory.
- (b) Preliminary subject to revision. Source : Department of Primary Industry (Super-phosphate) and Nitrogen Fertilisers Pty Ltd (Sulphate of ammonia).
- (c) Prior to 1965-66, source : Department of Primary Industry. Figures from June 1964 to 1965 include double and triple superphosphate and ammonium phosphate expressed in terms of single superphosphate, i.e. 22% P₂O₅ equivalent.
- (d) Of blood, bone and/or offal.
- (e) Of other materials.
- (f) Not available for publication.
- (g) Excluding ammonium phosphate.

Overseas trade statistics in Tables 13, 14 and 15 show specified items according to the Australian Export and Import Commodity Classifications which were operative from 1 July 1966 and 1 July 1965 respectively.

For more detailed statistics reference may be made to "Overseas Trade Bulletins".

TABLE 13. - EXPORTS OF SPECIFIED ITEMS : AUSTRALIA, 1966-67

Commodity classification ref. No.	Description	Quantity cwt	Value \$A'000 (a)
271	Fertilisers, crude -		
271.10	Natural fertilisers, not chemically treated	3,148	11
271.50	Other	1,675	7
	<u>Total group 271</u>	4,823	17
561	Fertilisers, manufactured -		
561.00	Fertilisers, manufactured	15,735	81

(a) Values are expressed in \$A'000 f.o.b. port of shipment.

TABLE 14. - IMPORTS OF NATURAL PHOSPHATES : AUSTRALIA, 1966-67
(Australian commodity classification ref. No.271.30.00)

Country of origin	Quantity '000 cwt	Value \$A'000 (a)
Christmas Island	15,526	6,766
Gilbert and Ellice Is.	5,550	2,446
Nauru	26,256	11,498
Togo	3,104	1,377
United States of America	13,030	6,052
Other countries	1,970	913
Importing States -		
New South Wales	14,136	6,174
Victoria	20,864	9,271
Queensland	2,588	1,148
South Australia	9,288	4,122
Western Australia	16,462	7,278
Tasmania	2,099	1,058
<u>TOTAL</u>	65,436	29,050

(a) See note (a) Table 13.

TABLE 15. - IMPORTS OF SPECIFIED ITEMS : AUSTRALIA, 1966-67

Commodity classification ref. No.	Description	Quantity cwt	Value \$A'000 (a)
271	Fertilisers, crude -		
271.10	Natural fertilisers, not chemically treated	9	1
271.20	Natural sodium nitrate	92,255	233
271.30	Natural phosphate, whether or not ground	65,436,273	29,050
271.40	Natural potassic salts, crude	25	..
	<u>Total group 271</u>	65,528,562	29,283
561	Fertilisers, manufactured -		
561.10	Nitrogenous fertilisers, etc. (other than natural) n.e.s.	2,027,965	4,293
561.21	Basic slag	..	..
561.29	Other phosphate fertilisers, etc.	697	2
561.30	Potassic fertilisers, etc.	2,398,357	3,875
561.90	Fertilisers, n.e.s.	835,708	2,579
	<u>Total group 561</u>	5,262,727	10,751

(a) Values are expressed in \$A'000 f.o.b. port of shipment.

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CANBERRA, A.C.T. 2600 25 NOVEMBER 1968

NOTE. Inquiries concerning these statistics may be made in Canberra by telephoning 63 9111 extension 2267 or, in each State capital, by telephoning the office of the Bureau of Census and Statistics.