

LIME.

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PRODUCTION.

As with most other industries in 1908, the lime production decreased in both quantity and value of output. In 1907 shut downs in the latter part of the year reduced the total gain in value over the output of 1906 to a relatively small sum, while the tonnage produced showed a slight decrease. In 1908 many of the plants remained closed during the entire year and some plants ran but part of the time or with diminished force.

The total lime production of 1908 amounted to 2,766,873 short tons, valued at \$11,091,186. These figures, compared with an output of 3,092,524 short tons, valued at \$12,656,705, in 1907, show a decrease for 1908 of 325,651 short tons in quantity and of \$1,565,519 in value. The average price per ton was \$4.01 in 1908 and \$4.09 in 1907.

In 1908 the number of lime burners reporting operations was 949; in 1907 it was 899. The increased number of operators in 1908 over 1907 is on account of the reports from a large number of small lime burners in Pennsylvania. These operations are carried on by farmers, who burn occasional kilns of lime to enrich the soil of their farms or to supply the demand of their neighbors. At one time almost every farmer throughout Pennsylvania who could get the stone burned an occasional kiln when his land needed liming. About eight or ten years ago this custom fell off, owing to the cheapness and convenience of patent fertilizers; for the last two or three years, however, there has been more lime used for the enrichment of land, with consequent increase of burners. The number of burners reporting in Pennsylvania in 1908 was 443; in 1907 it was 366, an increase in 1908 of 77. Exclusive of Pennsylvania there were 506 operators in 1908 and 533 in 1907—27 less in 1908 than in 1907.

Pennsylvania ranked first, both in quantity and in value of output, showing 21 per cent of the quantity and 16 per cent of the total value of lime manufactured in 1908. Notwithstanding the increased number of producers in Pennsylvania in 1908, there was a decrease in both quantity and value of output. Ohio, Wisconsin, Missouri, and Maine followed in rank of production.

In 1907 there were 43 States reporting a lime output; in 1908, 42 States. In 1908, 16 States reported an increased value of output, and 26 a decreased value.

The following table gives the value of the total lime production in the United States for the years 1897 to 1908, inclusive:

Value of lime produced in the United States, 1897-1908.

1897.....	\$6,390,487	1903.....	\$9,255,882
1898.....	6,886,549	1904.....	9,951,456
1899.....	6,983,067	1905.....	10,941,680
1900.....	6,797,496	1906.....	12,480,653
1901.....	8,204,054	1907.....	12,656,705
1902.....	9,335,618	1908.....	11,091,186

Detailed statistics of lime production during 1907 and 1908, by States, and rank of State according to value of output are given in the following table:

Quantity and value of lime burned in the United States in 1907 and 1908, by States, in short tons.

1907.

Rank of State.	State.	Quantity.	Value.	Average price per ton.	Number of operators.
11	Alabama.....	85,909	\$368,902	\$4.29	12
24	Arizona.....	12,825	84,262	6.66	5
22	Arkansas.....	33,472	159,566	4.77	11
6	California.....	84,981	691,851	8.14	27
33	Colorado.....	5,679	28,798	5.07	3
12	Connecticut.....	81,433	358,052	4.39	7
27	Georgia.....	18,349	70,826	3.85	6
29	Idaho.....	5,964	49,022	8.22	4
9	Illinois.....	124,784	559,305	4.48	22
13	Indiana.....	107,964	335,151	3.10	15
25	Iowa.....	19,944	84,011	4.21	8
37	Kansas.....	4,124	18,131	4.40	6
38	Kentucky.....	4,670	14,945	3.20	8
4	Maine.....	159,494	764,140	4.79	7
14	Maryland.....	103,423	324,316	3.14	41
8	Massachusetts.....	119,072	596,778	5.01	10
16	Michigan.....	65,822	276,534	4.20	12
23	Minnesota.....	20,450	88,900	4.35	4
3	Missouri.....	193,300	877,970	4.54	27
34	Montana.....	4,217	25,340	6.01	7
21	New Jersey.....	34,043	167,159	4.91	22
40	New Mexico.....	485	3,866	7.97	4
7	New York.....	137,111	652,205	4.76	39
36	North Carolina.....	5,000	24,010	4.80	4
2	Ohio.....	327,642	1,239,912	3.78	36
31	Oregon.....	4,095	39,738	9.70	6
1	Pennsylvania.....	655,166	2,075,842	3.17	366
35	South Dakota.....	3,673	24,895	6.78	4
17	Tennessee.....	66,699	263,323	3.95	16
20	Texas.....	38,101	186,372	4.89	9
28	Utah.....	12,671	68,085	5.37	13
18	Vermont.....	47,369	254,281	5.36	12
10	Virginia.....	115,155	447,307	3.89	26
19	Washington.....	35,913	238,568	6.64	9
15	West Virginia.....	107,895	290,298	2.69	34
5	Wisconsin.....	219,644	733,996	3.34	46
41	Wyoming.....	282	3,220	11.41	3
26	Florida.....	25,704	166,828	6.02	8
42	Hawaii.....			15.00	
43	Nevada.....			20.00	
39	Oklahoma.....			7.86	
32	Rhode Island.....			6.80	
30	South Carolina.....	5.43			
		3,092,524	12,656,705	4.09	899

Quantity and value of lime burned in the United States in 1907 and 1908, by States, in short tons—Continued.

1908.

Rank of State.	State.	Quantity.	Value.	Average price per ton.	Number of operators.
11	Alabama.....	83,411	\$335,234	\$4.02	13
26	Arizona.....	10,819	68,635	6.33	3
22	Arkansas.....	27,179	122,290	4.50	9
6	California.....	70,913	581,481	8.20	17
35	Colorado.....	5,615	28,179	5.02	3
12	Connecticut.....	62,070	307,895	4.96	3
28	Florida.....	11,822	62,915	5.32	6
30	Georgia.....	11,193	46,780	4.18	6
29	Idaho.....	7,373	57,020	7.73	5
10	Illinois.....	92,549	393,951	4.26	18
13	Indiana.....	95,988	293,579	3.06	12
24	Iowa.....	18,900	79,400	4.03	6
41	Kansas.....	1,558	8,086	5.19	4
37	Kentucky.....	6,206	21,322	3.44	8
5	Maine.....	141,934	661,453	4.66	6
14	Maryland.....	103,224	292,623	2.83	41
7	Massachusetts.....	107,813	566,022	5.25	10
15	Michigan.....	68,050	282,023	4.14	10
23	Minnesota.....	19,800	85,700	4.33	4
4	Missouri.....	167,060	701,321	4.20	28
32	Montana.....	5,121	32,981	6.44	6
21	New Jersey.....	32,700	134,722	4.12	21
8	New York.....	106,025	529,501	4.99	36
36	North Carolina.....	5,132	24,750	4.82	5
2	Ohio.....	279,080	975,661	3.50	34
34	Oregon.....	3,274	28,795	8.80	8
1	Pennsylvania.....	582,352	1,883,496	3.23	443
31	South Dakota.....	5,254	34,068	6.48	5
17	Tennessee.....	73,016	226,463	3.10	17
20	Texas.....	33,725	144,118	4.24	8
25	Utah.....	12,237	78,346	6.40	11
19	Vermont.....	32,691	170,205	5.21	10
9	Virginia.....	107,209	424,374	3.96	29
16	Washington.....	32,343	228,353	7.06	9
18	West Virginia.....	91,747	202,664	2.21	41
3	Wisconsin.....	235,538	831,792	3.53	44
42	Wyoming.....	392	4,246	10.83	4
27	Hawaii.....			15.00	
39	Nevada.....			13.00	
40	New Mexico.....	15,560	140,742	6.43	6
38	Rhode Island.....			7.11	
33	South Carolina.....			5.17	
		2,766,873	11,091,186	4.01	949

USES OF THE LIME PRODUCED.

In the following table the total lime production of 1907 and 1908 is classified according to the uses to which the product was put, as reported by the burners. Although this table is necessarily faulty on account of much of the product being handled by dealers or middlemen, which renders the manufacturers uncertain as to what use was made of their product, it is of interest as showing a comparative table of sales for the two years. The same manufacturer, as a rule, classifies his output the same each year.

Production of lime in the United States in 1907 and 1908, by uses, in short tons.

1907.

	Quantity.	Value.		Quantity.	Value.
Building lime.....	1,770,509	\$7,754,404	Fertilizer.....	269,608	\$712,410
Hydrated lime.....	140,135	657,636	Dealers—uses not specified.....	396,337	1,540,473
Alkali works.....	10,747	36,355	Other purposes ^a	118,310	436,128
Chemical works.....	173,422	691,096			
Paper mills.....	153,681	572,833			
Sugar factories.....	24,640	110,940			
Tanneries.....	35,135	144,425			
				3,092,524	12,656,705

Production of lime in the United States in 1907 and 1908, by uses, in short tons—Cont'd.

1908.

	Quantity.	Value.		Quantity.	Value.
Building lime.....	1,580,590	\$7,000,904	Fertilizer.....	339,287	\$927,827
Hydrated lime.....	136,441	548,262	Dealers—uses not specified.....	307,050	1,100,129
Alkali works.....	46,384	203,658	Other purposes ^a	67,232	268,153
Chemical works.....	73,119	259,190			
Paper mills.....	169,831	540,559		2,766,873	11,091,186
Sugar factories.....	24,255	149,631			
Tanneries.....	22,684	92,873			

^a Includes lime for sand-lime brick, slag cement, steel works, glass works, smelters, sheep dipping, manufacture of soap, cyanide plants, glue factories, etc.

FUELS USED IN BURNING LIME.

With regard to the following table which shows the fuels used in burning lime, it must be remembered that only about two-thirds of the producers report the quantity of fuel used by them; and although the burners not included in this report are, in general, the small operators, notably in Maryland, Pennsylvania, and West Virginia, some of the larger firms have not as yet given satisfactory information on this subject.

Kind and quantity of fuel used in burning lime in 1907 and 1908.

1907.

Kind of fuel used.	Quantity of fuel.	Quantity of lime burned.	Number of plants using.
		<i>Short tons.</i>	
Wood.....	333,665	618,005	190
Shavings.....	9,827	20,149	2
Coal.....	520,726	1,287,855	487
Coke.....	3,436	30,535	7
Oil.....	26,374	15,815	9
Gas.....	157,721,000	28,510	7
Mixed fuels:			
Wood.....	76,009	352,877	75
Coal.....	113,335		
Coal and coke.....	8,686	55,795	7
Coal.....	12,824	66,356	4
Gas.....	198,602,000		
Coal, shavings, and manure.....		12,657	1
Unreported.....		2,488,554	789
		603,970	110
		3,092,524	899

1908.

Wood.....	325,943	638,092	194
Coal.....	295,333	871,490	413
Coke.....	5,118	29,018	8
Oil.....	23,804	15,269	8
Gas.....	288,385,512	110,738	12
Mixed fuels:			
Wood.....	77,957	449,837	76
Coal.....	97,287		
Coal and coke.....	9,157	35,700	6
Coal.....	5,000	30,130	2
Gas.....	141,666,000		
Oil and wood, wood and coke, blocks, sawdust, shavings.....		29,993	5
Unreported.....		2,210,267	724
		556,606	225
		2,766,873	949

The total quantity of the various kinds of fuel consumed in the domestic lime industry during 1907 and 1908 was, therefore, as follows:

Total fuel consumed in burning lime in 1907 and 1908.

	1907.	1908.		1907.	1908.
Wood.....cords..	409,674	409,805	Coke.....short tons..	4,406	5,268
Shavings..short tons..	14,599	5,800	Gas.....cubic feet..	356,323,000	430,051,512
Coal.....do.....	646,885	397,620	Oil.....barrels..	26,374	23,884

The "gas" in this table includes both natural gas and producer gas.

HYDRATED LIME.

Lime-hydrating plants reported as in operation during 1906, 1907, and 1908 are classified by States in the following table. The output of hydrated lime reported was 120,357 short tons, valued at \$479,079, in 1906; 140,135 short tons, valued at \$657,636, in 1907; and 136,441 short tons, valued at \$548,262, in 1908. The average price per ton was \$3.98 in 1906, \$4.69 in 1907, and \$4.02 in 1908. Notwithstanding the decreased production for 1908 compared with 1907, there were more manufacturers reporting hydrating plants than in 1906 or 1907. Hydrated lime is used for all purposes, but these figures are collected to show the development of this comparatively recent industry.

Number of lime-hydrating plants in operation in 1906, 1907, and 1908, by States.

State.	1906.	1907.	1908.	State.	1906.	1907.	1908.
Alabama.....	1	1	1	Michigan.....	1	1	2
Arizona.....	1	1	1	Missouri.....		2	2
California.....		1	2	New Jersey.....			1
Colorado.....		1		New York.....	1	2	2
Connecticut.....	1			Ohio.....	8	9	11
Florida.....			1	Pennsylvania.....	8	6	11
Georgia.....	2	1	1	Tennessee.....			1
Illinois.....		1	1	Texas.....			1
Indiana.....	2	2	2	Virginia.....			1
Iowa.....	1			West Virginia.....	1	1	1
Kansas.....	1	1		Wisconsin.....	1	2	2
Maine.....	1	1	1	Total.....	30	33	46
Maryland.....			1				

IMPORTS AND EXPORTS.

The imports of lime for consumption in the United States in 1908 were 5,060 short tons, valued at \$28,952, as against 15,388 short tons, valued at \$86,304, in 1907, a decrease of 10,328 short tons in quantity and of \$57,352 in value in 1908.

No lime was reported as exported in 1908. In 1907 the exports were valued at \$90,379.