

MANUFACTURES

This section presents statistics on the manufacturing segment of the economy.

The number of manufacturing establishments in Hawaii increased from 222 in 1899 to 474 in 1939 and 765 in 1972. The value added by manufacture rose from \$11 million in 1899 to \$58 million in 1939, \$326 million in 1967, and \$412 million in 1972. About 76 percent of all manufacturing activity in the State was on Oahu in 1972. Food processing—mostly sugar and pineapple—accounted for 50 percent of the value added by manufacture in that year. Growth has been most rapid, however, in manufacturing outside of the sugar and pineapple industries. Between 1963 and 1973, the general excise and use tax base increased 45 percent for sugar processing, 24 percent for pineapple canning, and 109 percent for all other manufacturing. Pineapple production in 1972-1973 dropped to 25.2 million cases of fruit and juice, well below the levels of earlier years. Sugar production in 1973 amounted to 1.1 million short tons, likewise less than totals for earlier periods.

Sources for data on this subject include the United States Census of Manufactures, most recently taken as of 1972, the Annual Survey of Manufactures, and publications of the Hawaii State Department of Labor and Industrial Relations and Department of Taxation, Hawaiian Sugar Planters' Association, and Pineapple Growers Association of Hawaii. Statistics for the nation as a whole appear in Section 28 of the *Statistical Abstract of the United States: 1973*.

Table 268.—MANUFACTURING: 1899 TO 1972

Year ¹	Establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of industry shipments (million dollars)	Capital expenditures, new (million dollars)
	Total	With 20 employees or more	Number	Payroll (million dollars)	Number	Man-hours (millions)	Wages (million dollars)				
1899	222	(NA)	4,418	2.0	3,655	(NA)	1.5	11.1	(NA)	(NA)	(NA)
1909	500	(NA)	7,572	2.8	5,904	(NA)	2.1	21.6	(NA)	(NA)	(NA)
1919	496	(NA)	11,744	8.7	9,969	(NA)	6.6	51.9	(NA)	(NA)	(NA)
1939	474	(NA)	19,518	15.3	17,002	(NA)	11.5	58.4	(NA)	(NA)	(NA)
1954	520	137	24,381	77.1	19,524	36.1	50.8	140.3	(NA)	(NA)	11.7
1958	618	179	23,896	82.2	17,823	31.9	51.8	164.9	(NA)	(NA)	17.2
1959	(NA)	(NA)	25,962	93.1	19,397	35.9	61.8	197.1	(NA)	(NA)	(NA)
1960	(NA)	(NA)	23,456	89.4	17,358	32.7	56.6	183.2	(NA)	(NA)	60.6
1961	(NA)	(NA)	23,238	93.4	16,840	31.2	57.4	204.5	(NA)	(NA)	31.5
1962	(NA)	(NA)	22,645	94.0	16,159	29.9	57.5	199.0	(NA)	(NA)	14.2
1963	672	203	25,144	109.0	18,722	33.2	67.5	261.1	(NA)	(NA)	15.4
1964	(NA)	(NA)	25,000	113.7	18,300	33.1	69.4	268.8	372.0	638.4	17.7
1965	(NA)	(NA)	25,400	118.1	18,700	34.0	73.5	292.1	365.9	655.5	17.2
1966	(NA)	(NA)	24,800	123.8	18,700	34.3	78.2	310.8	371.5	680.9	24.1
1967	697	215	25,400	139.6	19,000	35.9	86.9	326.2	399.6	723.4	26.0
1968	(NA)	(NA)	23,200	134.0	17,400	32.2	83.3	353.9	381.9	737.1	15.6
1969	(NA)	(NA)	23,900	145.3	17,900	33.2	90.8	351.0	408.3	758.1	19.8
1970	(NA)	(NA)	24,800	168.7	18,100	35.3	102.8	408.6	451.1	856.9	40.5
1971	(NA)	(NA)	24,400	176.6	17,500	34.3	105.7	435.0	465.9	899.9	28.0
1972	765	238	24,800	190.2	17,600	33.1	113.0	412.3	543.8	953.6	46.6

NA Not available

¹Data for 1899-1958, 1963, 1967 and 1972 are from the Census of Manufactures for those years. Data for other years are from the Annual Survey of Manufactures and are subject to considerable sampling variation. Because of changes in definitions over time, data are not entirely comparable from year to year; see sources for discussion.

Source: U.S. Bureau of the Census, *Census of Manufactures, 1963*, MC63(3)-12, table 2; *Census of Manufactures, 1967*, MC67(3)-12, table 2; and *Census of Manufactures, 1972*, MC72(P)-S12, p. 1.

Table 269.—MANUFACTURING, BY COUNTY: 1972 and 1967

County	1972											1967	
	Establishments		All employees ¹		Production workers			Value added by manufacture (million dollars)	Cost of materials ² (million dollars)	Value of shipments ² (million dollars)	Capital expenditures, new (million dollars)	All employees (1,000)	Value added by manufacture (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (million)	Wages (million dollars)						
State total ...	765	238	24.8	190.2	17.6	33.1	113.0	412.3	543.8	953.6	46.6	25.4	326.2
Hawaii	83	22	2.3	19.5	1.7	3.3	12.8	49.2	51.3	100.3	10.1	1.9	34.4
Honolulu	596	187	19.2	145.4	13.5	24.9	83.0	315.2	407.5	721.3	33.0	19.5	252.2
Kauai	28	8	.8	5.8	.6	1.1	4.0	16.7	25.2	42.0	1.4	1.2	20.6
Maui	49	13	2.3	18.4	1.7	3.5	12.3	27.4	53.8	80.9	2.1	2.8	19.0

269a Manufacturing, by Geographic Area: 1967 + 1972

Table 270.—MANUFACTURING, BY INDUSTRY GROUP: 1972 AND 1967

Code	Industry	1972										1967		
		Establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials ² (million dollars)	Value of shipments ² (million dollars)	Capital expenditures, new (million dollars)	All employees (1,000)	Value added by manufacture (million dollars)
		Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (million)	Wages (million dollars)						
	All industries, total ³	765	238	24.8	190.2	17.6	33.1	113.0	412.3	543.8	953.6	46.6	25.4	326.2
20	Food and kindred products	204	67	11.7	86.7	8.8	16.9	56.1	206.7	301.6	507.9	18.7	14.2	185.4
201	Meat products	18	8	.4	2.7	.3	.5	1.8	5.9	24.0	30.0	(D)	BB	(D)
203	Preserved fruits and vegetables	36	5	4.9	28.2	4.4	8.0	22.0	70.5	71.2	141.7	2.3	(NA)	(NA)
2033	Canned fruits and vegetables	15	5	4.8	27.4	4.3	7.8	21.5	69.0	69.4	138.4	2.1	6.8	67.2
203	Bakery products	17	7	.7	6.1	.4	.7	3.0	11.2	7.7	18.9	.5	.7	8.7
2051	Bread, cake, and related products	13	5	.6	5.5	.3	.6	2.7	10.3	6.2	16.5	.5	.6	7.9
206	Sugar and confectionery products	37	24	3.8	32.8	2.6	5.4	21.4	80.3	122.8	202.7	(D)	(NA)	(NA)
2061	Raw cane sugar	18	18	3.3	29.5	2.3	4.8	19.4	70.8	106.7	177.5	13.5	3.8	71.3
209	Misc. foods and kindred products	56	6	.7	4.5	.5	1.1	3.1	9.4	13.3	22.7	.6	(NA)	(NA)
23	Apparel, other textile products	120	55	3.3	15.5	2.9	5.3	11.8	31.0	17.4	47.7	.6	2.5	16.3
2335	Women's and misses' dresses	50	25	1.7	7.9	1.4	2.5	5.8	15.8	7.9	23.4	.2	1.0	6.7
239	Misc. fabricated textile products	21	5	.3	1.1	.3	.5	.8	2.0	2.5	4.5	.1	(NA)	(NA)
24	Lumber and wood products	38	12	.9	7.4	.7	1.3	5.4	13.1	12.4	25.3	.6	(NA)	(NA)
25	Furniture and fixtures	26	11	.7	5.1	.4	.7	2.4	7.9	11.1	18.4	1.0	CC	(D)
251	Household furniture	16	9	.6	4.3	.3	.6	2.0	6.6	10.2	16.1	.9	(NA)	(NA)
27	Printing and publishing	115	22	2.7	23.9	1.4	2.4	11.9	53.1	20.1	73.2	9.1	2.0	27.0
275	Commercial printing	64	9	.7	6.8	.5	.9	4.3	13.4	9.1	22.7	1.4	(NA)	(NA)
2752	Commercial printing, lithographic	26	8	.5	5.3	.3	.6	3.3	9.4	5.8	15.2	1.1	(NA)	(NA)

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Table 270.—MANUFACTURING, BY INDUSTRY GROUP: 1972 AND 1967 (continued)

Code	Industry	1972										1967		
		Establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials ² (million dollars)	Value of shipments ² (million dollars)	Capital expenditures, new (million dollars)	All employees (1,000)	Value added by manufacture (million dollars)
		Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (million)	Wages (million dollars)						
32	Stone, clay, and glass products . . .	40	12	1.0	11.7	.7	1.5	7.4	29.4	23.8	53.2	4.0	1.1	18.4
35	Machinery, except electrical	28	3	.4	3.4	.3	.5	2.4	4.8	3.6	7.7	.2	.5	5.5
39	Misc. manufacturing industries . . .	53	9	.8	3.8	.6	1.1	1.9	6.7	4.8	11.5	.8	.5	2.0
399	Miscellaneous manufactures	26	5	.6	2.3	.4	.8	1.0	3.6	2.6	6.3	.7	.3	1.1
—	Administrative and auxiliary	22	9	.8	11.2	—	—	—	—	—	—	—	1.0	—

Note: The following symbols indicate employment size range for 1967:

AA less than 250 employees
 BB 250 to 499 employees
 CC 500 to 999 employees

EE 1,000 to 2,499 employees
 FF 2,500 employees and over

— Represents zero.

NA Not available. Because of a revision to this industry or industry group in the 1972 edition of the SIC manual, 1967 census data are not available on a comparable basis.

D Withheld to avoid disclosing figures for individual companies.

¹Includes employment and payroll at central administrative offices and auxiliary units.

²The total cost of materials and value of shipments for industry groups may include extensive duplication arising from shipments between establishments in the same industry classification.

³Includes figures for industry groups which have not been separately reported.

Source of tables 269 and 270: U.S. Bureau of the Census, *1972 Census of Manufactures*, MC72(P)-S12, p. 2.

**Table 271.—GENERAL EXCISE TAX BASE FOR SUGAR PROCESSING, PINEAPPLE CANNING,
AND MANUFACTURING: 1936 TO 1973**
(In thousands of dollars)

Year reported ¹	Total	Sugar processing	Pineapple canning ²	Manufacturing ³
1936	(NA)	62,333	36,836	(NA)
1940	96,228	46,141	35,972	14,115
1945	132,312	62,107	41,460	28,745
1950	277,705	109,484	94,742	73,479
1955	330,219	120,516	105,936	103,767
1960	341,757	99,079	96,939	145,739
1961	380,689	118,398	93,777	168,514
1962	392,628	135,328	99,143	158,157
1963	416,615	146,761	99,353	170,501
1964	436,741	148,103	109,808	178,830
1965	465,203	152,701	123,761	188,741
1966	490,119	178,909	105,747	205,463
1967	521,122	171,155	131,695	218,272
1968	533,288	184,663	114,554	234,071
1969	592,692	196,744	116,466	279,482
1970	575,222	175,337	114,634	285,251
1971	599,686	190,209	124,548	284,929
1972	638,059	205,962	124,265	307,833
1973	692,715	213,095	123,597	356,023

NA Not available.

¹Calendar year in which reported, including "prior years" reports. Income received in December is reported the following January, hence these annual totals generally refer to an "income year" ended November 30.

²Includes canning of products other than pineapple through 1957.

³Excludes sugar processing and pineapple canning. Includes printing and publishing, shown separately before 1955. Canning of products other than pineapple excluded through 1957, and included beginning in 1958.

Source: *Report of the Tax Commissioner* for 1940, 1941-1947, and 1954; Hawaii State Department of Taxation, "General Excise and Use Tax Base" (annual tabular release) for 1955 and later years.

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Table 272.—PINEAPPLE PRODUCTION: 1903 TO 1973
 (Hawaiian pack only; excludes overseas production by Hawaiian companies.)

Year ¹	Single-strength canned pineapple (actual cases)			Concentrated pineapple juice (equivalent 6/10 cases)
	Total fruit and juice	Fruit	Juice	
1903	1,893	1,893	—	—
1905	45,041	45,041	—	—
1910	464,968	464,968	—	—
1915	2,669,916	2,669,916	—	—
1920	5,986,982	5,986,982	—	—
1925	8,728,580	8,728,580	—	—
1930	12,672,296	12,672,296	—	—
1935-36	15,515,176	11,428,246	4,086,930	—
1940-41	21,755,716	10,947,414	10,808,302	—
1945-46	17,722,102	9,050,898	8,671,204	—
1950-51	27,451,562	15,097,960	12,353,602	—
1955-56	30,836,161	18,612,561	12,223,600	—
1960-61	30,035,864	18,461,912	11,573,952	723,619
1961-62	29,880,482	18,121,674	11,758,808	449,715
1962-63	30,395,233	18,457,107	11,938,126	728,075
1963-64	28,794,589	17,644,797	11,149,792	1,184,964
1964-65	26,728,812	16,301,014	10,427,798	1,041,084
1965-66	29,714,443	17,833,405	11,881,038	1,019,422
1966-67	30,327,598	19,004,793	11,322,805	1,062,423
1967-68	27,796,082	17,001,665	10,794,417	642,662
1968-69	28,658,408	17,728,421	10,929,987	691,617
1969-70	28,784,396	16,970,762	11,813,634	731,294
1970-71	28,307,910	17,717,851	10,590,059	1,015,664
1971-72	28,965,634	17,961,497	11,004,137	789,348
1972-73	25,173,461	15,891,173	9,282,288	633,870

¹Calendar years, 1903-1930; pack years ended May 31, 1936 and thereafter.

Source: Pineapple Growers Association of Hawaii, *Pineapple Fact Book Hawaii 1973* (January 1973), p. 18, and records.

✓ Table 273.—SUGAR PRODUCTION: 1837 TO 1973

Year	Sugar produced (short tons)	Year	Sugar produced (short tons)	Year	Sugar produced (short tons)
1837	2	1860	572	1885	85,695
1840	180	1865	7,659	1890	129,899
1845	151	1870	9,392	1895	149,627
1850	375	1875	12,540	1900	289,544
1855	145	1880	31,792	1905 ¹	426,248

Year	Total cane land (acres)	Sugar produced (96° raw value, short tons)	Average yield per acre (short tons)	Ave. N.Y. raw sugar price cwt. (dollars)	Ave. daily cash wage, non-superv. employees ² (dollars)	Man-hours per ton of sugar, raw value
1910 ¹	209,469	529,940	37.4	...	...	...
1915 ¹	239,800	650,970	45.8	...	...	...
1920 ¹	247,838	560,379	39.2	...	...	...
1925 ¹	240,597	781,000	52.2	...	...	...
1930 ¹	242,761	939,287	58.7	...	...	...
1935	246,491	986,849	67.8	3.23	1.70	...
1940	235,110	976,677	62.7	2.78	2.18	...
1945 ³	211,331	821,216	71.4	3.75	5.10	33.24
1950	220,383	960,961	74.7	5.93	8.30	25.86
1955	218,819	1,140,112	92.94	5.95	10.62	17.42
1960	224,617	935,744	83.15	6.31	13.18	16.72
1961	227,027	1,092,481	88.58	6.30	14.11	13.90
1962	228,926	1,120,011	90.36	6.45	14.96	13.76
1963	231,321	1,100,768	93.39	8.20	16.68	13.56
1964	233,145	1,178,770	94.76	6.90	17.60	11.76
1965	235,576	1,217,667	97.97	6.75	18.40	10.82
1966	237,499	1,234,121	98.82	6.99	19.76	10.50
1967	239,813	1,191,042	98.74	7.28	21.35	10.64
1968	242,476	1,232,182	99.36	7.52	21.62	9.98
1969	242,216	1,182,414	95.73	7.75	23.26	9.44
1970	238,997	1,162,071	91.88	8.08	24.24	9.50
1971	232,278	1,229,976	92.26	8.52	26.08	9.04
1972	229,611	1,118,883	91.55	9.10	29.09	9.22
1973	226,580	1,128,529	89.15	10.30	30.86	...

¹Production year ended September 30.

²Cash wage only. Excludes value of housing, medical care, and other perquisites provided without charge to employees until elimination of the perquisite system in December 1946. Also excludes value of "employee benefits", estimated at \$10.00 in 1971.

³Value for man-hours per ton refers to 1946.

Source: U.S. Bureau of Labor Statistics, *Labor Conditions in the Territory of Hawaii, 1929-1930* (1932), pp. 12-13; Hawaiian Sugar Planters' Association, *HSPA Sugar Manual 1973* (1973), pp. 6-9, and records.

273A. Value of Sales and Government Payments for Pineapple and Sugar Production: 1958 to 1974