

SECTION 21

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 697 in 1967, and the value added by manufacture rose from \$11 million to \$58 million to \$326 million during the same period. Over 77 percent of all manufacturing activity in the State was on Oahu in 1967. Food processing—mostly sugar and pineapple—accounted for 57 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 1961 and 1971, the general excise and use tax base increased 61 percent for sugar processing, 33 percent for pineapple canning, and 69 percent for all other manufacturing.

Sources for data on this subject include the United States Census of Manufactures, most recently taken as of 1967, 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: 1972*.

Table 244.—MANUFACTURING: 1899 TO 1971

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)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
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

NA Not available.

¹Data for 1899-1958, 1963, and 1967 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 *Annual Survey of Manufactures, 1971* M71(AS)-6.9, p. 5.

Table 245.—MANUFACTURING, BY INDUSTRY GROUP AND ISLAND: 1971

Island and industry group	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)	End-of-year-inventories (million dollars)
	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man-hours (millions)	Wages (million dollars)					
State total	24.4	176.6	17.5	34.3	105.7	435.0	465.9	899.9	28.0	92.2
Island:										
Oahu	20.2	143.8	14.4	27.8	82.7	321.7	369.5	691.2	16.7	71.3
Other Islands	4.2	32.8	3.1	6.5	23.0	113.3	96.4	208.7	11.3	20.9
Industry group:										
Food and kindred products	11.7	83.8	8.5	17.2	52.9	254.0	276.9	529.4	18.7	41.1
Canned fruits, vegetables	4.9	27.9	4.4	8.3	21.0	67.1	83.3	150.5	2.9	20.8
Raw cane sugar	3.5	28.0	2.4	5.3	18.4	118.1	75.3	193.4	9.7	6.5
Other food products	3.3	27.9	1.7	3.6	13.5	68.8	118.3	185.5	6.1	13.8
Apparel, other textile products	3.1	13.6	2.7	5.3	9.6	24.3	14.4	38.9	(D)	5.3
Lumber and wood products	0.4	2.8	0.4	0.6	1.9	2.1	7.5	9.7	0.1	1.4
Printing and publishing	2.6	21.4	1.4	2.5	10.3	49.0	12.6	61.9	1.4	2.5
Stone, clay, glass products	1.2	10.9	0.9	1.5	7.1	26.8	23.5	50.1	2.3	6.1
Fabricated metal products	0.6	4.2	0.5	1.0	2.4	12.8	27.5	40.9	0.2	13.0
Machinery, except electrical	0.4	3.2	0.3	0.6	2.4	4.7	3.0	7.3	0.2	2.0
Misc. mfg. industries	0.6	2.5	0.5	0.9	1.7	4.6	3.4	7.9	0.2	0.9
Administrative, auxiliary	0.7	8.5	—	—	—	—	—	—	—	—

D Withheld to avoid disclosing figures for individual companies.

Source: U.S. Bureau of the Census, *Annual Survey of Manufactures, 1971*, M71(AS)-6.9, pp. 10 and 15.

Table 246.—GENERAL EXCISE TAX BASE FOR SUGAR PROCESSING, PINEAPPLE CANNING, AND MANUFACTURING: 1936 TO 1972
(In thousands of dollars.)

Year reported ¹	Sugar processing	Pineapple canning ²	Manu- facturing ³	Year reported ¹	Sugar processing	Pineapple canning ²	Manu- facturing ³
1936	62,333	36,836	(NA)	1960	99,079	96,939	145,739
1937	54,186	49,254	(NA)	1961	118,398	93,777	168,514
1938	48,667	26,181	(NA)	1962	135,328	99,143	158,157
1939	46,126	37,331	18,060	1963	146,761	99,353	170,501
1940	46,141	35,972	14,115	1964	148,103	109,808	178,830
1941	52,687	53,156	26,812	1965	152,701	123,761	188,741
1942	51,757	42,520	29,077	1966	178,909	105,747	205,463
1943	64,881	44,421	28,542	1967	171,155	131,695	218,272
1944	62,418	47,876	25,063	1968	184,663	114,554	234,071
1945	62,107	41,460	28,745	1969	196,744	116,466	279,482
1946	62,875	49,034	27,651	1970	175,337	114,634	285,251
1947	83,540	61,083	38,303	1971	190,209	124,548	284,929
1948	76,494	68,744	74,470	1972	205,962	124,265	307,833
1949	77,465	64,824	70,948				
1950	109,484	94,742	73,479				
1951	109,644	75,244	86,627				
1952	107,964	92,729	88,925				
1953	119,823	87,166	104,598				
1954	111,520	90,412	93,839				
1955	120,516	105,936	103,767				
1956	103,948	97,913	104,715				
1957	121,119	97,465	101,956				
1958	67,358	107,300	103,867				
1959	113,865	98,957	129,123				

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 1955-1972.

Table 247.—HAWAIIAN PINEAPPLE PRODUCTION: 1903 TO 1972

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	28,836,851	17,832,714	11,004,137	918,131

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 248.—SUGAR PRODUCTION: 1837 TO 1972

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	229,610	1,118,883	91.55	9.10	29.09	—

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 1972* (1972), pp. 6-9, and records.