

SECTION 21

MANUFACTURERS

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 Manufacturers, 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: 1971*.

Table 198.—MANUFACTURING: 1899 TO 1969

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 ployees 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

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, 1969*, M69(AS)-6.9, table 1, p. 5.

Table 199.—MANUFACTURING, BY INDUSTRY AND ISLAND: 1969

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	23.9	145.3	17.9	33.2	90.8	351.0	408.3	758.1	19.8	90.5
Island:										
Oahu	18.5	114.4	13.7	25.3	69.3	254.5	317.0	570.2	14.2	70.6
Other Islands	5.4	30.9	4.2	7.9	21.5	96.5	91.3	187.9	5.6	19.9
Industry:										
Food and kindred products	13.1	74.7	10.0	18.2	47.9	202.2	236.3	437.2	13.7	40.9
Canned fruits, vegetables	6.0	27.6	5.5	9.3	21.3	43.6	74.6	118.2	2.3	25.2
Raw cane sugar	3.7	24.5	2.6	5.0	16.1	95.7	80.1	175.7	5.3	5.3
Apparel, other textile products	3.1	12.4	2.7	5.3	9.4	21.1	14.6	35.7	(W)	4.3
Lumber and wood products ¹	1.0	5.5	0.8	1.6	4.3	9.5	8.9	17.9	0.3	2.6
Printing and publishing ¹	1.3	11.2	0.7	1.0	7.1	33.8	15.3	49.2	0.5	3.6
Stone, clay, glass products	0.9	8.3	0.6	1.4	5.1	23.0	22.1	48.2	1.6	2.5
Fabricated metal products	0.7	5.1	0.6	1.2	4.1	12.3	21.1	32.0	0.2	11.4
Machinery, except electrical ¹	0.3	1.9	0.3	0.5	1.6	3.2	1.5	5.4	0.3	0.8
Misc. mfg. industries	0.5	1.7	0.4	0.8	1.0	2.5	1.2	3.7	0.0	0.7
Administrative, auxiliary	0.7	7.9	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)

W Withheld to avoid disclosure.

X Not applicable.

¹Subject to considerable sampling variation.

Source: U.S. Bureau of the Census, *Annual Survey of Manufactures, 1969*, M69(AS)-6.9, table 3, p. 10, and table 4, p. 15.

Table 200.—GENERAL EXCISE AND USE TAX BASE FOR SUGAR PROCESSING, PINEAPPLE CANNING, AND MANUFACTURING: 1958 TO 1971

Year	Sugar processing (\$1,000)	Pineapple canning (\$1,000)	Manufacturing (\$1,000)
1958	67,358	107,300	103,867
1959	113,865	98,957	129,123
1960	99,079	96,939	145,739
1961	118,398	93,777	168,514
1962	135,328	99,143	158,157
1963	146,761	99,353	170,501
1964	148,103	109,808	178,830
1965	152,701	123,761	188,741
1966	178,909	105,747	205,463
1967	171,155	131,695	218,272
1968	184,663	114,554	234,071
1969	196,744	116,466	279,482
1970	175,337	114,634	285,251
1971	190,209	124,548	284,929

Source: Hawaii State Department of Taxation, annual releases.

Table 201.—PINEAPPLE PRODUCTION: 1903 TO 1971

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	1,129,046
1966-67	30,327,598	19,004,793	11,322,805	1,211,166
1967-68	28,035,755	17,241,338	10,794,417	679,735
1968-69	28,659,533	17,729,546	10,929,987	1,011,512
1969-70	28,784,396	16,970,762	11,813,634	731,294
1970-71	28,250,938	17,675,249	10,575,689	986,362

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

Source: Pineapple Growers Association of Hawaii, *Pineapple Fact Book Hawaii 1969* (May 1969), p. 18, and records.

Table 202.—SUGAR PRODUCTION: 1837 TO 1971

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	—

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 1971* (1971), pp. 6-9, and records.