

## MANUFACTURES

This section presents statistics on the manufacturing segment of the economy, including sugar processing and pineapple canning.

The number of manufacturing establishments in Hawaii increased from 618 in 1958 to 697 in 1967 and 773 in 1972. The value added by manufacture rose from \$165 million in 1958 to \$261 million in 1963, \$326 million in 1967, and \$410 million in 1972. About 78 percent of all manufacturing activity in the State was on Oahu in 1972. Food processing—mostly sugar and pineapple—accounted for more than half of the value added by manufacture in that year. Between 1965 and 1975, the general excise and use tax base increased 297 percent for sugar processing, 6 percent for pineapple canning, and 128 percent for all other manufacturing. There were three pineapple canneries and 17 sugar mills in Hawaii in mid-1976. The production of canned pineapple fruit and juices in 1973–1974 dropped to 22.5 million actual cases, well below the levels of earlier years, but fresh pineapple sales reached a new high. Sugar production in 1975 amounted to 1.1 million short tons, about the same level as in other recent years. The value of production (including raw sugar and commercial molasses) was \$366 million, well below the record set in 1974 but still the second best year in Island history.

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: 1975*.

Table 301.—MANUFACTURING: 1958 TO 1973

Year <sup>1</sup>	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)				
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 .....	773	238	24,800	191.1	17,700	33.1	113.7	410.0	548.3	955.6	46.7
1973 .....	(NA)	(NA)	24,300	195.5	17,500	31.9	117.9	496.1	592.9	1,086.4	36.6

NA Not available.

<sup>1</sup>Data for 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(3)-12, table 2; *Annual Survey of Manufactures, 1973*, M73(AS)-6, p. 205.

**Table 302.—MANUFACTURING, BY GEOGRAPHIC AREA: 1972**

Standard metropolitan statistical area, county, and city	Establishments		All employees		Production workers			Value added by manu- facture (million dollars)	Cost of materials (million dollars)	Value of ship- ments (million dollars)	Capital expen- ditures, new (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Man- hours (millions)	Wages (million dollars)				
Hawaii, total .....	773	238	25.0	191.7	17.7	33.1	113.8	410.3	548.5	956.1	47.2
<b>STANDARD METROPOLITAN STATISTICAL AREA</b>											
Honolulu .....	612	193	19.6	148.9	13.9	25.4	85.9	321.2	412.4	731.8	33.1
<b>COUNTIES</b>											
Hawaii .....	85	24	2.5	20.4	1.7	3.4	12.8	49.8	51.9	101.4	10.7
Honolulu .....	612	193	19.6	148.9	13.9	25.4	85.9	321.2	412.4	731.8	33.1
Kauai .....	28	8	.8	5.8	.6	1.1	4.0	13.0	28.9	42.0	1.4
Maui .....	48	13	2.1	16.5	1.6	3.3	11.0	26.3	55.3	80.9	2.1
<b>CITIES WITH 450 OR MORE EMPLOYEES</b>											
Ewa Beach and Barbers Point .....	8	6	.5	5.4	.4	.7	3.8	15.9	30.8	46.4	11.9
Hilo .....	57	11	.9	6.9	.6	1.1	3.9	14.1	9.1	23.0	.6
Honolulu .....	534	169	17.1	126.6	12.2	22.3	72.6	261.1	282.5	542.5	16.8
Kahului .....	5	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Waipahu .....	11	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

Footnotes and source follow table 303.

Table 303.—MANUFACTURING, BY INDUSTRY GROUP AND INDUSTRY: 1972

Ind. code	Industry group and industry	Establishments		All employees		Production workers		Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)
		Total	With 20 employees or more	Number (1,000)	Payroll (million dollars)	Number	Man-hours (millions)			
	All manufacturing .....	733	238	25.0	191.7	17.7	33.1	410.3	548.5	956.1
20	Food and kindred products .....	209	70	11.9	87.8	8.8	17.0	215.4	308.3	513.0
201	Meat products .....	18	8	0.4	2.7	0.3	0.5	5.9	24.0	30.0
202	Dairy products .....	11	5	(D)	(D)	(D)	(D)	(D)	(D)	(D)
203	Preserved fruits, vegetables .....	38	5	4.9	28.2	4.4	8.0	70.5	71.3	141.8
2033	Canned fruits, vegetables .....	15	5	4.8	27.4	4.3	7.8	69.0	69.4	138.4
204	Grain mill products .....	8	6	0.2	1.7	0.1	0.2	5.6	20.9	26.5
205	Bakery products .....	18	8	0.7	6.3	0.4	0.8	11.4	7.8	19.3
206	Sugar, confectionery products ..	37	24	3.8	32.8	2.6	5.4	76.7	136.5	202.7
2061	Raw cane sugar .....	18	18	3.4	29.5	2.3	4.8	67.1	110.4	177.5
208	Beverages .....	21	8	(D)	(D)	(D)	(D)	(D)	(D)	(D)
209	Misc. foods, kindred products ..	56	6	0.7	4.5	0.5	1.1	9.4	13.3	22.7
23	Apparel, other textile products ...	120	55	3.3	15.4	2.9	5.2	29.6	17.4	46.4
24	Lumber and wood products .....	38	12	0.9	7.4	0.7	1.3	13.1	12.4	25.3
25	Furniture and fixtures .....	26	11	0.7	5.1	0.4	0.7	7.9	11.1	18.4
26	Paper and allied products .....	11	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)
27	Printing and publishing .....	117	21	2.5	22.8	1.3	2.2	46.2	17.3	63.6
28	Chemicals and allied products ....	21	5	(D)	(D)	(D)	(D)	(D)	(D)	(D)
29	Petroleum and coal products .....	5	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)
30	Rubber, misc. plastics products ...	11	5	(D)	(D)	(D)	(D)	(D)	(D)	(D)
32	Stone, clay, glass products .....	42	13	1.1	12.3	0.8	1.6	31.8	24.7	56.5
33	Primary metal industries .....	3	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)
34	Fabricated metal products .....	33	10	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35	Machinery, except electrical .....	28	3	0.4	3.4	0.3	0.5	4.8	3.6	7.7
37	Transportation equipment .....	6	2	0.2	2.1	0.2	0.3	2.7	2.5	5.2
39	Misc. manufacturing industries ...	55	9	0.8	4.0	0.7	1.2	6.9	4.8	11.9
	Administrative and auxiliary .....	22	14	0.9	11.9	—	—	—	—	—

(D) Withheld to avoid disclosing figures for individual companies.

Source of tables 302 and 303: U.S. Bureau of the Census, *Census of Manufactures, 1972, Hawaii*, MC72(3)-12.

**Table 304.—PINEAPPLE CANNERIES AND SUGAR MILLS: 1958 TO 1975**

Year	Pineapple canneries <sup>1</sup>	Sugar <sup>2</sup>	
		Companies	Mills
1958 .....	9	27	27
1959 .....	9	27	27
1960 .....	9	27	27
1961 .....	9	27	27
1962 .....	8	27	27
1963 .....	6	26	27
1964 .....	6	26	27
1965 .....	6	25	27
1966 .....	6	25	27
1967 .....	6	25	26
1968 .....	6	25	26
1969 .....	6	24	26
1970 .....	4	23	26
1971 .....	4	23	26
1972 .....	4	21	23
1973 .....	4	19	21
1974 .....	3	17	20
1975 .....	3	16	17
ISLANDS: 1975			
Hawaii .....	—	6	7
Maui .....	1	3	4
Oahu .....	2	2	2
Kauai .....	—	5	4

<sup>1</sup>Variable dates, usually after the end of the canning season.

<sup>2</sup>As of December 31.

Source: The Pineapple Growers Association of Hawaii, records; Hawaiian Sugar Planters' Association, records.

**Table 305.—GENERAL EXCISE TAX BASE FOR SUGAR PROCESSING, PINEAPPLE CANNING,  
AND MANUFACTURING: 1958 TO 1975**  
(In thousands of dollars)

Year reported <sup>1</sup>	Total	Sugar processing	Pineapple canning	Manufacturing <sup>2</sup>
1958 .....	278,525	67,358	107,300	103,867
1959 .....	341,945	113,865	98,957	129,123
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
1974 (rev.) .....	934,613	454,660	103,686	376,268
1975 .....	1,166,923	605,521	131,655	429,748

NA Not available

<sup>1</sup>Calendar 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.

<sup>2</sup>Excludes sugar processing and pineapple canning.

Source: Hawaii State Department of Taxation, "General Excise and Use Tax Base" (annual tabular release).

**Table 306.—HAWAIIAN PINEAPPLE PRODUCTION: 1958 TO 1976**  
(Hawaiian pack only; excludes overseas production by Hawaiian companies.)

Pack year ended May 31	Canned fruit		Canned juice		Frozen concentrate		Value <sup>1</sup> (millions of dollars)
	1,000 actual cases	1,000 standard cases <sup>2</sup>	1,000 actual cases	1,000 standard cases <sup>3</sup>	1,000 equivalent 6/10 cases	1,000 standard cases <sup>3</sup>	
1958-1959 .....	17,677	12,863	12,454	9,682	1,170	1,071	128.8
1959-1960 .....	17,287	12,584	10,850	8,435	841	770	127.0
1960-1961 .....	18,462	13,240	11,574	8,839	724	662	117.8
1961-1962 .....	18,122	13,130	11,759	9,142	450	412	116.2
1962-1963 .....	18,457	13,177	11,938	9,199	728	666	113.4
1963-1964 .....	17,645	12,731	11,150	8,700	1,185	1,084	122.0
1964-1965 .....	16,301	11,520	10,428	8,000	1,041	953	124.1
1965-1966 .....	17,833	12,595	11,881	9,200	1,019	932	123.2
1966-1967 .....	19,005	13,168	11,323	8,800	1,062	972	124.5
1967-1968 .....	17,002	11,994	10,794	8,400	643	588	130.5
1968-1969 .....	17,728	12,116	10,930	8,600	692	633	125.0
1969-1970 .....	16,971	11,596	11,814	9,000	731	669	123.0
1970-1971 .....	17,718	12,028	10,590	8,100	1,016	929	135.0
1971-1972 .....	17,961	12,537	11,004	8,400	789	722	137.7
1972-1973 .....	15,891	11,108	9,282	7,400	633	580	140.5
1973-1974 .....	14,042	9,550	8,470	6,600	886	810	135.0
1974-1975 .....	11,584	8,110	5,643	4,400	438	610	118.2
1975-1976 .....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	126.6

NA Not available.

<sup>1</sup>Value of canned fruit and juices and byproducts shipped out-of-State and sold within State, as estimated by the Bank of Hawaii. Excludes fresh market sales.

<sup>2</sup>24 #2½ can, 45-lb. cases.

<sup>3</sup>24 #2½ can, 42½-lb. cases.

Source: The Pineapple Growers Association of Hawaii, *Pineapple Fact Book/Hawaii 1973* (January 1973), p. 18, and records; Hawaii Crop and Livestock Reporting Service, *Statistics of Hawaiian Agriculture* (annual), and records.

**Table 307.—EMPLOYMENT AND EARNINGS IN THE PINEAPPLE INDUSTRY:  
1970 TO 1974**

(Includes both field and cannery employment and earnings.)

Year	Full-time equivalent employment	Total wages and salaries (dollars)	Earnings per full-time equivalent employee (dollars)
1970 .....	8,087	51,582,000	6,378
1971 .....	7,404	51,195,757	6,915
1972 .....	7,110	48,527,957	6,825
1973 .....	5,759	42,613,741	7,400
1974 .....	4,894	37,649,653	7,693

Source: The Pineapple Growers Association of Hawaii, *Pineapple Fact Book/Hawaii 1973* (January 1973), pp. 4 and 7; Hawaii Employers Council, unpublished estimates for 1972-1974.

**Table 308.—SUGAR PRODUCTION: 1958 TO 1975**

Year	Cane land (acres)		Cane used for sugar (short tons)		Sugar produced (short tons)		Average New York raw sugar price cwt. (dollars)	Average daily earnings of workers (dollars) <sup>1</sup>	Field worker man-hours per ton (raw value)
	Total area	Harvested area	Total	Per acre	Converted to 96° raw value	Equivalent refined			
1958	221,683	84,136	7,552,750	89.77	764,953	714,925	6.27	12.78	18.02
1959	222,588	110,371	9,416,225	85.31	974,632	910,891	6.24	12.84	16.90
1960	224,617	103,584	8,613,317	83.15	935,744	874,546	6.31	13.18	16.72
1961	227,027	108,320	9,595,342	88.58	1,092,481	1,021,033	6.30	14.11	13.90
1962	228,926	108,600	9,812,580	90.36	1,120,011	1,046,762	6.45	14.96	13.76
1963	231,321	107,436	10,033,969	93.39	1,100,768	1,028,777	8.20	16.68	13.56
1964	233,145	110,759	10,495,175	94.76	1,178,770	1,101,678	6.90	17.60	11.76
1965	235,576	109,600	10,737,507	97.97	1,217,667	1,138,033	6.75	18.40	10.82
1966	237,499	111,005	10,969,925	98.82	1,234,121	1,153,409	6.99	19.76	10.50
1967	239,813	111,837	11,045,949	98.74	1,191,042	1,113,148	7.28	21.35	10.64
1968	242,476	113,525	11,279,920	99.36	1,232,182	1,151,597	7.52	21.62	9.98
1969	242,216	113,232	10,839,272	95.73	1,182,414	1,105,060	7.75	23.26	9.44
1970	238,997	113,816	10,457,377	91.88	1,162,071	1,086,000	8.08	24.24	9.50
1971	232,278	115,810	10,685,019	92.26	1,229,976	1,149,510	8.52	26.08	9.04
1972	229,611	108,456	9,929,068	91.55	1,118,883	1,045,708	9.10	29.09	9.22
1973	226,580	108,189	9,645,452	89.15	1,128,529	1,054,723	10.30	30.86	9.20
1974	224,227	95,826	9,082,684	94.76	1,040,742	972,677	29.43	32.92	9.32
1975	221,426	105,125	9,485,299	90.23	1,107,199	1,034,788	22.47		

NA Not available

<sup>1</sup> Cash wage only, excluding the value of employee benefits.

Source: Hawaiian Sugar Planters' Association, *HSPA Sugar Manual 1975*, pp. 8-11, and records.



**Table 309.—VALUE OF SALES AND GOVERNMENT PAYMENTS FOR PINEAPPLE AND SUGAR PRODUCTION: 1958 TO 1975**

Year	Pineapple (\$1,000,000)		Sugar (\$1,000)		
	Canned fruit and juices <sup>1</sup>	Fresh market sales <sup>2</sup>	Value of production <sup>3</sup>		Government payments
			Raw sugar 96°	Commercial molasses	
1958 .....	128.8	1.3	93,371	4,593	7,430
1959 .....	127.0	1.3	118,609	4,303	9,293
1960 .....	117.8	1.6	113,618	4,768	8,779
1961 .....	116.2	1.3	130,912	5,564	9,965
1962 .....	113.4	1.6	142,102	7,224	10,177
1963 .....	122.0	1.7	171,309	10,417	10,019
1964 .....	124.1	2.8	149,415	5,217	10,563
1965 .....	123.2	3.5	160,089	5,592	10,760
1966 .....	124.5	3.2	170,957	8,558	10,831
1967 .....	130.5	2.8	172,421	7,945	10,570
1968 .....	125.0	2.5	182,455	6,621	10,861
1969 .....	123.0	2.4	171,498	7,501	10,463
1970 .....	135.0	3.6	180,680	7,061	10,261
1971 .....	137.7	3.7	196,253	6,669	10,722
1972 .....	140.5	4.9	176,550	8,052	9,667
1973 .....	135.0	7.4	203,788	18,370	9,510
1974 .....	118.2	8.9	659,227	17,390	8,646
1975 .....	126.6	10.1	354,250	11,500	—

<sup>1</sup>Value of canned fruit and juices and byproducts shipped out-of-State and sold within State, as estimated by Bank of Hawaii.

<sup>2</sup>Value FAS shipping point for outshipments, delivered wholesalers local sales.

<sup>3</sup>Beginning with 1972, point of delivery changed from refinery to mill.

Source: Hawaii Crop and Livestock Reporting Service, *Statistics of Hawaiian Agriculture* (annual) and records.