

## Section 22

# 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 697 in 1967 to 773 in 1972 and 949 in 1977. The value added by manufacture rose from \$326 million in 1967 to \$410 million in 1972, \$786 million in 1977, and \$783 million in 1978. Three-fourths of all manufacturing activity in the State in 1977 was on Oahu. Food processing -- mostly sugar and pineapple -- accounted for more than 44 percent of the value added by manufacture in that year. Between 1971 and 1981, the general excise and use tax base increased 118 percent for sugar processing, 38 percent for pineapple canning, and 121 percent for all other manufacturing. There were three pineapple canneries and 15 sugar mills in Hawaii in mid-1981. The production of canned pineapple fruit and juices in 1981 amounted to 18 million actual cases, well below the levels of earlier years. Sugar production in 1981 amounted to 1.05 million short tons, about the same level as in other recent years. The value of sugar production (including commercial molasses) was \$328 million, well below the record set in 1974. Important manufactures other than food processing include apparel (\$45.9 million in value added in 1978), printing and publishing (\$97.9 million), and transportation equipment (\$28.4 million).

Sources for data on this subject include the United States Census of Manufactures, most recently conducted for 1977, the now-discontinued Annual Survey of Manufactures, and publications of the Hawaii State Department of Agriculture and Department of Taxation, Hawaiian Sugar Planters' Association, and Pineapple Growers Association of Hawaii. Historical Statistics of Hawaii, Section 16, reviews the figures for earlier years. Statistics for the nation as a whole appear in Section 29 of the Statistical Abstract of the United States: 1981.

Table 511.--MANUFACTURES: 1967 TO 1978

[Data from the Annual Survey of Manufactures. State-level tabulations from this source were discontinued following the release of 1978 statistics.]

Year	All employees		Production workers		
	Number (1,000)	Payroll (millions of dollars)	Number (1,000)	Hours (millions)	Wages (millions of dollars)
1967 ..	25.4	139.6	19.0	35.9	86.9
1968 ..	23.2	134.0	17.4	32.2	83.3
1969 ..	23.9	145.3	17.9	33.2	90.8
1970 ..	24.8	168.7	18.1	35.3	102.8
1971 ..	24.4	176.6	17.5	34.3	105.7
1972 ..	24.8	191.1	17.7	33.1	113.7
1973 ..	24.3	195.5	17.5	31.9	117.9
1974 ..	22.5	210.4	15.8	28.8	116.6
1975 ..	23.7	236.7	16.9	30.6	133.0
1976 ..	24.2	266.4	17.1	30.8	153.9
1977 ..	25.0	276.8	17.4	31.3	160.5
1978 ..	23.7	285.2	17.4	30.9	173.0
Year	Number of establish- ments	Value added by manufacture (millions of dollars)	Cost of materials <u>1</u> / (millions of dollars)	Value of shipments <u>1</u> / (millions of dollars)	New capital expenditures (millions of dollars)
1967 ..	697	326.2	399.6	723.4	26.0
1968 ..	(NA)	353.9	381.9	737.1	15.6
1969 ..	(NA)	351.0	408.3	758.1	19.8
1970 ..	(NA)	408.6	451.1	856.9	40.5
1971 ..	(NA)	435.0	465.9	899.9	28.0
1972 ..	773	410.0	548.3	955.6	46.7
1973 ..	(NA)	496.1	592.9	1,086.4	36.6
1974 ..	(NA)	913.8	952.9	1,848.2	50.2
1975 ..	(NA)	685.4	1,116.2	1,800.3	51.5
1976 ..	(NA)	700.3	1,156.8	1,854.8	55.6
1977 ..	949	785.5	1,176.1	1,974.0	44.4
1978 ..	(NA)	782.9	1,284.8	2,063.1	46.0

NA Not available.

1/ Aggregate cost of materials and value of shipments figures for manufacturing industries include extensive duplication, since products of some industries are used as materials by others.

Source: U.S. Bureau of the Census, Statistics for States, Standard Metropolitan Statistical Area, Large Industrial Counties, and Selected Cities, 1978 Annual Survey of Manufactures, M78(AS)-6 (September 1981), p. 101.

Table 512.-- MANUFACTURES, BY GEOGRAPHIC AREAS: 1977

Geographic area	All establishments <u>1/</u>		All employees <u>1/</u>		Value added by manufacture (million dollars)	Value of shipments <u>2/</u> (million dollars)
	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)		
State total	949	231	25.0	276.8	785.5	1,974.0
COUNTIES						
Honolulu .....	759	191	19.6	215.2	585.8	1,581.5
Others .....	190	40	5.4	61.6	199.7	392.5
Hawaii .....	99	16	2.4	30.4	83.1	157.7
Kauai .....	26	6	0.7	8.2	25.4	70.3
Maui .....	64	18	2.3	22.9	91.1	164.4
URBAN PLACES <u>3/</u>						
Hilo .....	61	8	0.7	8.9	13.7	32.4
Honolulu .....	657	159	17.1	183.9	416.8	1,106.4
Kahului .....	17	6	(D)	(D)	(D)	(D)
Wailuku .....	23	6	0.5	4.8	8.8	17.3
Waipahu .....	13	5	0.7	7.0	7.9	33.2

(D) Withheld to avoid disclosing operations of individual companies.

1/ Including central administrative offices and auxiliaries.

2/ Aggregate value of shipments for industry groups (2- and 3-digit) and for all manufacturing industries includes extensive duplication, since products of some industries are used as materials by others.

3/ With 450 manufacturing employees or more.

Source: U.S. Bureau of the Census, 1977 Census of Manufactures, Geographic Area Series, Hawaii, MC77-A-12 (October 1980), p. 12-4.

Table 513.-- MANUFACTURES, BY SELECTED INDUSTRY GROUP: 1978

SIC code	Industry	All employees		Production workers		
		Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)
	All industries .....	23.7	285.2	17.4	30.9	173.0
20	Food and kindred products .	10.8	120.7	8.3	14.9	78.5
2033	Canned fruits and veg. ..	3.5	28.9	3.1	5.1	23.3
206	Sugar, confect. products	3.7	46.9	2.8	6.0	33.2
2061	Raw cane sugar .....	3.2	41.6	2.3	5.2	29.8
23	Apparel, textile products .	3.3	24.4	2.9	5.2	18.4
27	Printing and publishing ...	2.5	37.1	1.3	2.3	18.8
28	Chemicals, allied products	.4	5.2	.2	.3	2.1
34	Fabricated metal products .	.4	5.8	.2	.6	3.7
35	Machinery, except electric	.3	2.7	.2	.6	1.8
37	Transportation equipment ..	.7	13.3	.7	.6	11.1
--	Administrative, auxiliary .	.6	16.2	-	-	
SIC code	Industry	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
	All industries .....	782.9	1,284.8	2,063.1	46.0	183.9
20	Food and kindred products .	371.2	495.3	865.3	27.7	77.8
2033	Canned fruits and veg. ..	81.3	101.6	182.9	2.9	34.4
206	Sugar, confect. products	176.7	181.0	357.8	17.8	21.4
2061	Raw cane sugar .....	129.6	155.1	284.7	17.1	12.1
23	Apparel, textile products .	45.9	33.1	78.8	.7	13.8
27	Printing and publishing ...	97.9	37.8	135.1	2.4	6.5
28	Chemicals, allied products	21.7	32.8	52.0	1.6	10.1
34	Fabricated metal products .	(Z)	40.3	41.1	.3	10.9
35	Machinery, except electric	3.6	3.4	6.6	.7	1.6
37	Transportation equipment ..	28.4	20.7	49.0	(D)	2.0
--	Administrative, auxiliary .	-	-	-	-	-

D Withheld to avoid disclosing information on individual companies.

Z Less than half the unit of measurement shown.

Source: U.S. Bureau of the Census, Statistics for States, Standard Metropolitan Statistical Areas, Large Industrial Counties, and Selected Cities, 1978 Annual Survey of Manufactures, M78(AS)-6 (September 1981), p. 102.

Table 514.-- GENERAL EXCISE TAX BASE FOR SUGAR PROCESSING,  
PINEAPPLE CANNING, AND MANUFACTURING: 1971 TO 1981

[In thousands of dollars. Data are on a cash basis accounting and may be distorted by cutoffs, out-of-period adjustments (assessments and error corrections), taxpayer reporting in wrong categories, and computer problems.]

Year reported <u>1/</u>	Total	Sugar processing	Pineapple canning	Manufacturing <u>2/</u>
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 .....	934,613	454,660	103,686	376,268
1975 .....	1,166,923	605,521	131,655	429,748
1976 .....	783,751	275,078	95,488	413,186
1977 <u>3/</u> ...	862,412	284,000	111,942	466,470
1978 <u>3/</u> ...	917,163	291,000	131,665	494,498
1979 .....	1,035,159	305,738	164,200	565,221
1980 <u>4/</u> ...	1,349,149	527,379	195,766	626,004
1981 .....	1,218,516	415,442	172,342	630,732

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

2/ Excludes sugar processing, pineapple canning, and petroleum refining.

3/ Partly estimated.

4/ Revised from 1981 edition, table 511.

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

Table 515.-- PINEAPPLE COMPANIES AND CANNERIES AND  
SUGAR COMPANIES AND MILLS: 1971 TO 1981

Year	Pineapple <u>1/</u>		Sugar <u>2/</u>	
	Companies	Canneries	Companies <u>3/</u>	Mills
1971 .....	4	4	23	26
1972 .....	4	4	21	23
1973 .....	3	3	19	21
1974 .....	3	3	17	20
1975 .....	3	3	16	17
1976 .....	3	3	16	17
1977 .....	3	3	16	16
1978 .....	3	3	15	14
1979 .....	3	3	15	14
1980 .....	3	3	15	14
1981 .....	3	3	15	14
ISLANDS: 1981				
Hawaii .....	-	-	5	5
Maui .....	1	1	3	3
Oahu .....	2	2	2	2
Kauai .....	-	-	5	4

1/ As of end of canning season.

2/ As of December 31.

3/ Excludes United Cane Planters' Cooperative, which consists of small independent growers.

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

Table 516.-- EMPLOYMENT AND EARNINGS IN THE PINEAPPLE  
INDUSTRY: 1971 TO 1981

[Includes field and cannery employment and earnings.]

Year	Full-time equivalent employment	Total wages and salaries (dollars)	Earnings per full-time equiva- lent employee (dollars)
1971 ...	7,403	51,194,731	6,915
1972 ...	7,110	48,376,978	6,804
1973 ...	5,759	42,613,741	7,400
1974 ...	4,894	37,764,230	7,716
1975 ...	4,915	42,137,633	8,573
1976 ...	4,657	44,918,405	9,645
1977 ...	4,924	52,413,689	10,645
1978 ...	4,953	55,397,760	11,185
1979 ...	4,979	61,751,124	12,402
1980 ...	4,861	66,737,788	13,729
1981 ...	4,675	70,207,745	15,018

Source: Hawaii Employers Council, unpublished estimates.

Table 517.-- INDUSTRIAL PARKS AND AREAS, BY ISLANDS: 1980

Island	Number of industrial parks and areas	Acres	
		Total	Developed
State total	35	3,218.9	3,065.7
Hawaii .....	6	633.3	633.3
Maui .....	5	193.5	169.7
Lanai .....	-	-	-
Molokai .....	-	-	-
Oahu .....	21	2,330.1	2,242.7
Kauai .....	3	62.0	20.0
Niihau .....	-	-	-

Source: Hawaii State Department of Planning and Economic Development, Industrial Parks and Areas in Hawaii 1980.

Table 518.-- HAWAIIAN PINEAPPLE PRODUCTION: 1970-71 TO 1981

[In thousands. Hawaiian pack only; excludes overseas production by Hawaiian companies.]

Year <u>1/</u>	Canned fruit		Canned juice		Frozen concentrate	
	Actual cases	Standard cases <u>2/</u>	Actual cases	Standard cases <u>3/</u>	Equivalent 6/10 cases	Standard cases <u>3/</u>
1970-1971 ..	17,718	12,028	10,590	8,100	1,016	929
1971-1972 ..	17,961	12,537	11,004	8,400	789	722
1972-1973 ..	15,891	11,108	9,282	7,400	633	580
1973-1974 ..	14,042	9,550	8,470	6,600	886	810
1974-1975 ..	11,584	8,110	5,643	4,400	438	400
1975-1976 ..	12,142	8,200	6,173	4,800	471	520
1976-1977 ..	12,160	8,270	7,295	5,600	346	320
1977-1978 ..	12,482	8,490	8,403	5,750	294	270
1978-1979 ..	11,142	7,620	7,386	5,760	290	265
1979 .....	10,930	7,470	7,699	6,010	308	280
1980 .....	9,918	6,940	8,114	6,410	237	215
1981 .....	9,759	6,830	7,997	6,320	219	200

1/ Pack year ended May 31 through 1978-1979 and calendar years 1979 and 1980.

2/ 24 #2 1/2 can, 45-lb. cases.

3/ 24 #2 1/2 can, 42 1/2-lb. cases.

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



Table 519.-- SUGAR AND MOLASSES PRODUCTION: 1971 TO 1981

Year	Cane land (acres)		Cane used for sugar (short tons)	Sugar produced (short tons)		Molasses produced (short tons)
	Total area	Harvested area		96° raw value	Equivalent refined	
1971 ...	232,278	115,810	10,685,019	1,229,976	1,149,510	330,227
1972 ...	229,611	108,456	9,929,068	1,118,883	1,045,708	307,543
1973 ...	226,580	108,189	9,645,452	1,128,529	1,054,723	301,500
1974 ...	224,227	95,826	9,082,684	1,040,742	972,677	293,380
1975 ...	221,426	105,125	9,485,299	1,107,199	1,034,788	301,335
1976 ...	221,551	99,926	9,172,649	1,050,457	981,757	275,352
1977 ...	220,729	96,770	8,994,388	1,033,739	966,132	284,349
1978 ...	220,697	99,355	9,263,190	1,028,933	961,641	310,238
1979 ...	218,773	100,610	9,632,135	1,059,737	990,430	325,831
1980 ...	217,718	97,358	9,214,136	1,023,232	956,313	315,088
1981 ...	216,099	97,573	8,831,477	1,047,541	979,031	311,719

Source: Hawaiian Sugar Planters' Association, HSPA Sugar Manual 1982, pp. 10-11.

Table 520.-- AVERAGE RAW SUGAR PRICE AND SUGAR INDUSTRY EMPLOYMENT  
AND EARNINGS: 1971 TO 1981

Year	Average raw sugar price <u>1/</u> (cents per lb.)	Hourly-rated employees		Industry wide strikes (weeks)	Average daily earnings <u>2/</u> (dollars)	
		Average number <u>3/</u>	Total man-days		Wages	Employee benefits
1971 ...	8.52	8,610	2,077,011	-	26.08	10.27
1972 ...	9.10	8,127	1,934,563	-	29.09	11.23
1973 ...	10.30	7,900	1,897,369	-	30.86	12.48
1974 ...	29.43	7,700	1,744,346	6	34.41	15.81
1975 ...	22.49	7,800	1,937,973	-	37.34	15.66
1976 ...	13.31	7,500	1,854,272	-	43.12	17.28
1977 ...	11.11	7,200	1,660,298	3	43.92	19.97
1978 ...	13.74	7,200	1,771,530	-	47.06	21.28
1979 ...	15.20	7,065	1,762,838	-	50.49	22.21
1980 ...	30.18	7,076	1,793,237	-	56.72	24.68
1981 ...	19.74	7,282	1,806,020	-	61.51	27.71

1/ Average New York raw sugar price computed over all the days of the year (Hawaiian basis). The New York spot price was suspended from November 2, 1977 to August 20, 1979; figures for that period are based on Clearing Association settlement prices.

2/ For non-supervisory employees.

3/ Adults only.

Source: Hawaiian Sugar Planters' Association, HSPA Sugar Manual (annual), as revised.

Table 521.-- VALUE OF SALES AND GOVERNMENT PAYMENTS FOR PINEAPPLE  
AND SUGAR PRODUCTION: 1971 TO 1981

[In millions of dollars. Calendar year data unless otherwise  
specified.]

Year	Pineapple		Sugar		Government sugar support payments
	Canned fruit and juices <u>1/</u>	Fresh market sales <u>2/</u>	Value of production <u>3/</u>		
			Raw sugar 96 <sup>0</sup>	Commercial molasses	
1971 ..	137.7	3.7	196.3	6.7	10.7
1972 ..	140.5	4.9	176.6	8.1	9.7
1973 ..	135.0	7.4	203.8	18.4	9.5
1974 ..	118.2	8.9	659.2	17.4	8.6
1975 ..	126.6	10.1	354.6	11.5	-
1976 ..	130.0	14.5	245.5	11.5	-
1977 ..	140.0	21.6	219.1	7.7	48.7
1978 ..	133.4	29.4	269.5	15.7	8.1
1979 ..	176.3	30.1	322.2	23.5	-
1980 ..	192.2	34.3	566.4	27.7	-
1981 ..	172.0	45.6	314.2	13.7	-

1/ Value of canned fruit and juices and by products shipped out-of-State and sold within State. Prior to 1979, data are for pack years beginning June 1.

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

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

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