

## 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 967 in 1982. The value added by manufacture rose from \$326 million in 1967 to \$410 million in 1972, \$786 million in 1977, and \$1,249 million in 1980. More than three-fourths of all manufacturing activity in the State in 1982 was on Oahu. Food processing -- mostly sugar and pineapple -- accounted for more than 50 percent of the value added by manufacture in 1980. Between 1973 and 1983, the general excise and use tax base increased 104 percent for sugar processing, 48 percent for pineapple canning, and 44 percent for all other manufacturing. There were two pineapple canneries and 13 sugar mills in Hawaii in mid-1983. 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 1983 amounted to 1,044,000 short tons, about the same level as in other recent years. The value of sugar production (including commercial molasses) was \$410 million, compared with the record of \$677 million set in 1974. Important manufactures other than food processing include apparel (\$37 million in value added in 1980), printing and publishing (\$134 million), and chemicals and allied products (\$35 million).

Sources for data on this subject include the United States Census of Manufactures, most recently conducted for 1982, the Annual Survey of Manufactures, and publications of the Hawaii State Department of Agriculture and Department of Taxation, and Hawaiian Sugar Planters' Association. 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: 1984.

Table 650.-- STATISTICAL SUMMARY OF MANUFACTURES: 1967 TO 1982  
 [For intercensal data, 1971-1981, see Data Book 1983, table 564]

Subject	1982	1977	1972	1967
All establishments <u>1/</u> (number) ...	967	949	773	697
With 20 employees or more .....	237	231	238	215
All employees:				
Number (1,000) .....	23.6	25.0	24.8	25.4
Payroll (million dollars) .....	360.4	276.8	191.1	139.6
Production workers:				
Number (1,000) .....	16.0	17.4	17.7	19.0
Hours (millions) .....	29.9	31.3	33.1	35.9
Wages (million dollars) .....	217.5	160.5	113.7	86.9
Value added by manufacture (million dollars) .....	( <u>3/</u> )	785.5	410.0	326.2
Cost of materials <u>2/</u> (million dollars) .....	2,361.3	1,176.1	548.3	399.6
Value of shipments <u>2/</u> (million dollars) .....	3,445.9	1,974.0	955.6	723.4
New capital expenditures (million dollars) .....	89.8	44.4	46.7	26.0

1/ Includes establishments with payroll at any time during the year.

2/ Aggregate cost of materials and value of shipments include extensive duplication since products of some industries are used as materials by others.

3/ 1982 data for value added have been suppressed pending further evaluation.

Source: U.S. Bureau of the Census, 1982 Census of Manufactures, Pacific States, MC82-A-9(P) (October 1984), table 1, p. 3.

Table 651.-- STATISTICAL SUMMARY OF MANUFACTURES, BY COUNTIES: 1982

Subject	State total	City and County of Honolulu	Hawaii County	Kauai County	Maui County
All establishments <u>1/</u> (number) ...	967	780	99	25	63
With 20 employees or more .....	237	200	18	7	12
All employees:					
Number (1,000) .....	23.6	17.9	2.4	0.7	2.6
Payroll (million dollars) .....	360.4	279.4	37.9	12.1	30.9
Production workers:					
Number (1,000) .....	16.0	11.9	1.9	0.5	1.7
Hours (millions) .....	29.9	21.6	3.9	1.0	3.4
Wages (million dollars) .....	217.5	158.3	29.0	8.3	21.8
Value added by manufacture (million dollars) .....	( <u>3/</u> )	( <u>3/</u> )	( <u>3/</u> )	( <u>3/</u> )	( <u>3/</u> )
Cost of materials <u>2/</u> (million dollars) .....	2,361.3	2,082.2	130.1	58.3	90.7
Value of shipments <u>2/</u> (million dollars) .....	3,445.9	2,950.3	229.6	84.9	181.1
New capital expenditures (million dollars) .....	89.8	58.8	7.5	5.9	17.6

1/ Includes establishments with payroll at any time during the year.

2/ Aggregate cost of materials and value of shipments include extensive duplication since products of some industries are used as materials by others.

3/ 1982 data for value added have been suppressed pending further evaluation.

Source: U.S. Bureau of the Census, 1982 Census of Manufactures, Pacific States, MC82-A-9(P) (October 1984), table 2, p. 5.

Table 652.-- MANUFACTURES, BY SELECTED INDUSTRY GROUP AND INDUSTRY: 1982

SIC Code	Industry group and industry 1/	Number of establishments	Number of employees (1,000)	Payroll (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)
	All industries .....	967	23.6	360.4	2,361.3	3,445.9
20	Food and kindred products ...	221	11.1	161.2	678.7	1,079.5
202	Dairy products .....	10	.5	10.4	48.8	68.8
203	Preserved fruits and vegetables .....	34	3.3	36.1	137.3	234.0
2033	Canned fruits and vegetables .....	9	3.1	33.6	125.2	214.5
205	Bakery products .....	33	1.2	18.9	29.0	70.7
206	Sugar and confectionery products .....	29	3.6	61.6	265.0	428.1
2061	Raw cane sugar .....	13	2.9	52.9	214.7	350.3
2065	Confectionery products ..	14	CC	(D)	(D)	(D)
208	Beverages .....	12	.5	8.6	45.8	72.3
23	Apparel and other textile products .....	145	3.4	31.1	51.4	109.6
232	Men's and boy's furnishings .....	22	.8	7.5	9.4	22.9
2321	Men's and boys' shirts and nightwear .....	17	.7	6.1	7.6	19.3
233	Women's and misses' outerwear .....	78	1.7	15.7	21.7	47.5
2335	Women's and misses' dresses .....	62	1.4	12.8	15.9	37.3
27	Printing and publishing .....	177	FF	(D)	(D)	(D)
2711	Newspapers .....	28	EE	(D)	(D)	(D)
275	Commercial printing .....	93	.9	14.3	17.5	44.5
2752	Commercial printing, lithographic .....	65	.8	11.8	13.5	36.0
32	Stone, clay, and glass products .....	53	.9	19.2	41.5	80.0
327	Concrete, gypsum, and plaster products .....	29	.7	16.0	34.0	64.1
34	Fabricated metal products ...	42	.7	11.8	50.4	76.4
--	Auxillaries .....	26	.7	18.7	-	-

D Withheld to avoid disclosing data for individual companies; data are included in higher level totals.

1/ The following employee size ranges substitute for actual figures withheld to avoid disclosure: CC--500 to 199 employees; EE--1,000 to 2,499 employees; FF--2,500 employees or more.

Source: U.S. Bureau of the Census, 1982 Census of Manufactures, Pacific States, MC82-A-9(P) (October 1984), table 3, pp. 14-15.

Table 653.-- VALUE ADDED BY MANUFACTURE FOR SELECTED MAJOR  
INDUSTRY GROUPS: 1980

[In millions of dollars]

SIC code	Industry	Value added
	All industries .....	1,249.1
20	Food and kindred products .....	630.2
23	Apparel and other textile products .....	37.3
24	Lumber and wood products .....	12.5
27	Printing and publishing .....	134.1
28	Chemicals and allied products .....	35.3
30	Rubber and miscellaneous plastics products .....	1.4
34	Fabricated metal products .....	31.9
37	Transportation equipment .....	16.2

Source: U.S. Bureau of the Census, 1980 Annual Survey of  
Manufactures, unpublished data supplied June 15, 1983.

Table 654.-- DEPARTMENT OF DEFENSE MANUFACTURING FACILITIES:  
1977 AND 1982

[These data are not included in other 1982 Census of Manufactures reports, which cover only privately operated establishments]

Subject	1977	1982
All employees (wage board and graded):		
Number .....	5,500	7,200
Payroll (million dollars) .....	107.5	230.4
Production workers (wage board):		
Number .....	4,200	5,500
Hours (millions) .....	7.6	9.7
Wages (million dollars) .....	84.0	174.2
Costs (million dollars):		
Materials, supplies, and parts consumed .....	28.4	47.6
Contract services and other costs .....	21.5	15.3
Value of shipments or receipts (million dollars):		
Total billings .....	98.6	218.6
Total revenue .....	168.7	208.0
Value added by manufacture (million dollars):		
Total revenue less cost of materials .....	140.2	160.5
Revenue less cost of materials, contract services, other costs .....	118.8	145.2

Source: U.S. Bureau of the Census, 1982 Census of Manufactures, Manufacturing Activity in Government Establishments, MC82-S-2 (August 1983), tables 2 and 3.

Table 655.-- PLANT CAPACITY UTILIZATION RATES:  
FOURTH QUARTERS 1981 TO 1983

Year	Preferred rate <u>1/</u>	Practical rate <u>2/</u>
1981 .....	80	73
1982 .....	80	72
1983 .....	83	73

1/ The preferred level of operations is defined as a level, normally between actual operations and practical capacity, which the manufacturer would prefer not to exceed due to costs or other considerations. In this table, the preferred utilization rate represents the ratio of actual to preferred level of operations.

2/ Practical capacity is broadly defined as the greatest output the plant could achieve within the framework of a realistic work pattern. The practical capacity utilization rate is the ratio of actual operations to the practical capacity level.

Source: U.S. Bureau of the Census, "Survey of Plant Capacity, 1982," Current Industrial Reports, MQ-C1(82)-1, November 1983, p. 19, and unpublished 1983 estimates.

Table 656.-- 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
Oahu .....	21	2,330.1	2,242.7
Kauai .....	3	62.0	20.0
Other islands .....	-	-	-

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

Table 657.-- GENERAL EXCISE TAX BASE FOR SUGAR PROCESSING,  
PINEAPPLE CANNING, AND MANUFACTURING: 1974 TO 1984

[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>
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 .....	1,349,149	527,379	195,766	626,004
1981 .....	1,218,516	415,442	172,342	630,732
1982 .....	1,033,845	317,880	185,367	530,598
1983 .....	1,130,369	435,579	182,967	511,823
1984 .....	1,132,078	414,211	198,266	519,601

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.

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



Table 658.-- PINEAPPLE COMPANIES AND CANNERIES AND  
SUGAR COMPANIES AND MILLS: 1973 TO 1983

Year	Pineapple <u>1/</u>		Sugar <u>2/</u>	
	Companies	Canneries	Companies <u>3/</u>	Mills
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
1982 .....	3	3	15	14
1983 .....	2	2	15	13
ISLANDS: 1983				
Hawaii .....	-	-	5	5
Maui .....	1	1	3	2
Oahu .....	1	1	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 659.-- HAWAIIAN PINEAPPLE PRODUCTION: 1970-1971 TO 1981

[In thousands. Pack year ended May 31 through 1978-1979 and calendar years 1979, 1980, and 1981. Hawaiian pack only; excludes overseas production by Hawaiian companies. Compilation of these statistics was suspended after 1981]

Year	Canned fruit		Canned juice		Frozen concentrate	
	Actual cases	Standard cases <u>1/</u>	Actual cases	Standard cases <u>2/</u>	Equivalent 6/10 cases	Standard cases <u>2/</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/ 24 No. 2 1/2 can, 45-lb. cases.

2/ 24 No. 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 660.-- EMPLOYMENT AND EARNINGS IN THE PINEAPPLE  
INDUSTRY: 1978 TO 1983

[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)
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
1982 ...	(NA)	69,223,982	(NA)
1983 ...	(NA)	65,813,990	(NA)

NA Not available.

Source: Hawaii Employers Council, unpublished estimates;  
Hawaii State Department of Labor and Industrial Relations,  
Employment and Payrolls in Hawaii for 1982 and 1983.

Table 661.-- SUGAR AND MOLASSES PRODUCTION: 1973 TO 1983

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	
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 1/	216,099	97,573	8,831,477	1,047,541	979,032	311,719
1982 1/	204,749	89,261	8,807,998	982,913	918,630	287,190
1983 ...	194,258	92,808	8,926,358	1,044,204	975,913	303,254

1/ Revised from Data Book 1983, table 573.

Source: Hawaiian Sugar Planters' Association, HSPA Sugar Manual 1984, pp. 4-5.

Table 662.-- AVERAGE RAW SUGAR PRICE AND SUGAR INDUSTRY EMPLOYMENT AND EARNINGS: 1973 TO 1983

Year	Average raw sugar price <sup>1/</sup> (cents per lb.)	Hourly-rated employees		Industry-wide strikes (weeks)	Average daily earnings <sup>2/</sup> (dollars)	
		Average number <sup>3/</sup>	Total man-days		Wages	Employee benefits
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
1982 ...	19.94	6,816	1,519,732	-	65.11	30.83
1983 ...	22.04	6,543	1,565,928	-	66.80	32.00

<sup>1/</sup> 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.

<sup>2/</sup> For non-supervisory employees.

<sup>3/</sup> Adults only.

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

Table 663.-- VALUE OF SALES AND GOVERNMENT PAYMENTS FOR PINEAPPLE AND SUGAR PRODUCTION: 1973 TO 1983

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

Year	Pineapple		Sugar		
	Canned fruit and juices <u>1/</u>	Fresh market sales <u>2/</u>	Value of production		Government sugar support payments
			Raw sugar 96 <sup>0</sup>	Commercial molasses	
1973 ..	135.0	7.4	203.8	18.4	9.5
1974 ..	118.2	8.85	659.2	17.4	8.6
1975 ..	126.6	10.08	354.6	11.5	-
1976 ..	130.0	14.49	245.5	11.5	-
1977 ..	140.0	21.58	219.1	7.7	48.7
1978 ..	133.4	29.45	269.5	15.7	8.1
1979 ..	176.3	30.08	322.2	23.5	-
1980 ..	192.2	34.34	566.4	27.7	-
1981 ..	172.0	45.59	314.2	13.7	-
1982 <u>3/</u>	156.1	49.92	343.9	7.6	-
1983 ..	171.6	47.40	396.5	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/ Pineapple sales revised from Data Book 1983, table 575.

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