

Section 22

MANUFACTURES

This section presents statistics on the manufacturing segment of the economy, including sugar processing and pineapple canning. Additional information on manufacturing workers appears in Sections 12 and 15.

Sources for data on this subject include the quinquennial *United States Census of Manufacturing*, most recently published for 1997, the *United States Annual Survey of Manufactures*, publications of the Hawaii State Department of Agriculture and the Hawaii State Department of Taxation, and the *Hawaiian Sugar Manual* of the former Hawaiian Sugar Planters' Association, now the Hawaii Agriculture Research Center. *Historical Statistics of Hawaii*, Section 16, contains the figures for earlier years. Statistics for the nation as a whole appear in Section 21 of the *Statistical Abstract of the United States: 2001*.

**Table 22.01-- STATISTICAL SUMMARY OF MANUFACTURES:
1995 TO 2000**

Subject	1995	1996	1997	1998	1999	2000
All employees:						
Number (1,000)	17.3	17.1	15.1	15.4	1/ 15.2	14.6
Payroll (million dollars)	2/ 508.1	509.4	404.6	395.5	409.4	420.0
Production workers:						
Number (1,000)	10.7	10.1	9.9	10.4	1/ 10.0	9.6
Hours (millions)	21.6	19.7	18.3	19.2	1/ 18.0	18.0
Wages (million dollars)	260.1	250.6	231.3	228.0	1/ 217.2	233.7
Value added by manufacture (million dollars)	1,485.6	1,608.5	1,261.3	1,141.2	1/ 1,236.1	1,352.6
Cost of materials 2/ (million dollars)	1,909.2	1,546.7	1,939.9	1,669.0	1/ 1,810.6	2,444.1
Value of shipments 2/ (million dollars)	3,435.5	3,145.5	3,189.9	2,833.4	1/ 3,024.5	3,732.3
Total capital expenditures (million dollars)	112.8	79.0	100.7	94.1	89.9	105.4

1/ Revised.

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

Source: U.S. Census Bureau, *1995 Annual Survey of Manufactures, Geographic Area Statistics*, M94 (AS)-3 (April 1997), table 1; *1996 Annual Survey of Manufactures, Geographic Area Statistics*, M96 (AS)-3 (April 1998), table 1; *2000 Annual Survey of Manufactures, Geographic Area Statistics*, M00 (AS)-3 (March 2002), table 2 <<http://www.census.gov/prod/2002pubs/m00as-3.pdf>> accessed July 25, 2002.

Table 22.02-- DETAILED MANUFACTURING STATISTICS: 1997

[NAICS Industries 31-33]

Item	Value
Companies 1/	895
All establishments	921
Establishments with 1 to 19 employees	762
Establishments with 20 to 99 employees	130
Establishments with 100 employees or more	29
All employees	15,109
Total compensation (\$1,000) 2/	503,407
Annual payroll (\$1,000)	405,045
Total fringe benefits (\$1,000)	98,362
Production workers, average for years	9,899
Production workers on March 12	9,835
Production workers on May 12	9,768
Production workers on August 12	10,194
Production workers on November 12	9,799
Production-worker hours (1,000)	18,362
Production-worker wages (\$1,000)	231,595
Total cost of materials	1,941,147
Cost of materials, parts, containers, etc., consumed (\$1,000)	1,673,002
Cost of resales (\$1,000)	152,624
Cost of fuels (\$1,000)	51,118
Cost of purchased electricity (\$1,000)	23,281
Cost of contract work (\$1,000)	41,122
Quantity of electricity purchased for heat and power (1,000 kWh)	245,275
Quantity of electricity generated less sold for heat and power (1,000 kWh)	(D)
Total value of shipments (\$1,000)	3,192,532
Value of resales (\$1,000)	181,478
Value added (\$1,000)	1,262,448
Total inventories, beginning of year (\$1,000)	336,547
Finished goods inventories, beginning of year (\$1,000)	175,028
Work-in-process inventories, beginning of year (\$1,000)	46,214
Materials and supplies inventories, beginning of year (\$1,000)	115,305

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Table 22.02-- DETAILED MANUFACTURING STATISTICS: 1997 -- Con.

[NAICS Industries 31-33]

Item	Value
Total inventories, end of year	351,344
Finished goods inventories, end of year (\$1,000)	188,052
Work-in-process inventories, end of year (\$1,000)	47,984
Materials and supplies inventories, end of year (\$1,000)	115,308
Gross book value of total assets at beginning of year (\$1,000)	1,221,564
Total capital expenditures (new and used) (\$1,000)	100,707
Capital expenditures for buildings and other structures (new and used) (\$1,000)	38,742
Capital expenditures for machinery and equipment (new and used) (\$1,000)	61,965
Total retirements (\$1,000) 2/	24,447
Gross book value of total assets at end of year (\$1,000)	1,297,824
Total depreciation during year (\$1,000) /2	68,301
Total rental payments (\$1,000) /2	38,447
Buildings and other structures rental payments (\$1,000) /2	23,072
Machinery and equipment rental payments (\$1,000) /2	15,375

D Withheld to avoid disclosing data for individual companies.

1/ For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

2/ These items are collected in the ASM (Annual Survey of Manufacturers) and estimated for the remaining establishments.

Source: U.S. Census Bureau, *1997 Economic Census, Manufacturing, Geographic Area Statistics*, EC97M31A-HI (May 2000), table 5.

**Table 22.03-- STATISTICAL SUMMARY OF MANUFACTURING, BY COUNTIES:
1997**

[NAICS 31-33]

Subject	State total	City and County of Honolulu	Hawaii County	Kauai County 1/	Maui County
All establishments 2/ (number)	921	685	106	30	100
With 20 employees or more	159	133	13	4	9
All employees:					
Number	15,109	11,161	1,588	441	1,919
Payroll (\$1,000)	405,045	300,856	37,458	15,429	51,302
Production workers:					
Number	9,899	7,034	1,076	280	1,509
Hours (1,000)	18,362	13,018	1,954	560	2,830
Wages (\$1,000)	231,595	164,815	21,133	9,351	36,296
Value added by manufacture (\$1,000)	1,262,448	1,042,807	81,221	15,077	123,343
Cost of materials 3/ (\$1,000)	1,941,147	1,659,321	113,642	32,795	135,389
Value of shipments 3/ (\$1,000)	3,192,532	2,692,239	192,461	48,224	259,608
Total capital expenditures (\$1,000)	100,707	77,715	14,236	4,736	4,020

1/ Kauai data calculated as residual by DBEDT.

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

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

Source: U.S. Census Bureau, *1997 Economic Census Manufacturing, Geographic Area Series, Hawaii*, EC97M31A-HI (May 2000), tables 1 and 3.

Table 22.04-- MANUFACTURING, BY SELECTED INDUSTRY GROUPS: 1997

[NAICS Industries 31 - 33]

Subject	Total	Food mfg (NAICS 311)	Apparel mfg (NAICS 315)	Printing & rel sup (NAICS 323)	Cement & con. prod mfg (NAICS 3273)	Transp. Equip. mfg (NAICS 336)	Furniture & rel. prod. mfg (NAICS 337)	Miscell. mfg (NAICS 339)
All establishments								
Number	921	244	93	123	33	24	47	146
With 20 employees or more	159	55	21	19	10	6	5	13
All employees								
Number	15,109	6,118	1,555	1,736	613	400	372	1,372
Payroll (thousand dollars)	405,045	153,304	28,924	42,452	26,662	13,418	10,339	31,297
Production workers:								
Number	9,899	4,132	1,221	1,072	437	328	286	767
Hours (thousand)	18,362	7,497	2,250	2,010	901	585	554	1,305
Wages (thousand dollars)	231,595	90,110	17,243	27,109	18,238	10,306	6,931	15,528
Value added by manufacture (thousand dollars)	1,262,448	402,859	70,638	80,317	60,573	26,088	23,608	71,149
Cost of materials (thousand dollars)	1,941,147	475,773	62,975	59,396	69,264	21,138	18,302	36,239
Value of shipments (thousand dollars)	3,192,532	878,143	133,900	140,213	129,904	47,327	40,407	106,043
Total capital expenditures (thousand dollars)	100,707	32,687	1,833	9,658	3,528	816	(D)	2,670

D Withheld to avoid disclosing data for individual companies.

Source: U.S. Census Bureau, *1997 Economic Census, Manufacturing, Geographic Area Statistics*, EC97M31A-HI (May 2000), table 1.

Table 22.05-- PRIVATE INDUSTRY MANUFACTURING EMPLOYMENT AND WAGES, ANNUAL AVERAGES: 2000

[Data are preliminary and subject to revision. Excluded are SIC codes with data that do not meet the disclosure standards of the Bureau of Labor Statistics or the State of Hawaii]

SIC code	Manufacturing	Average establishments	Annual average employment	Total annual wages (\$1,000)	Annual wages per employee
	Total	1,082	17,267	594,056	34,404
2013	Sausages and other prepared meats	13	134	2,855	21,251
2033	Canned fruits and vegetables	13	761	23,815	31,285
2035	Pickles, sauces, and salad dressings	12	146	2,764	18,922
2051	Bread, cake, and related products	37	926	23,602	25,491
2064	Candy and other confectionery products	21	459	10,792	23,524
2082	Malt beverages	4	52	1,038	19,902
2087	Flavoring extracts and syrups, nec	4	31	1,170	37,377
2095	Roasted coffee	6	338	9,671	28,584
2097	Manufactured ice	10	75	1,642	21,993
2098	Macaroni and spaghetti	9	160	2,539	15,908
2099	Food preparations, nec	58	987	16,085	16,295
2321	Men's and boys' shirts	13	368	8,825	23,996
2326	Men's and boys' work clothes	12	51	680	13,249
2329	Men's and boys' clothing, nec	11	212	3,389	16,018
2335	Women's, juniors', and misses' dresses	31	743	17,190	23,128
2339	Women's and misses' outerwear, nec	28	192	2,757	14,360
2361	Girls' and children's dresses	3	47	640	13,662
2391	Curtains and draperies	6	17	224	13,510
2392	Housefurnishings, nec	4	17	170	9,938
2394	Canvas and related products	9	26	826	31,252
2395	Pleating and stitching	8	34	673	20,101
2396	Automotive and apparel trimmings	47	479	12,572	26,247
2431	Millwork	7	58	1,924	32,979
2434	Wood kitchen cabinets	23	223	7,476	33,589
2439	Structural wood members, nec	5	71	2,445	34,562
2499	Wood products, nec	13	47	767	16,487
2511	Wood household furniture	6	39	1,442	36,975
2673	Bags, plastics, laminated, and coated	3	65	1,894	28,997
2711	Newspapers	39	1,658	75,601	45,586
2721	Periodicals	50	301	11,800	39,224
2741	Miscellaneous publishing	27	256	11,313	44,118
2752	Commercial printing, lithographic	58	674	23,579	34,967
2759	Commercial printing, nec	25	180	4,885	27,203
2841	Soap and other detergents	3	29	563	19,195
2844	Toilet preparations	8	24	556	23,597

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Table 22.05-- PRIVATE INDUSTRY MANUFACTURING EMPLOYMENT AND WAGES, ANNUAL AVERAGES: 2000 - Con.

[Data are preliminary and subject to revision. Excluded are SIC codes with data that do not meet the disclosure standards of the Bureau of Labor Statistics or the State of Hawaii]

SIC code	Manufacturing	Average establishments	Annual average employment	Total annual wages (\$1,000)	Annual wages per employee
2875	Fertilizers, mixing only	10	245	9,935	40,564
3089	Plastics products, nec	8	73	2,144	29,240
3229	Pressed and blown glass, nec	3	3	50	17,774
3231	Products of purchased glass	5	36	815	22,681
3271	Concrete block and brick	3	57	2,291	40,547
3272	Concrete products, nec	17	256	10,511	41,072
3273	Ready-mixed concrete	10	414	22,188	53,541
3281	Cut stone and stone products	9	66	1,735	26,282
3442	Metal doors, sash, and trim	8	62	1,920	30,754
3449	Miscellaneous metal work	3	40	1,818	45,833
3599	Industrial machinery, nec	6	36	1,016	28,021
3713	Truck and bus bodies	3	9	399	44,795
3731	Ship building and repairing	13	443	17,760	40,061
3732	Boat building and repairing	11	55	1,474	26,671
3911	Jewelry, precious metal	39	448	10,159	22,668
3931	Musical instruments	6	55	1,480	26,951
3949	Sporting and athletic goods, nec	23	77	1,647	21,503
3993	Signs and advertising specialities	13	85	2,218	26,192
3999	Manufacturing industries, nec	11	25	476	18,978

nec Not elsewhere classified.

Source: U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Wages Annual Averages, 2000* (October 2001), Bulletin 2546, table 5.

**Table 22.06-- GENERAL EXCISE TAX BASE FOR MANUFACTURING:
1987 TO 2001**

[In thousands of dollars. Data exclude sugar processing, pineapple canning, and petroleum refining, and are on a cash basis accounting. Manufactured goods shipped out of State were exempted from the general excise tax by Act 239, SLH 1987, effective January 1, 1988]

Year reported 1/	Tax base	Year reported 1/	Tax base	Year reported 1/	Tax base
1987	595,140	1992	714,470	1997	581,259
1988	629,303	1993	717,423	1998	535,371
1989	630,997	1994	618,238	1999	585,305
1990	728,387	1995	614,771	2000	586,039
1991	714,407	1996	622,889	2001	611,292

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.

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

**Table 22.07-- LARGEST INDUSTRIAL AND HIGH TECHNOLOGY PARKS,
BY ISLANDS**

[As of August 31, 2001]

Subject	State total	Hawaii	Maui	Oahu	Kauai
Number of parks and areas	19	4	3	11	1
Acres					
Total	4,625	1,698	691	2,176	60
Developed	1/ 2,658	651	2/ 97	3/ 1,891	19

1/ Excluding Lahaina Business Park and Halawa Business Park.

2/ Excluding Lahaina Business Park (total 37 acres).

3/ Excluding Halawa Business Park (total 39 acres).

Source: Pacific Business News, August 31, 2001.

**Table 22.08-- PINEAPPLE COMPANIES AND CANNERIES, AND
SUGAR COMPANIES AND MILLS, 1940 TO 2001,
AND BY ISLANDS, 2000 AND 2001**

Year	Pineapple (end of canning season)		Sugar (December 31)	
	Companies	Canneries	Companies 1/	Mills
1940	8	8	38	34
1945	7	7	36	32
1950	9	8	28	26
1955	10	8	28	26
1960	8	9	27	27
1965	6	6	25	27
1970	4	4	23	26
1975	3	3	16	17
1980	3	3	15	14
1985	3	2	14	12
1990	4	2	12	12
1993	3	1	11	12
1994	3	1	9	10
1995	3	1	8	10
1996	3	1	4	6
1997	3	1	4	6
1998	3	1	4	6
1999	3	1	4	6
2000	3	1	3	4
2001	3	1	2	2
ISLANDS: 2000				
Hawaii	-	-	-	-
Maui	1	1	1	2
Oahu	2	-	-	-
Kauai	-	-	2	2
ISLANDS: 2001				
Hawaii	-	-	-	-
Maui	1	1	1	1
Oahu	2	-	-	-
Kauai	-	-	1	1

1/ In operation; excludes cooperatives.

Source: Pineapple Growers Association of Hawaii, records; *Hawaiian Sugar Manual (annual)*; Dole Food Company, records; Hawaii Agriculture Research Center, records.

Table 22.09-- SUGAR AND MOLASSES PRODUCTION: 1991 TO 2001

Year	Cane land (acres)		Cane used for sugar (short tons)	Sugar produced (short tons)		Molasses produced (short tons)
	Total area	Harvested area 1/		96° raw value	Equivalent refined	
1991	155,609	67,716	5,852,668	724,100	676,744	202,214
1992	145,790	62,123	5,432,286	652,304	609,643	203,739
1993	121,322	64,705	5,506,072	677,405	633,103	211,658
1994	98,413	64,951	5,268,859	658,538	615,470	200,835
1995	81,957	48,507	3,952,347	492,346	460,147	163,305
1996	68,816	36,769	3,542,460	437,262	408,665	145,369
1997	67,820	32,033	2,923,594	356,917	333,575	131,173
1998	67,585	30,347	2,725,744	353,893	330,748	125,909
1999	60,758	35,329	2,891,499	367,532	343,495	141,481
2000	43,821	30,194	2,364,357	301,165	281,469	101,329
2001	50,410	19,293	1,876,613	246,203	230,101	85,894

1/ The average growth of a crop is 22 to 26 months. Only a portion of the total acreage in cane is harvested each year.

Source: Hawaiian Sugar Planters' Association, *Hawaiian Sugar Manual* (annual), and records; Hawaii Agriculture Research Center, records.

**Table 22.10-- VALUE OF SALES FOR PINEAPPLE AND SUGAR PRODUCTION:
1980 TO 2000**

[In millions of dollars]

Year	Pineapple		Sugar	
	Canned fruit and juices 1/	Fresh market sales 2/	Raw sugar 96°	Commercial molasses
1980	192.2	34.3	566.4	27.7
1981	172.0	45.6	314.2	13.7
1982	156.1	49.9	343.9	7.6
1983	171.6	47.4	396.5	13.7
1984	202.0	47.6	382.9	10.1
1985	171.7	50.8	331.9	8.9
1986	184.9	53.5	348.4	13.5
1987	202.9	48.5	325.0	10.9
1988	191.7	55.3	312.9	11.1
1989	182.7	59.2	313.6	8.4
1990	161.6	54.3	319.0	9.9
1991	172.7	51.9	261.0	9.7
1992	141.8	55.9	229.2	8.4
1993	86.6	54.0	242.9	9.0
1994	81.1	53.0	239.2	8.7
1995	72.5	62.5	190.5	9.7
1996	78.2	68.8	160.8	8.0
1997	73.0	63.7	127.5	5.0
1998	81.3	63.8	130.3	2.8
1999	72.3	72.5	129.5	1.8
2000	60.8	71.4	93.1	2.8

1/ Value of canned fruit and juices and by-product shipped out-of-State and sold within State.

2/ Includes "fresh cut". Value FAS shipping point for outshipments, delivered wholesalers local sales.

Source: Hawaii Agricultural Statistics Service, *Statistics of Hawaii Agriculture* (annual) and records
<http://www.nass.usda.gov/hi/stats/t_of_c.htm> accessed June 19, 2002.