

Table
Number **Table Name**

(Click on the table number to go to corresponding table)

Narrative

<u>22.01</u>	Statistical Summary of Manufactures (NAICS 31-33): 2001 to 2006
<u>22.02</u>	Detailed Manufacturing Statistics (NAICS) 31 - 33): 1997 and 2002
<u>22.03</u>	Statistical Summary of Manufacturing (NAICS 31- 33), by County: 2002
<u>22.04</u>	Manufacturing, by Selected Industry Groups (NAICS 31 - 33): 2006
<u>22.05</u>	Manufacturing, Employment and Wages (NAICS 31-33), by Selected NAICS Code: 2006
<u>22.06</u>	General Excise Tax Base for Manufacturing: 1987 to 2007
<u>22.07</u>	Industrial and High-Technology Parks, by Island: 2006 and 2007
<u>22.08</u>	Pineapple Companies and Canneries, and Sugar Companies and Mills, 1955 to 2007, and by Island, 2006 and 2007
<u>22.09</u>	Sugar and Molasses Production: 1991 to 2007
<u>22.10</u>	Value of Sales for Pineapple and Sugar Production: 1980 to 2006

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 *U.S. 2002 Economic Census*, the *U.S. 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: 2008*.

**Table 22.01-- STATISTICAL SUMMARY OF MANUFACTURES
(NAICS 31- 33): 2001 TO 2006**

[In millions of dollars unless otherwise noted. Industry groups with 950 employees or more; for 2002 data, with 100 employees or more. Statistics based on the North American Industry Classification System (NAICS)]

Subject	2001	2002	2003	2004	2005	2006
All employees						
Number (1,000)	14.4	13.2	13.6	14.0	1/ 14.0	14.0
Payroll	447.4	421.3	434.4	518.5	481.0	503.8
Production workers						
Number (1,000) 2/	9.1	8.9	9.0	8.8	1/ 9.0	9.0
Hours (millions)	16.7	16.8	17.6	18.6	1/ 18.7	18.1
Wages	224.7	254.7	269.1	319.2	282.5	299.5
Value added by manufacture	907.3	1,217.7	1,224.5	1,477.8	1/ 1,847.6	2,049.1
Cost of materials 3/	2,268.6	2,246.5	2,641.9	3,092.7	4,716.2	5,301.5
Value of shipments 3/	3,196.4	3,460.2	3,879.7	4,519.0	1/ 6,442.6	7,301.0
Total capital expenditures	157.2	83.0	91.3	98.3	146.4	173.5

1/ Revised from previous *Data Book*.

2/ For years 2001 to 2004, average number of production workers for the payroll periods that include the 12th of March, May, August, and November, plus other employees for the payroll period that includes the 12th of March. For years 2005 and 2006, average number of production workers for the payroll periods that include the 12th of March, June, September, and December, plus other employees for the payroll period that includes the 12th of March.

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

Source: U.S. Census Bureau, *Annual Survey of Manufactures, Geographic Area Statistics, 2001*, M01(AS)-3 (January 2003), table 2; *2003*, M03(AS)-3 (May 2005), table 2; *2004*, M04(AS)-3 (January 2006), table 2; *2005*, M05 (AS)-3 (November 2006), table 2; *2006* (December 2006) <<http://www.census.gov/mcd/asm-as3.html>> accessed March 5, 2008; U.S. Census Bureau, *2002 Economic Census, Manufacturing, Geographic Area Series, Hawaii*, EC02-31A-HI (RV) (September 2005), table 1 <<http://www.census.gov/prod/ec02/ec0231ahi.pdf>> accessed October 6, 2005.

**Table 22.02-- DETAILED MANUFACTURING STATISTICS
(NAICS 31 - 33): 1997 AND 2002**

[Statistics based on the North American Industry Classification System (NAICS) which replaced the Standard Industrial Classification (SIC) system used in Economic Censuses prior to the 1997 Economic Census]

Item	Value	
	1997	2002
Companies 1/	895	(NA)
All establishments 2/	921	929
1 to 19 employees	762	772
20 to 99 employees	130	135
100 employees or more	29	22
All employees 3/	15,109	13,200
Total compensation (\$1,000)	503,407	512,860
Annual payroll	405,045	421,269
Total fringe benefits	98,362	91,591
Production workers, average for year	9,899	8,865
On March 12	9,835	8,858
On May 12	9,768	8,830
On August 12	10,194	8,880
On November 12	9,799	8,859
Production-worker hours (1,000)	18,362	16,837
Production-worker wages (\$1,000)	231,595	254,713
Total cost of materials (\$1,000)	1,941,147	2,246,539
Materials, parts, containers, packaging, etc., used	1,673,002	1,904,259
Resales	152,624	246,016
Purchased fuels	51,118	41,001
Purchased electricity	23,281	21,969
Contract work	41,122	33,294
Quantity of electricity purchased for heat and power (1,000 kWh)	245,275	204,563
Quantity of electricity generated less sold for heat and power (1,000 kWh)	(4/)	356,114
Total value of shipments (\$1,000)	3,192,532	3,460,199
Value of resales	181,478	280,656
Value added (\$1,000)	1,262,448	1,217,728
Total inventories, beginning of year (\$1,000)	336,547	366,172
Finished goods	175,028	195,042
Work-in-process	46,214	74,346
Materials and supplies	115,305	96,784

Continued on next page.

**Table 22.02-- DETAILED MANUFACTURING STATISTICS
(NAICS 31 - 33): 1997 AND 2002 -- Con.**

Item	Value	
	1997	2002
Total inventories, end of year (\$1,000)	351,344	370,990
Finished goods	188,052	237,652
Work-in-process	47,984	31,358
Materials and supplies	115,308	101,980
Gross value of depreciable assets (acquisition costs) at beginning of year (\$1,000)	1,221,564	1,386,417
Total capital expenditures (new and used)	100,707	82,960
Buildings and other structures	38,742	13,569
Machinery and equipment	61,965	69,391
Automobiles, trucks, etc., for highway use	(NA)	5,399
Computers and peripheral data processing equipment	(NA)	4,080
All other expenditures for machinery and equipment	(NA)	59,912
Total retirements	24,447	33,527
Gross value of depreciable assets at end of year (\$1,000)	1,297,824	1,435,850
Depreciation charges during year (\$1,000)	68,301	76,908
Total rental payments (\$1,000)	38,447	51,216
Buildings and other structures	23,072	36,161
Machinery and equipment	15,375	15,055

NA Not available.

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

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

3/ Average number of production workers for pay period that includes the 12th of March, May,

4/ Withheld to avoid disclosing data for individual companies; data are included in higher level totals. August, and November plus other employees for payroll period that includes the 12th of March.

Source: U.S. Census Bureau, *1997 Economic Census, Manufacturing, Geographic Area Series, Hawaii*, EC97M31A-HI (May 2000), table 5; U.S. Census Bureau, *2002 Economic Census, Manufacturing, Geographic Area Series, Hawaii*, EC02-31A-HI (RV) (September 2005), table 5
<<http://www.census.gov/prod/ec02/ec0231ahi.pdf>> accessed October 6, 2005.

**Table 22.03-- STATISTICAL SUMMARY OF MANUFACTURING
(NAICS 31 - 33), BY COUNTY: 2002**

[For the State, industries with 100 employees or more; for the counties, industries with 500 employees or more. Statistics based on the North American Industry Classification System (NAICS) which replaced the Standard Industrial Classification (SIC) system used in Economic Censuses prior to the 1997 Economic Census]

Subject	State total	City and County of Honolulu	Hawaii County	Kauai County 1/	Maui County
All establishments 2/ With 20 employees or more	929 157	683 132	114 14	39 3	93 8
All employees					
Number	13,200	10,253	1,246	210	1,491
Payroll (\$1,000)	421,269	326,845	38,289	5,903	50,232
Production workers					
Number 3/	8,865	6,855	740	129	1,141
Hours (1,000)	16,837	12,920	1,466	247	2,204
Wages (\$1,000)	254,713	195,266	20,463	3,344	35,640
Value added by manufacture (\$1,000)	1,217,728	948,546	97,719	14,403	157,060
Cost of materials 4/ (\$1,000)	2,246,539	2,017,417	102,186	13,047	113,889
Value of shipments 4/ (\$1,000)	3,460,199	2,959,134	204,377	26,132	270,556
Total capital expenditures (\$1,000)	82,960	59,572	6,371	443	16,574

1/ Kauai data calculated as residual by the Hawaii State Department of Business, Economic Development & Tourism.

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

3/ Average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

4/ 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, 2002 *Economic Census, Manufacturing, Geographic Area Series, Hawaii*, EC02-31A-HI (RV) (September 2005), tables 1 and 3 <<http://www.census.gov/prod/ec02/ec0231ahi.pdf>> accessed October 6, 2005. Calculations by the Hawaii State Department of Business, Economic Development & Tourism.

**Table 22.04-- MANUFACTURING, BY SELECTED INDUSTRY GROUP
(NAICS 31 - 33): 2006**

[Industry groups with 950 employees or more. Statistics based on the North American Industry Classification System (NAICS)]

Subject	Total	Food NAICS 311	Food, bakeries & tortilla NAICS 3118	Other food NAICS 3119	Printing & related support NAICS 323	Non- metallic mineral NAICS 327	Miscel- laneous NAICS 339	Other miscel- laneous NAICS 3399
All employees								
Number 1/	13,933	4,947	1,590	1,486	1,538	1,077	1,309	1,061
Payroll (\$1,000)	503,761	158,474	39,938	41,861	54,875	54,586	37,989	28,646
Production workers								
Number 1/	8,966	3,096	1,152	1,025	899	738	652	482
Hours (1,000)	18,148	6,500	1,860	1,994	1,732	1,654	1,238	890
Wages (\$1,000)	299,466	94,006	25,320	24,601	31,183	37,541	16,496	10,151
Value added (\$1,000)	2,049,067	544,935	105,648	164,666	121,418	190,714	60,483	45,337
Total cost of materials (\$1,000) 2/	5,301,463	444,485	59,998	141,602	61,645	130,820	66,475	60,715
Total value of shipments (\$1,000) 2/	7,300,965	986,050	164,288	301,316	181,624	322,444	121,757	100,946
Total capital expenditures (\$1,000)	173,501	45,698	5,163	3,757	5,125	14,644	4,099	3,962

1/ Average number of production workers for the March 12, June 12, September 12, and December 12 pay periods, plus other employees for the payroll period that includes the 12th of March.

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

Source: U.S. Census Bureau, 2006 Geographic Area Statistics, "2006 Annual Survey of Manufactures"
<<http://www.census.gov/mcd/asm-as3.html>> accessed June 16, 2008.

**Table 22.05-- MANUFACTURING, EMPLOYMENT AND WAGES
(NAICS 31-33), BY SELECTED NAICS CODE: 2006**

[Includes only establishments with payroll. Statistics based on the North American Industry Classification System (NAICS) which replaced the Standard Industrial Classification (SIC) system used in Economic Censuses prior to 1997]

NAICS code	Kind of business	Average establishments	Annual average employment	Total annual wages (\$1,000)	Annual wages per employee
	Total	1,061	15,149	541,813	35,766
311	Food	309	6,314	175,604	27,814
3113	Sugar & confectionery product	22	845	28,309	33,518
3114	Fruit & vegetable preserving & specialty	27	688	22,073	32,072
3115	Dairy product	11	363	16,447	45,276
3116	Animal slaughtering & processing	22	548	13,786	25,173
3118	Bakeries & tortilla	138	1,956	45,484	23,253
312	Beverage and tobacco product	32	753	32,719	43,461
3121	Beverage	32	753	32,719	43,461
314	Textile product mills	24	212	5,732	27,019
315	Apparel	78	831	15,709	18,905
321	Wood product	37	362	13,227	36,573
3212	Plywood & engineered wood product	10	202	8,290	41,072
3219	Other wood product	21	133	4,169	31,287
322	Paper	9	213	8,879	41,765
323	Printing & related support activities	122	1,189	39,576	33,299
325	Chemical	34	374	15,439	41,263
326	Plastics & rubber products	18	284	10,673	37,626
327	Nonmetallic mineral product	70	1,127	62,942	55,870
3272	Glass & glass product	10	51	1,341	26,476
3273	Cement & concrete product	34	861	53,726	62,375
3279	Other non-metallic mineral products	18	184	7,235	39,301
332	Fabricated metal product	44	475	21,383	45,040
3323	Architectural & structural metals	27	272	11,278	41,449
334	Computer & electronic product	13	67	3,724	55,996
336	Transportation equipment	29	538	26,024	48,387
3366	Ship & boat building	17	495	24,173	48,835
337	Furniture & related product	60	563	23,327	41,428
339	Miscellaneous	162	1,208	38,614	31,961
3391	Medical equipment & supplies	43	295	11,592	39,318
3399	Other miscellaneous	119	913	27,021	29,585

Source: U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Wages, Annual Averages 2006*, table 10 <<http://www.bls.gov/cew/cewbultn06.htm>> accessed April 8, 2008.

**Table 22.06-- GENERAL EXCISE TAX BASE FOR MANUFACTURING:
1987 TO 2007**

[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. 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 income received in the 12-month period ending November 30]

Year	Tax base	Year	Tax base	Year	Tax base
1987	595,140	1994	618,238	2001	611,292
1988	629,303	1995	614,771	2002	612,658
1989	630,997	1996	622,889	2003	638,863
1990	728,387	1997	581,259	2004	642,245
1991	714,407	1998	535,371	2005	699,877
1992	714,470	1999	585,305	2006 1/	781,626
1993	717,423	2000	586,039	2007	766,208

1/ Revised from previous *Data Book*.

Source: Hawaii State Department of Taxation, "General Excise and Use Tax Base" (annual).
Beginning in 1997, <http://www.state.hi.us/tax/a5_3txcolrptarchive.htm> accessed June 13, 2008.

**Table 22.07-- INDUSTRIAL AND HIGH-TECHNOLOGY PARKS,
BY ISLAND: 2006 AND 2007**

Subject	State total	Hawaii	Maui	Molokai	Oahu	Kauai
2006						
Number of parks	25	5	4	1	13	2
Total acres	4,870.76	1,870.00	651.00	19.04	2,261.72	69.00
2007						
Number of parks	25	4	4	1	14	2
Total acres	4,772.20	1,794.00	751.00	16.50	2,141.70	69.00
Developed acres	2,863.50	512.00	208.00	6.70	2,068.30	68.50
Number of tenants	1/ 1,692	184	2/ 616	1	3/ 834	57
Number of owners	4/ 418	4	5/ 147	9	5/ 178	80

1/ Excludes 3 parks with no data available on number of tenants.

2/ Excludes 2 parks with no data available on number of tenants.

3/ Excludes 1 park with no data available on number of tenants.

4/ Excludes 2 parks with no data available on number of owners.

5/ Excludes 1 park with no data available on number of owners.

Source: *Pacific Business News*, Vol. 44, No. 46 (January 12, 2007), p. 18; Vol. 45, No. 46 (January 11, 2008), p. 24.

**Table 22.08-- PINEAPPLE COMPANIES AND CANNERIES, AND
SUGAR COMPANIES AND MILLS, 1955 TO 2007,
AND BY ISLAND, 2006 AND 2007**

Year	Pineapple (end of canning season)		Sugar (December 31)	
	Companies	Canneries	Companies 1/	Mills
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
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
2002	3	1	2	2
2003	3	1	2	2
2004	3	1	2	2
2005	3	1	2	2
2006	3	1	2	2
2007	2	-	2	2
ISLAND: 2006				
Hawaii	-	-	-	-
Maui	1	1	1	1
Oahu	2	-	-	-
Kauai	-	-	1	1
ISLAND: 2007				
Hawaii	-	-	-	-
Maui	1	-	1	1
Oahu	1	-	-	-
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 2007

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
2002	47,476	21,311	2,108,810	270,084	252,421	89,885
2003	47,733	19,851	2,029,761	261,009	243,939	89,631
2004	43,465	21,790	1,978,821	257,866	241,002	80,466
2005	40,145	21,735	1,754,581	252,342	235,839	72,675
2006	42,080	20,413	1,614,691	213,185	199,243	65,505
2007	(NA)	20,385	1,471,612	206,008	192,535	62,231

NA Not available.

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 2006**

[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
2001	67.7	68.9	86.4	4.2
2002	71.0	73.0	95.9	4.4
2003	64.4	78.5	95.9	3.1
2004	57.3	65.9	91.7	2.4
2005	49.8	63.6	87.9	3/ 4.6
2006	(NA)	62.4	74.8	4.9

NA Not available.

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

2/ Includes "fresh cut". Prior to 2005, value FAS shipping point for outshipments, delivered wholesalers local sales.

3/ Revised from previous *Data Book*.

Source: Hawaii Agricultural Statistics Service, *Statistics of Hawaii Agriculture* (annual)

<<http://www.nass.usda.gov/hi/stats/stat-pgs.htm>> accessed April 22, 2008; and records.