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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. 2007 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: 2011*.

**Table 22.01-- STATISTICAL SUMMARY OF MANUFACTURES
(NAICS 31-33): 2004 TO 2009**

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

Subject	2004	2005	2006	2007	1/ 2008	2009
All employees						
Number (1,000)	14.0	14.0	14.0	14.1	12.8	11.7
Payroll	518.5	481.0	503.8	511.5	490.6	455.3
Production workers						
Number (1,000) 2/	8.8	9.0	9.0	9.5	8.3	7.3
Hours (millions)	18.6	18.7	18.1	17.5	16.3	13.9
Wages	319.2	282.5	299.5	294.4	268.7	241.6
Value added by manufacture	1,477.8	1,847.6	2,049.1	3,013.7	1,707.6	1,702.8
Cost of materials 3/	3,092.7	4,716.2	5,301.5	5,812.5	6,647.0	4,251.5
Value of shipments 3/	4,519.0	6,442.6	7,301.0	8,799.3	8,528.2	5,955.6
Total capital expenditures	98.3	146.4	173.5	86.7	135.7	86.4

1/ Revised from previous *Data Book* .

2/ For years 2003 to 2005, 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 2006 to 2008, 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, 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; *2008* (March 2010) <http://www.census.gov/econ/census07/www/get_data.html> accessed June 9, 2010; *2009* (December 2010), <http://factfinder.census.gov/servlet/IBQTable?_bm=y&-ds_name=AM0931AS101&-geo_id=04000US15&-search_results=01000US&-_lang=en> accessed April 12, 2011.

**Table 22.02-- DETAILED MANUFACTURING STATISTICS
(NAICS 31-33): 2002 AND 2007**

[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	
	2002	2007
Companies 1/	(NA)	942
All establishments 2/	929	984
1 to 19 employees	772	813
20 to 99 employees	135	148
100 employees or more	22	23
All employees 3/	13,200	14,127
Total compensation (\$1,000)	512,860	674,489
Annual payroll	421,269	511,486
Total fringe benefits	91,591	163,003
Production workers, average for year	8,865	9,487
On March 12	8,858	9,671
On May 12	8,830	9,478
On August 12	8,880	9,416
On November 12	8,859	9,383
Production-worker hours (1,000)	16,837	17,480
Production-worker wages (\$1,000)	254,713	294,394
Total cost of materials (\$1,000)	2,246,539	5,812,515
Materials, parts, containers, packaging, etc., used	1,904,259	5,010,642
Resales	246,016	632,000
Purchased fuels	41,001	98,510
Purchased electricity	21,969	32,373
Contract work	33,294	38,990
Quantity of electricity purchased for heat and power (1,000 kWh)	204,563	193,390
Quantity of electricity generated less sold for heat and power (1,000 kWh)	356,114	(D)
Total value of shipments (\$1,000)	3,460,199	8,799,266
Value of resales	280,656	730,979
Value added (\$1,000)	1,217,728	3,013,731
Total inventories, beginning of year (\$1,000)	366,172	761,942
Finished goods	195,042	485,768
Work-in-process	74,346	(D)
Materials and supplies	96,784	(D)

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**Table 22.02-- DETAILED MANUFACTURING STATISTICS
(NAICS 31-33): 2002 and 2007 -- Con.**

Item	Value	
	2002	2007
Total inventories, end of year (\$1,000)	370,990	776,859
Finished goods	237,652	542,393
Work-in-process	31,358	69,898
Materials and supplies	101,980	164,568
Gross value of depreciable assets (acquisition costs) at beginning of year (\$1,000)	1,386,417	1,788,164
Total capital expenditures (new and used)	82,960	86,735
Buildings and other structures	13,569	15,982
Machinery and equipment	69,391	70,753
Automobiles, trucks, etc., for highway use	5,399	6,713
Computers and peripheral data processing equipment	4,080	8,606
All other expenditures for machinery and equipment	59,912	55,434
Total retirements	33,527	88,206
Gross value of depreciable assets at end of year (\$1,000)	1,435,850	1,786,693
Depreciation charges during year (\$1,000)	76,908	83,345
Total rental payments (\$1,000)	51,216	49,759
Buildings and other structures	36,161	31,654
Machinery and equipment	15,055	18,105

NA Not available.

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

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, August, and November plus other employees for payroll period that includes the 12th of March.

Source: 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; *2007 Economic Census, Manufacturing, Geographic Area Series, Detailed Statistic for the State: 2007* (April 2010), <http://www.census.gov/econ/census07/www/get_data.html> accessed June 9, 2010.

**Table 22.03-- STATISTICAL SUMMARY OF MANUFACTURING
(NAICS 31-33), BY COUNTY: 2007**

[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	Maui County
All establishments 1/ With 20 employees or more	984 171	684 138	138 17	114 11
All employees				
Number	14,127	10,996	1,516	1,319
Payroll (\$1,000)	511,486	398,932	53,572	50,718
Production workers				
Number 2/ Hours (1,000)	9,487 17,490	7,322 13,464	1,055 1,848	901 1,844
Wages (\$1,000)	294,394	224,670	33,650	30,987
Value added by manufacture (\$1,000)	3,013,731	2,694,778	136,290	160,916
Cost of materials 3/ (\$1,000)	5,812,515	5,545,636	142,641	101,402
Value of shipments 3/ (\$1,000)	8,799,266	8,201,881	290,120	262,749
Total capital expenditures (\$1,000)	86,735	51,694	16,076	17,382

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

2/ 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.

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, 2007 *Economic Census, Manufacturing, Geographic Area Series, Industry Statistics for the States, Metropolitan and Micropolitan Statistical Areas, Counties, and Places: 2007* (April 2010) <http://www.census.gov/econ/census07/www/get_data.html> accessed June 9, 2010.

**Table 22.04-- MANUFACTURING, BY SELECTED INDUSTRY GROUP
(NAICS 31-33): 2009**

[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	Printing & related support NAICS 323	Printing & related support NAICS 3231	Non- metallic mineral NAICS 327
All employees						
Number 1/	11,687	4,652	2,025	1,001	1,001	1,050
Payroll (\$1,000)	455,286	141,768	48,411	36,999	36,999	48,115
Production workers						
Number 1/	7,299	2,943	1,397	684	684	753
Hours (1,000)	13,905	5,236	2,304	1,224	1,224	1,256
Wages (\$1,000)	241,617	75,799	30,957	20,900	20,900	30,810
Value added (\$1,000)	1,702,765	442,905	113,017	74,332	74,332	124,024
Total cost of materials (\$1,000) 2/	4,251,459	464,496	70,630	(D)	(D)	129,965
Total value of shipments (\$1,000) 2/	5,955,627	903,557	183,737	(D)	(D)	255,576
Total capital expenditures (\$1,000)	86,446	20,528	3,717	2,806	2,806	12,057

D Withheld to avoid disclosing data for individual companies.

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, 2009 Geographic Area Statistics, "2009 Annual Survey of Manufactures"
<<http://www.census.gov/manufacturing/asm/index.html>> accessed April 26, 2011.

**Table 22.05-- MANUFACTURING, EMPLOYMENT AND WAGES
(NAICS 31-33), BY SELECTED NAICS CODE: 2009**

[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	1,015	13,678	531,743	38,877
311	Food	301	5,823	162,859	27,970
3112	Grain and oilseed milling	4	52	1,730	33,155
3113	Sugar & confectionery product	23	805	28,531	35,428
3114	Fruit & vegetable preserving & specialty	22	468	13,319	28,445
3115	Dairy product	12	329	16,390	49,753
3116	Animal slaughtering & processing	17	448	12,935	28,852
3118	Bakeries & tortilla	130	2,026	47,224	23,309
3119	Other food	89	1,619	41,549	25,657
312	Beverage and tobacco product	33	881	39,338	44,655
3121	Beverage	33	881	39,338	44,655
314	Textile product mills	28	205	6,168	30,053
3141	Textile furnishings mills	8	117	4,119	35,208
3149	Other textile product mills	20	88	2,049	23,219
315	Apparel	62	468	10,358	22,132
321	Wood product	32	(1/)	(1/)	(1/)
3212	Plywood & engineered wood product	8	155	5,951	38,371
322	Paper	6	88	3,511	39,896
323	Printing & related support activities	116	899	3,112	34,609
324	Petroleum and coal products	6	510	53,887	105,678
325	Chemical	35	353	15,107	42,795
3251	Basic chemical mfg.	6	129	6,810	52,894
3253	Agricultural chemical	5	56	2,257	40,061
3254	Pharmaceutical and medicine	5	82	3,497	42,604
3256	Soap, cleaning compound, and toiletry	15	70	1,803	25,876
326	Plastics & rubber products	17	231	9,711	41,963
327	Nonmetallic mineral product	66	853	48,314	56,663
3271	Clay product and refractory	7	27	546	20,364
3272	Glass & glass product	8	23	454	19,444
3273	Cement & concrete product	29	639	40,623	63,614
3279	Other nonmetallic mineral products	23	164	6,691	40,822
332	Fabricated metal product	45	(1/)	(1/)	(1/)
3323	Architectural and structural metals	30	285	12,965	45,517

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**Table 22.05-- MANUFACTURING, EMPLOYMENT AND WAGES
(NAICS 31-33), BY SELECTED NAICS CODE: 2009 -- Con.**

NAICS code	Kind of business	Average establishments	Annual average employment	Total annual wages (\$1,000)	Annual wages per employee
3327	Machine shops and treaded product	6	43	1,772	41,697
333	Machinery	6	49	2,227	45,605
334	Computer & electronic product	13	171	10,317	60,304
3345	Electronic instrument	11	157	9,678	61,548
336	Transportation equipment	30	931	54,744	58,780
3366	Ship & boat building	21	894	53,095	59,396
337	Furniture & related product	68	455	19,398	42,665
3371	Household and institutional furniture	58	360	15,249	42,408
339	Miscellaneous	145	972	32,768	33,700
3391	Medical equipment & supplies	42	282	11,371	40,309
3399	Other miscellaneous	103	690	21,397	31,000

1/ Data do not meet Bureau of Labor Statistics or State agency disclosure standards.

Source: U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Wages, Annual Averages 2009*, table 10 <<http://www.bls.gov/cew/ew09table10.pdf>> accessed April 12, 2011.

**Table 22.06-- GENERAL EXCISE TAX BASE FOR MANUFACTURING:
1987 TO 2010**

[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	1995	614,771	2003	638,863
1988	629,303	1996	622,889	2004	642,245
1989	630,997	1997	581,259	2005	738,573
1990	728,387	1998	535,371	2006	781,626
1991	714,407	1999	585,305	2007	766,208
1992	714,470	2000	586,039	2008	795,352
1993	717,423	2001	611,292	2009	752,237
1994	618,238	2002	612,658	2010	708,787

Source: Hawaii State Department of Taxation, "General Excise and Use Tax Base" (annual) and as revised. Beginning in 1997, <http://www.state.hi.us/tax/a5_3txcolrptarchive.htm> accessed June 6, 2011.

**Table 22.07-- INDUSTRIAL AND HIGH-TECHNOLOGY PARKS,
BY ISLAND: 2008 TO 2010**

Subject	State total	Hawaii	Maui	Molokai	Oahu	Kauai
2008						
Number of parks	25	4	5	1	13	2
Total acres	4,866.80	1,867.00	776.30	16.50	2,138.00	69.00
Developed acres	3,067.12	717.00	232.30	6.70	2,042.12	69.00
Number of tenants 1/	1,101	184	20	1	836	60
Number of owners 2/	629	86	248	9	193	93
2009						
Number of parks	25	4	5	1	13	2
Total acres	5,018.50	1,864.20	747.30	16.50	2,321.50	69.00
Developed acres	2,852.10	499.50	205.30	6.70	2,071.60	69.00
Number of tenants 3/	1,145	191	20	1	918	15
Number of owners	755	100	250	9	303	93
2010						
Number of parks	25	4	5	1	13	2
Total acres	4,983.52	1,864.22	777.30	16.50	2,256.50	69.00
Developed acres	2,932.10	569.50	205.30	6.70	2,081.60	69.00
Number of tenants 4/	1,125	207	20	(NA)	883	15
Number of owners 5/	537	111	194	9	213	10

NA Not Available.

1/ Data on number of tenants not available for 5 parks: 4 on Maui and 1 on Oahu.

2/ Data on number of owners not available for 2 parks on Oahu.

3/ Data on number of tenants not available for 6 parks: 4 on Maui, 1 on Oahu and 1 on Kauai.

4/ Data on number of tenants not available for 8 parks: 4 on Maui, 1 on Molokai, 2 on Oahu and 1 on Kauai.

5/ Data on number of owners not available for 3 parks: 1 on Maui, 1 on Oahu and 1 on Kauai.

Source: *Pacific Business News*, Vol. 46, No. 46 (January 9, 2009), p. 18; Vol. 47, No. 46 (January 8, 2010), p. 15; Vol. 48, No. 47 (January 14, 2011), p. 16.

**Table 22.08-- PINEAPPLE COMPANIES AND CANNERIES, AND
SUGAR COMPANIES AND MILLS, 1955 TO 2010,
AND BY ISLAND, 2009 AND 2010**

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
1995	3	1	8	10
2000	3	1	3	4
2005	3	1	2	2
2006	3	1	2	2
2007	2	-	2	2
2008	2	-	2	2
2009	2	-	1	1
2010	2/ 2	-	1	1
ISLAND: 2009				
Hawaii	-	-	-	-
Maui	1	-	1	1
Oahu	1	-	-	-
Kauai	-	-	-	-
ISLAND: 2010				
Hawaii	-	-	-	-
Maui	2/ 1	-	1	1
Oahu	2/ 1	-	-	-
Kauai	-	-	-	-

1/ In operation; excludes cooperatives.

2/ Includes Dole Food Company Hawaii & Haliimaile Pineapple Company, might exclude smaller diversified farms.

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 2010

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	41,762	20,385	1,492,357	206,008	192,535	62,231
2008	39,663	20,426	1,422,296	185,171	173,061	62,278
2009	39,812	20,244	2/ 973,876	176,208	164,684	2/ 40,631
2010	34,693	15,488	1,195,345	171,949	160,704	50,161

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.

2/ Gay & Robinson data not available.

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 2009**

[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	4.6
2006	(NA)	60.5	74.8	4.9
2007	(NA)	(D)	70.9	5.4
2008	(NA)	(D)	66.1	5.3
2009	(NA)	(D)	65.8	7.8

NA Not available.

D Data not shown separately to avoid disclosure of individual operations.

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.

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

<http://www.nass.usda.gov/Statistics_by_State/Hawaii/Publications/Annual_Statistical_Bulletin/index.asp> accessed July 8, 2011; and records.