

## Section 19

# AGRICULTURE

This section presents statistics on agricultural land, farms, crops, livestock, dairy products, poultry, and aquaculture. Related information appears in Sections 6 (land use), 12 and 15 (agricultural employment and earnings), and 22 (food processing).

Important sources for data on agriculture include the *United States Census of Agriculture*, most recently published for 1992, the annual report on *Statistics of Hawaiian Agriculture* issued by the Hawaii Agricultural Statistics Service, and data compiled by the former Hawaiian Sugar Planters' Association, now the Hawaii Agriculture Research Center, and the Aquaculture Development Program of the Hawaii State Department of Land and Natural Resources. Agricultural data for earlier years are summarized in *Historical Statistics of Hawaii*, Section 13. National statistics appear in Section 23 of the *Statistical Abstract of the United States: 1997*.

**Table 19.01-- FARMS, LAND IN FARMS, AND SELECTED ITEMS:  
1987 AND 1992**

Item		1987	1992
Farms	number	4,870	5,336
Land in farms	acres	1,721,521	1,588,843
Average size of farm	acres	353	298
Value of land and buildings:			
Average per farm	dollars	603,435	722,189
Average per acre	dollars	1,707	2,425
Estimated market value of all machinery and equipment:			
Average per farm	dollars	41,208	53,207
Farms by size:			
1 to 9 acres		2,855	3,410
10 to 49 acres		1,401	1,342
50 to 179 acres		341	313
180 to 499 acres		128	133
500 to 999 acres		31	34
1,000 acres or more		114	104
Total cropland			
	farms	4,170	4,735
	acres	327,396	293,371
Harvested cropland			
	farms	3,837	4,472
	acres	152,719	136,431
Irrigated land			
	farms	1,827	2,220
	acres	148,884	134,338
Market value of agricultural products sold			
Average per farm	\$1,000 dollars	609,741	552,054
Crops, including nursery and greenhouse crops	\$1,000	125,203	103,458
Livestock, poultry, and their products	\$1,000	498,317	453,410
		111,424	98,644
Farms by value of sales:			
Less than \$2,500		1,402	1,790
\$2,500 to \$4,999		674	754
\$5,000 to \$9,999		745	715
\$10,000 to \$24,999		911	863
\$25,000 to \$49,999		476	484
\$50,000 to \$99,999		287	291
\$100,000 or more		375	439

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**Table 19.01-- FARMS, LAND IN FARMS, AND SELECTED ITEMS:  
1987 AND 1992 -- Con.**

Item		1987	1992
Total farm production expenses	\$1,000	495,759	466,826
Average per farm	dollars	101,840	87,486
Net cash return from agriculture sales for the farm unit	farms	4,869	5,336
Average per farm	\$1,000 dollars	113,904 23,394	85,228 15,972
Operators by principal occupation:			
Farming		2,816	2,926
Other		2,054	2,410
Operators by days worked off farm:			
Any		2,728	2,864
200 days or more		1,476	1,487
Livestock and poultry:			
Cattle and calves inventory	farms	1,003	874
	number	211,045	191,230
Beef cows	farms	724	655
	number	83,427	87,620
Milk cows	farms	73	57
	number	11,836	10,816
Cattle and calves sold	farms	807	699
	number	101,315	82,788
Hogs and pigs inventory	farms	372	253
	number	47,564	28,570
Hogs and pigs sold	farms	307	200
	number	69,019	47,831
Sheep and lambs inventory	farms	42	62
	number	21,908	22,938
Chicken 3 months old or older inventory	farms	181	177
	number	(D)	935,278
Broilers and other meat-type chickens sold	farms	12	14
	number	2,069,316	1,201,331

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**Table 19.01-- FARMS, LAND IN FARMS, AND SELECTED ITEMS:  
1987 AND 1992 -- Con.**

Item		1987	1992
Selected crops harvested:			
Sugarcane for sugar	farms	79	31
	acres	79,234	62,915
	tons	7,934,181	5,488,214
Pineapples harvested	farms	18	21
	acres	22,262	15,500
	tons	683,182	556,748
Vegetables harvested	farms	710	602
	acres	5,587	5,129
Land in orchards	farms	2,128	2,537
	acres	33,564	38,590

D Withheld to avoid disclosing data for individual farms.

Source: U.S. Bureau of the Census, *1992 Census of Agriculture, Geographic Area Series, Hawaii, State and County Data*, cited in Release 92-A29-HI (November 7, 1994).

**Table 19.02-- FARMS AND LAND IN FARMS, FOR COUNTIES: 1992**

Item		Hawaii	Honolulu	Kauai	Maui
Farms	number	3,157	892	437	850
Land in farms	acres	926,607	91,998	214,452	355,786
Average size of farm	acres	294	103	491	419
Value of land and buildings:					
Average per farm	dollars	495,001	1,144,965	730,246	1,118,184
Average per acre	dollars	1,686	11,101	1,488	2,671
Estimated market value of all machinery and equipment:					
Average per farm	dollars	28,617	51,619	109,908	117,143
Farms by size:					
1 to 9 acres		1,960	696	249	505
10 to 49 acres		858	136	116	232
50 to 179 acres		188	28	37	60
180 to 499 acres		74	17	18	24
500 to 999 acres		22	5	4	3
1,000 acres or more		55	10	13	26
Total cropland	farms	2,893	764	345	733
	acres	116,068	43,587	(D)	(D)
Harvested cropland	farms	2,752	745	309	666
	acres	52,950	20,692	23,758	39,031
Irrigated land	farms	842	579	258	541
	acres	13,013	27,196	32,580	61,549
Market value of agricultural products sold					
Average per farm	\$1,000 dollars	187,593	150,527	49,166	164,767
Crops, including nursery and greenhouse crops	\$1,000	59,421	168,752	112,509	193,844
Livestock, poultry, and their products	\$1,000	158,360	98,312	43,454	153,285
	\$1,000	29,233	52,215	5,713	11,483

D Withheld to avoid disclosing data for individual farms.

Source: U.S. Bureau of the Census, *1992 Census of Agriculture, Geographic Area Series, Hawaii, State and County Data*, cited in Release 92-A29-HI and related county releases.

**Table 19.03-- NUMBER OF FARMS, FARM ACREAGE, AND FARM  
EMPLOYMENT: 1980 TO 1996**

Year	Number of farms 1/	Farm acreage 2/ (1,000)	Farm employment 3/		
			Self-employed farm operators	Unpaid family members 3/	Hired workers
1980	4,300	1,970	3,400	1,100	10,550
1981	4,400	1,965	3,100	900	10,500
1982	4,500	1,960	2,600	1,300	13,000
1983	4,500	1,900	2,500	1,500	13,000
1984	4,600	1,850	2,200	1,300	11,800
1985	4,600	1,800	2,200	1,200	10,600
1986	4,600	1,750	2,050	1,200	9,700
1987	4,650	1,720	2,600	1,100	10,700
1988	4,650	1,720	2,600	1,100	10,300
1989	4,650	1,720	2,400	1,100	9,800
1990	4,700	1,680	2,500	1,000	9,600
1991	4,700	1,630	3,100	1,100	9,600
1992	4,800	1,590	3,100	1,300	9,500
1993	4,800	1,590	2,800	1,100	8,700
1994	4,800	1,590	2,700	1,200	8,100
1995	4,800	1,590	2,700	1,000	7,300
1996	4,600	1,590	2,700	1,000	7,400

1/ Based on farm definition of \$1,000 or more of agricultural sales.

2/ Includes land not in crop and pasture, such as farm house lots, roads, woodlots, etc.

3/ Working 15 or more hours per week.

Source: Hawaii Agricultural Statistics Service, *Statistics of Hawaiian Agriculture* (annual); and [http://www.nass.usda.gov/hi/stats/t\\_of\\_c.htm](http://www.nass.usda.gov/hi/stats/t_of_c.htm).

**Table 19.04-- VALUE OF CROP AND LIVESTOCK SALES: 1980 TO 1996**

[\$1,000]

Year	All crops and livestock	Crops				Livestock
		All crops	Sugar (unprocessed cane)	Pine-apples (fresh equiv.)	Other crops	
1980	634,101	552,877	385,100	76,596	91,181	81,224
1981	489,502	401,348	207,500	89,745	104,103	88,154
1982	507,268	428,860	230,800	94,364	103,696	78,408
1983	568,414	481,926	266,900	100,376	114,650	86,488
1984	550,517	463,502	256,200	89,928	117,374	87,015
1985	528,649	445,826	222,400	90,530	132,896	82,823
1986	564,717	481,312	233,800	99,720	147,792	83,405
1987	557,298	469,565	218,000	99,286	152,279	87,733
1988	573,962	485,293	209,900	107,402	167,991	88,669
1989	585,048	493,261	210,300	98,310	184,651	91,787
1990	595,030	506,586	213,800	106,365	186,421	88,444
1991	551,382	464,139	174,900	107,775	181,464	87,243
1992	520,227	431,958	153,700	102,100	176,158	88,269
1993	506,475	421,593	163,000	79,850	178,743	84,882
1994	503,780	427,150	160,100	78,890	188,160	76,630
1995	490,283	418,689	127,700	87,360	203,629	71,594
1996	488,303	422,568	108,100	95,914	218,554	65,735

Source: Hawaii Agricultural Statistics Service, *Statistics of Hawaiian Agriculture* (annual); and [http://www.nass.usda.gov/hi/stats/t\\_of\\_c.htm](http://www.nass.usda.gov/hi/stats/t_of_c.htm).

**Table 19.05-- NUMBER OF FARMS, FARM ACREAGE, AND FARM EMPLOYMENT, BY COUNTIES OR ISLANDS: 1986, 1994, 1995, AND 1996**

County or island and year	Number of farms 1/	Farm acreage 2/ (1,000)	Farm employment 3/		
			Self-employed farm operators	Unpaid family members 4/	Hired workers
State total:					
1986	4,600	1,750	2,050	1,200	9,700
1994	4,800	1,590	2,700	1,200	8,100
1995	4,800	1,590	2,700	1,000	7,300
1996	4,600	1,590	2,700	1,000	7,400
Hawaii County:					
1986	2,700	1,035	1,350	800	3,100
1994	2,800	929	1,750	700	3,050
1995	2,800	929	1,750	550	2,550
1996	2,700	929	1,800	600	2,600
Maui County:					
1986	550	360	200	100	2,800
1994	700	355	300	150	2,000
1995	700	355	300	150	1,850
1996	600	355	300	150	1,850
Oahu:					
1986	950	125	350	250	2,500
1994	900	92	500	350	2,050
1995	900	92	500	250	1,900
1996	900	92	450	200	2,000
Kauai County:					
1986	400	230	150	50	1,250
1994	400	214	250	100	1,100
1995	400	214	200	150	1,000
1996	400	214	200	100	950

1/ Based on farm definition of \$1,000 or more of agricultural sales.

2/ Includes land not in crops and pasture, such as farm house lots, roads, woodlots, etc.

3/ Data not comparable among years shown due to changes in survey periods; sum of county estimates may not add due to rounding.

4/ Working 15 hours or more per week.

Source: Hawaii Agricultural Statistics Service, *Statistics of Hawaiian Agriculture* (annual); *Hawaii Agricultural Labor* (quarterly); and [http://www.nass.usda.gov/hi/stats/t\\_of\\_c.htm](http://www.nass.usda.gov/hi/stats/t_of_c.htm).



**Table 19.06-- VALUE OF CROP AND LIVESTOCK SALES, BY COUNTIES  
OR ISLANDS: 1986, 1994, 1995 AND 1996**

[\$1,000]

County or island and year	All crops and livestock 1/	Crops				Livestock 1/
		All crops 1/	Sugar (unpro- cessed cane)	Pine- apples 2/ (fresh equiv.)	Other crops 1,2/	
State total:						
1986	564,717	481,312	233,800	99,720	147,792	83,405
1994	503,780	427,150	160,100	78,890	188,160	76,630
1995	490,283	418,689	127,700	87,360	203,629	71,594
1996	488,303	422,568	108,100	95,914	218,554	65,735
Hawaii County:						
1986	187,958	165,976	74,100	(Z)	91,876	21,982
1994	161,475	140,770	35,800	(Z)	104,970	20,705
1995	145,721	128,564	12,200	(Z)	116,364	17,157
1996	141,910	125,915	1,700	(Z)	124,215	15,995
Maui County:						
1986	144,398	132,647	67,500	45,540	19,607	11,751
1994	127,189	116,447	58,500	25,150	32,797	10,742
1995	124,657	114,064	59,400	24,775	29,889	10,593
1996	123,823	113,696	57,200	27,144	29,352	10,127
Oahu:						
1986	166,680	122,237	38,200	54,180	29,857	44,443
1994	160,678	119,958	30,600	53,690	35,668	40,720
1995	162,668	123,074	21,000	62,585	39,489	39,594
1996	156,582	121,143	10,400	68,770	41,973	35,439
Kauai County:						
1986	65,681	60,452	54,000	(Z)	6,452	5,229
1994	54,438	49,975	35,200	(Z)	14,775	4,463
1995	57,237	52,987	35,100	(Z)	17,887	4,250
1996	65,988	61,814	38,800	(Z)	23,014	4,174

Z Less than \$50,000.

1/ 1994 and 1995 data has been revised from previous year databook table.

2/ County data may fail to add exactly to State total.

Source: Hawaii Agricultural Statistics Service, *Statistics of Hawaiian Agriculture* (annual);  
and [http://www.nass.usda.gov/hi/stats/t\\_of\\_c.htm](http://www.nass.usda.gov/hi/stats/t_of_c.htm).

**Table 19.07-- ACREAGE IN CROP, NUMBER OF CROP FARMS, VOLUME OF CROP MARKETINGS, AND VALUE OF CROP SALES:  
1986, 1994, 1995, AND 1996**

Subject	1986	1994	1995	1996
Acreage in crop (1,000 acres):				
Sugarcane	184.3	121.1	83.8	68.8
Pineapples (land used for pineapple)	36.0	22.3	19.9	20.0
Vegetables and melons (harvested acreage)	5.4	5.3	6.0	6.2
Fruits, excluding pineapples	6.8	6.6	7.0	7.1
Coffee	2.3	6.8	6.7	6.4
Macadamia nuts	21.2	20.2	20.3	20.2
All other crops	5.2	5.7	6.5	8.9
Number of crop farms:				
Sugar	120	24	9	7
Pineapples	19	15	15	20
Vegetables and melons	750	580	690	950
Fruits (excluding pineapples)	793	836	924	1,040
Coffee	620	585	580	560
Macadamia nuts	645	650	650	680
Taro	140	180	190	180
Flowers and nursery products	635	660	705	690
Volume of crop marketings:				
Sugar, unprocessed cane (1,000 tons)	8,379	5,266	3,953	3,544
Pineapples, fresh equivalent (1,000 tons)	646	365	345	347
Vegetables and melons (1,000 lb.)	92,000	80,350	89,100	92,420
Fruits, excluding pineapples (1,000 lb.)	90,610	96,650	83,520	74,260
Coffee, parchment (1,000 lb.)	3,000	4,300	5,400	6,400
Macadamia nuts, in shell (1,000 lb.)	44,000	52,500	50,000	56,500
Taro (1,000 lb.)	6,330	6,100	6,800	5,700
Value of crop sales (\$1,000):				
Sugar (unprocessed cane)	233,800	160,100	127,700	108,100
Pineapples (fresh equivalent)	99,720	78,890	87,360	95,914
Vegetables and melons	30,267	36,105	38,604	40,672
Fruits (excluding pineapples)	16,606	23,611	28,218	26,603
Coffee (parchment)	8,700	12,040	16,200	20,800
Macadamia nuts (in shell)	35,200	36,225	37,740	44,070
Taro	1,462	2,806	3,264	2,793
Field crops (not estimated separately)	6,225	10,048	11,108	13,821
Flowers and nursery products	49,132	67,005	68,175	69,475

Source: Hawaii Agricultural Statistics Service, *Statistics of Hawaiian Agriculture* (annual); and [http://www.nass.usda.gov/hi/stats/t\\_of\\_c.htm](http://www.nass.usda.gov/hi/stats/t_of_c.htm).

**Table 19.08-- ACREAGE IN CROP, NUMBER OF CROP FARMS, VOLUME OF CROP MARKETINGS, AND VALUE OF CROP SALES, BY COUNTIES OR ISLANDS: 1996**

Subject	Hawaii County	Maui County	Oahu	Kauai County
Acreage in crop (1,000 acres):				
Sugarcane	-	42.3	-	26.5
Pineapples (land used for pineapple)	(2/)	9.3	10.7	(2/)
Vegetables and melons (harvested acreage)	2.1	1.5	2.5	0.1
Fruits, excluding pineapples	5.3	0.2	0.8	0.8
Coffee	2.0	(D)	(D)	(D)
Macadamia nuts	(D)	(D)	(D)	(D)
All other crops	1.8	1.4	4.1	1.6
Number of crop farms:				
Sugar	1	2	1	3
Pineapples	8	6	2	4
Vegetables and melons	400	105	395	50
Fruits (excluding pineapples)	720	85	135	100
Coffee	550	(D)	(D)	(D)
Macadamia nuts	(D)	(D)	(D)	(D)
Taro	100	22	4	54
Flowers and nursery products	316	111	211	52
Volume of crop marketings:				
Sugar, unprocessed cane (1,000 tons)	81	1,702	408	1,353
Pineapples, fresh equivalent (1,000 tons)	(3/)	195	152	(3/)
Vegetables and melons (1,000 lb.)	32,030	26,570	33,450	370
Fruits, excluding pineapples (1,000 lb.)	56,460	1,690	5,180	10,930
Coffee, parchment (1,000 lb.)	2,300	(D)	(D)	(D)
Macadamia nuts, in shell (1,000 lb.)	(D)	(D)	(D)	(D)
Taro (1,000 lb.)	1,400	(D)	(D)	3,200
Value of crop sales (\$1,000):				
Sugar (unprocessed cane)	1,700	57,200	10,400	38,800
Pineapples (fresh equivalent)	(4/)	27,144	68,770	(4/)
Vegetables and melons	16,140	11,652	12,554	326
Fruits (excluding pineapples)	20,684	859	2,640	2,420
Coffee (parchment)	10,810	(D)	(D)	(D)
Macadamia nuts (in shell)	(D)	(D)	(D)	(D)
Taro	689	(D)	(D)	1,536
Field crops (not estimated separately)	73	3,075	1,222	9,451
Flowers and nursery products	34,724	7,521	25,253	1,977

D Withheld to avoid disclosure of individual operations.

2/ Less than 50 acres.

1/ Kauai, Maui, and Molokai combined to avoid disclosure of individual operations.

3/ Less than 500 tons.

4/ Less than \$50,000.

Source: Hawaii Agricultural Statistics Service, *Statistics of Hawaiian Agriculture* (annual); and [http://www.nass.usda.gov/hi/stats/t\\_of\\_c.htm](http://www.nass.usda.gov/hi/stats/t_of_c.htm).

**Table 19.09-- MARKET SUPPLY OF SPECIFIED FOODS:  
1986, 1994, 1995, AND 1996**

Commodity and year	Market supply 1/				
	Total	Inshipment	From Hawaii	Per person 2/	From Hawaii, percent of total
Fresh market fruits:					
1986	162,023	85,108	76,915	138.8	47.5
1994	186,564	103,586	83,058	144.9	44.5
1995	200,916	102,551	98,365	156.0	49.0
1996	185,968	99,744	86,224	143.2	46.4
Fresh market vegetables:					
1986	210,299	134,084	76,215	180.1	36.2
1994	227,890	161,935	65,955	177.0	28.9
1995	222,307	154,557	67,750	172.7	30.5
1996	232,161	158,036	74,125	178.8	31.9
Beef and veal: 3/					
1986	108,047	74,283	4/ 33,764	92.5	31.2
1994	115,580	106,284	4/ 9,296	89.8	8.0
1995	115,844	107,949	4/ 7,895	90.0	6.8
1996	117,372	107,211	4/ 10,161	90.4	8.7
Pork: 3/					
1986	38,686	30,043	8,643	33.1	22.3
1994	43,546	37,691	5,855	33.8	13.4
1995	43,215	36,976	6,239	33.6	14.4
1996	43,735	37,660	6,075	33.7	13.9
Eggs, shell:					
1986	21,983	3,066	18,917	18.8	86.1
1994	20,527	4,210	16,317	15.9	79.5
1995	19,844	4,344	15,500	15.4	78.1
1996	(NA)	(NA)	(NA)	(NA)	(NA)

NA Not available

1/ Eggs in 1,000 dozens; other foods in 1,000 pounds.

2/ Eggs in dozens; other foods in pounds. Based on de facto population estimates: 1,167,500 for 1986, 1,287,600 for 1994, 1,287,600 for 1995, and 1,298,800 for 1996.

3/ Carcass weight equivalent.

4/ Excludes slaughter cattle and calves shipped out-of-state.

Source: Hawaii Agricultural Statistics Service, *Statistics of Hawaiian Agriculture* (annual); and [http://www.nass.usda.gov/hi/stats/t\\_of\\_c.htm](http://www.nass.usda.gov/hi/stats/t_of_c.htm).

**Table 19.10-- SPECIALTY CROPS, FRUITS, AND VEGETABLES: 1996**

[Data shown for crops with sales in excess of \$1,000,000]

<b>Crop</b>	<b>Acreage harvested</b>	<b>Yield per acre (1,000 lb.)</b>	<b>Production (1,000 lb.)</b>	<b>Farm price (cents per lb.)</b>	<b>Value of sales (\$1,000)</b>
Specialty crops:					
Coffee (1996-97)	5,700	1.1	6,400	325.0	20,800
Fresh herbs	...	...	1,400	...	2,749
Ginger roots	200	47.0	9,400	75.0	7,050
Macadamia nuts (1996-97)	19,200	2.9	63,000	70.0	44,070
Seed crops (1996-97)	2,000	...	2,660	...	13,460
Fruits:					
Bananas	1,040	12.5	13,000	40.0	5,200
Guavas	710	...	16,300	14.3	2,331
Papayas	1,835	22.8	41,800	40.8	17,054
Vegetables:					
Cabbage, Chinese	410	18.8	7,700	23.5	1,810
Cabbage, head	640	22.0	14,100	18.5	2,609
Cucumbers	400	12.0	4,800	43.0	2,064
Onions, dry	210	9.5	2,000	118.0	2,360
Onions, green	190	7.4	1,400	94.0	1,316
Peppers, green	230	11.3	2,600	48.0	1,248
Potatoes, sweet	280	8.9	2,500	52.0	1,300
Taro	1/ 530	...	5,700	49.0	2,793
Tomatoes	280	25.0	7,000	53.0	3,710
Watercress	1/ 35	...	1,000	114.0	1,140
Watermelons	760	22.5	17,100	16.5	2,822

1/ Acreage in crop.

Source: Hawaii Agricultural Statistics Service, *Statistics of Hawaiian Agriculture* (annual); and [http://www.nass.usda.gov/hi/stats/t\\_of\\_c.htm](http://www.nass.usda.gov/hi/stats/t_of_c.htm).

**Table 19.11-- SUGARCANE ACREAGE, BY TYPE OF IRRIGATION:  
1984 TO 1997**

Year	Total cane land	Irrigated cane land		Unirrigated cane land
		Drip	Furrow or overhead	
1984	188,396	86,925	26,325	75,146
1985	187,858	89,129	24,323	74,406
1986	184,179	90,877	19,526	73,776
1987	180,967	88,812	18,602	73,553
1988	177,693	88,387	17,791	71,515
1989	170,816	86,030	16,687	68,099
1990	161,991	83,252	15,129	63,610
1991	155,608	80,366	13,745	61,497
1992	145,790	76,132	13,008	58,777
1993	121,322	74,557	11,595	35,170
1994	98,413	68,547	10,753	19,113
1995	81,957	62,462	8,416	11,079
1996	68,816	56,147	7,511	5,158
1997	67,820	55,585	7,115	5,120

Source: Hawaiian Sugar Planters' Association, records; Alexander & Baldwin, Inc., "Water to the Roots," *Ampersand*, Spring 1987, pp. 3-6; and Hawaii Agricultural Research Center, records.

**Table 19.12-- GOVERNMENT PAYMENTS FOR AGRICULTURE:  
1985 TO 1996**

[\$1,000]

Year	Amount	Year	Amount	Year	Amount
1985	1,184	1989	396	1993	2,018
1986	2,810	1990	657	1994	700
1987	344	1991	730	1995	566
1988	465	1992	734	1996	(NA)

NA Not available

Source: Hawaii Agricultural Statistics Service, *Statistics of Hawaiian Agriculture* (annual);  
and [http://www.nass.usda.gov/hi/stats/t\\_of\\_c.htm](http://www.nass.usda.gov/hi/stats/t_of_c.htm) (April 1998).

**Table 19.13-- FRESH FRUIT AND VEGETABLE ARRIVALS IN HONOLULU,  
BY SOURCE: 1991 TO 1993**

[1,000 pounds, net]

<b>Source</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>
Total arrivals	291,626	298,959	306,650
From Hawaii	86,410	80,421	83,898
Oahu 1/	26,347	24,924	20,190
Other islands 2/	60,063	55,497	62,988
Hawaii 2/	26,853	26,407	29,643
Maui 2/	15,565	14,249	15,409
Molokai 2/	17,457	14,603	17,866
Kauai 2/	188	238	70
From U.S. Mainland 2/	198,149	211,082	213,981
From foreign countries 2/	7,067	7,456	8,771

1/ Wholesalers' truck receipts.

2/ Ship and plane arrivals.

Source: Hawaii State Department of Agriculture, Market News Service, *Honolulu Arrivals, Fresh Fruits and Vegetables, 1991* (April 1993), table 1, and records.



**Table 19.14-- LIVESTOCK INVENTORY, 1985 TO 1996, AND BY  
GEOGRAPHIC AREAS, 1996**

[In thousands]

<b>Year and geographic area</b>	<b>All cattle and calves 1/</b>	<b>Milk cows 1/</b>	<b>Hogs and pigs 2/</b>	<b>Chickens (excluding broilers) 2/</b>	<b>Bee colonies</b>
1985	209	11	55	1,210	9
1986	199	12	50	1,185	9
1987	203	12	47	1,212	9
1988	212	12	43	1,217	9
1989	205	11	39	1,216	9
1990	215	11	36	1,183	10
1991	200	10	34	1,213	10
1992	178	11	35	1,109	9
1993	165	11	33	1,012	9
1994	175	11	35	981	9
1995	171	10	34	933	8
1996	166	10	28	876	8
<b>GEOGRAPHIC AREAS: 1996</b>					
Hawaii County	114.8	1.8	2.5	(D)	(NA)
Maui	20.8	0.9	6.0	(D)	(NA)
Molokai and Lanai	6.1	-	(3/)	(D)	(NA)
Oahu	13.1	6.3	15.4	715	(NA)
Kauai County	11.2	0.6	4.1	(D)	(NA)

NA Not available.

D Withheld to avoid disclosing data for individual operations.

1/ As of January 1 of the following year.

2/ As of December 1.

3/ Combined with Maui.

Source: Hawaii Agricultural Statistics Service, *Statistics of Hawaiian Agriculture* (annual);  
and [http://www.nass.usda.gov/hi/stats/t\\_of\\_c.htm](http://www.nass.usda.gov/hi/stats/t_of_c.htm).

**Table 19.15-- NUMBER OF LIVESTOCK OPERATIONS, VOLUME OF LIVESTOCK MARKETINGS, AND VALUE OF LIVESTOCK SALES: 1986, 1994, 1995, AND 1996**

Subject	1986	1994	1995	1996
Number of livestock operations, Dec. 31:				
Cattle 1/	900	800	800	800
Hogs	600	350	350	350
Milk	90	60	60	60
Eggs	55	55	55	55
Honey	20	21	17	25
Volume of livestock marketings:				
Beef (dressed weight; 1,000 lb.) 2/	33,764	9,324	7,895	10,161
Pork (dressed weight; 1,000 lb.)	5,907	5,907	6,239	6,075
Milk (million lb.)	136.9	136.9	139.4	125.9
Eggs (million)	195.0	195.0	186.0	179.0
Honey (1,000 lb.)	1,098	1,098	1,032	1,240
Value of livestock sales (\$1,000):				
Cattle 3/	19,700	19,700	14,639	11,905
Hogs 3/	6,175	6,175	6,672	6,585
Milk	31,747	31,747	32,146	29,234
Eggs	13,959	13,959	13,516	12,963

1/ Includes beef, dairy, and dairy replacement operations.

2/ Includes slaughter cattle, but excludes calves shipped out-of-state.

3/ Excludes interfarm sales; includes out-of-state sales of slaughter cattle and feeder calves.

Source: Hawaii Agricultural Statistics Service, *Statistics of Hawaiian Agriculture* (annual); and [http://www.nass.usda.gov/hi/stats/t\\_of\\_c.htm](http://www.nass.usda.gov/hi/stats/t_of_c.htm).

**Table 19.16-- NUMBER OF LIVESTOCK OPERATIONS, VOLUME OF LIVESTOCK MARKETINGS, AND VALUE OF LIVESTOCK SALES, BY COUNTIES OR ISLANDS: 1996**

Subject	Hawaii County	Maui County	Oahu	Kauai County
Number of livestock operations, Dec. 31:				
Cattle 1/	410	190	60	140
Hogs	60	70	160	60
Milk	30	5	15	10
Eggs	25	7	19	4
Honey	16	5	(D)	4
Volume of livestock marketings:				
Beef (dressed weight; 1,000 lb.) 2/	5,369	2,665	1,246	881
Pork (dressed weight; 1,000 lb.)	458	1,361	3,476	780
Milk (million lb.)	(D)	(D)	83.0	(D)
Eggs (million)	(D)	(D)	144.3	(D)
Honey (1,000 lb.)	(D)	(D)	(D)	(D)
Value of livestock sales (\$1,000):				
Cattle 3/	7,433	2,872	717	883
Hogs 3/	455	1,497	3,754	879
Milk	(D)	(D)	19,130	(D)
Eggs	(D)	(D)	9,905	(D)

D Withheld to avoid disclosure of individual operations.

1/ Includes beef, dairy, and dairy replacement operations.

2/ Includes slaughter cattle but excludes calves shipped out-of-state.

3/ Excludes interfarm sales; includes out-of-state sales of slaughter cattle and feeder calves.

Source: Hawaii Agricultural Statistics Service, *Statistics of Hawaiian Agriculture* (annual); and [http://www.nass.usda.gov/hi/stats/t\\_of\\_c.htm](http://www.nass.usda.gov/hi/stats/t_of_c.htm).

**Table 19.17-- FLORICULTURE AND NURSERY PRODUCTS, 1992 TO 1996,  
AND BY ISLANDS, 1994 TO 1996**

Island and year	Number of farms	Growing area					Wholesale value (\$1,000)
		Total (acres)	Greenhouse (1,000 sq. ft.)	Artificial shade structure (1,000 sq. ft.)	Natural shade area (acres)	Open field (acres)	
State total:							
1992	686	2,497	3,880	22,025	13	1,890	69,679
1993	662	2,384	4,565	19,955	21	1,800	69,513
1994	660	2,290	3,770	21,600	18	1,690	67,005
1995	705	2,698	3,770	24,215	15	2,040	68,175
1996	690	2,544	3,000	24,630	10	1,900	69,475
Islands, 1994:							
Hawaii	304	1,175	2,715	16,330	18	720	31,337
Kauai	40	106	105	390	0	95	1,899
Maui/Molokai	102	499	310	505	0	480	7,912
Oahu	214	510	640	4,375	0	395	25,857
Islands, 1995:							
Hawaii	333	1,630	2,910	18,880	15	1,115	32,608
Kauai	46	105	40	375	0	95	1,801
Maui/Molokai	106	465	270	375	0	450	7,796
Oahu	220	498	550	4,585	0	380	25,970
Islands, 1996:							
Hawaii	316	1,358	2,105	18,710	10	870	34,724
Kauai	52	115	60	375	0	105	1,977
Maui/Molokai	111	484	240	390	0	470	7,521
Oahu	211	587	595	5,155	0	455	25,253

Source: Hawaii Agricultural Statistics Service, *Hawaii Flowers & Nursery Products, Annual Summary* (June 27, 1997), pp. 10 and 13.

**Table 19.18-- FLORICULTURE AND NURSERY PRODUCTS, BY  
COMMODITY: 1995**

[Shown for commodities with value of sales over \$650,000 and growers with total sales of  
\$10,000 or more]

Commodity	Number of farms having sales	Number sold		Value of sales (\$1,000)
		Unit	Number	
Selected cut flowers:				
Anthuriums	69	1,000 dozens	965	7,042
Birds of Paradise	32	1,000 dozens	119	754
Proteas	28	1,000 stems	1,877	1,071
Orchids:				
Sprays: Dendrobium	58	1,000 dozens	410	3,078
Potted: Dendrobiums	56	1,000 pots	804	4,358
Lei or individual flowers:				
Vanda, Miss Joaquim	13	Million blooms	22.5	677
Dendrobiums	32	Million blooms	22.4	716
Foliage:				
Potted, primarily for--				
Indoor or patio use	76	...	(NA)	11,812
Landscape use	65	...	(NA)	3,902
Unfinished stock	21	...	(NA)	622
Potted flowering plants:				
Poinsettias	27	1,000 pots	221	904
Ornamentals and trees	46	...	(NA)	4,112
Plant rentals	41	...	(NA)	3,293

NA Not available.

Source: Hawaii Agricultural Statistics Service, *Hawaii Flowers & Nursery Products, Annual Summary*, (June 27, 1997), pp. 3-8.

**Table 19.19-- FLORICULTURE AND NURSERY PRODUCTS, BY  
COMMODITY: 1996**

[Shown for commodities with value of sales over \$650,000 and growers with total sales of  
\$10,000 or more]

Commodity	Number of farms having sales	Number sold		Value of sales (\$1,000)
		Unit	Number	
Selected cut flowers:				
Anthuriums	65	1,000 dozens	906	7,060
Birds of Paradise	29	1,000 dozens	102	554
Proteas	31	1,000 stems	1,772	1,233
Orchids:				
Sprays: Dendrobiums	49	1,000 dozens	600	4,116
Potted: Dendrobiums	63	1,000 pots	1,162	5,205
Lei or individual flowers:				
Vanda, Miss Joaquim	12	Million blooms	22.2	627
Dendrobiums	33	Million blooms	24.7	740
Foliage:				
Potted, primarily for--				
Indoor or patio use	75	...	(NA)	12,294
Landscape use	62	...	(NA)	3,527
Unfinished stock	19	...	(NA)	664
Potted flowering plants:				
Poinsettias	27	1,000 pots	243	952
Ornamentals and trees	43	...	(NA)	1,741
Plant rentals	44	...	(NA)	3,690

NA Not available.

Source: Hawaii Agricultural Statistics Service, *Hawaii Flowers & Nursery Products, Annual Summary*, (June 27, 1997), pp. 3-8.

**Table 19.20-- OUT-OF-STATE SALES OF FLORICULTURE AND NURSERY PRODUCTS: 1992 TO 1996**

[\$1,000. Based on F.O.B. island value. Includes both wholesale and retail sales]

<b>Type</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>
Total sales	41,890	40,740	36,775	38,985	38,390
Anthuriums, cut	11,355	11,115	10,310	10,395	9,705
Foliage, potted	10,015	9,655	9,090	9,910	9,500
Other flowers, nursery products	20,520	19,970	17,375	18,680	19,185

Source: Hawaii Agricultural Statistics Service, *Hawaii Flowers & Nursery Products, Annual Summary*, (June 27, 1997), p. 14.

**Table 19.21-- LAND EVALUATION RATING, FOR SIX MAJOR ISLANDS: 1985**

[Thousand acres. The Land Evaluation and Site Assessment Commission land evaluation rating is a composite index, scaled from 0 to 100, based on measurements of soil productivity and the suitability of land for agricultural purposes. Data exclude Kahoolawe, Niihau, Lehua, Kaula, and the Northwestern Hawaiian Islands]

Land evaluation rating	Six-island total	Hawaii	Maui	Lanai	Molokai	Oahu	Kauai
Total area	4,042	2,579	466	90	166	386	355
90 to 100	66	-	17	3	7	39	-
80 to 89	137	17	39	11	16	33	20
70 to 79	189	95	20	20	6	27	40
60 to 69	212	125	36	(Z)	9	22	20
50 to 59	221	113	64	3	10	12	18
40 to 49	309	227	40	6	10	18	7
30 to 39	605	543	29	1	3	11	17
20 to 29	492	282	55	48	50	30	26
10 to 19	1,813	1,176	165	15	55	194	206
Under 10	-	-	-	-	-	-	-
Mean rating	32.8	29.8	40.8	36.7	37.6	40.1	32.9

Z Less than 500 acres.

Source: Land Evaluation and Site Assessment Commission, *A Report on the State of Hawaii Land Evaluation and Site Assessment System* (February 1986), Exhibit A.



**Table 19.22-- EMPLOYMENT IN AGRICULTURE: 1900 TO 1995**

[Data for 1940 and later years include forestry and fisheries]

<b>Year</b>	<b>Number</b>	<b>Percent of total</b>	<b>Year</b>	<b>Number</b>	<b>Percent of total</b>
1900	55,931	62.0	1960	15,981	7.6
1910	54,742	54.1	1970	13,161	4.6
1920	54,803	49.0	1980	14,560	3.5
1930	61,811	40.1	1990	16,509	3.1
1940	54,629	35.5	1995	11,150	2.0
1950	31,806	19.0			

Source: Robert C. Schmitt, *Historical Statistics of Hawaii* (1977), pp. 122-124; The State of Hawaii, Data Book 1996, table 12.06, 12.10 and 12.12.

**Table 19.23-- GENERAL EXCISE TAX BASE FOR PRODUCING:  
1986 TO 1997**

[In thousands of dollars. Data are on a cash basis accounting. "Producing" refers to the raising and production of agricultural products in their natural state, the production of natural resource products, fishing, and aquaculture]

<b>Year 1/</b>	<b>Amount</b>	<b>Year 1/</b>	<b>Amount</b>	<b>Year 1/</b>	<b>Amount</b>
1986	250,954	1990	317,337	1994	467,174
1987	274,202	1991	301,884	1995	457,538
1988	298,261	1992	408,662	1996	479,009
1989	326,400	1993	474,861	1997	495,721

1/ 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 an "income year" ended November 30.

Source: Hawaii State Department of Taxation, "General Excise and Use Tax Base" (annual tabular release, as revised 2/4/98).

**Table 19.24-- AGRICULTURAL CHEMICALS USED, INCLUDING  
FERTILIZER: 1982 TO 1992**

Chemicals used		1982	1987	1992
Any chemicals, fertilizer, or lime used 1/	farms	3,532	4,105	4,476
Commercial fertilizer 2/	farms	3,158	3,524	4,028
	acres on which used	228,984	225,457	200,723
	\$1,000	33,477	30,717	30,574
Agricultural chemicals 2/	farms	3,084	3,881	3,853
	\$1,000	16,417	18,233	20,396
Sprays, dusts, granules, fumigants, etc., to control --				
Insects on hay and other crops	farms	1,702	2,008	1,790
	acres on which used	45,671	68,150	53,593
Nematodes in crops	farms	654	663	489
	acres on which used	9,638	15,792	15,587
Diseases in crops and orchards	farms	1,067	1,151	1,018
	acres on which used	18,085	(D)	21,036
Weeds, grass, or brush in crops and pasture	farms	2,385	2,887	2,820
	acres on which used	213,551	235,871	178,422
Chemicals used for defoliation or for growth control of crops or thinning of fruit	farms	165	212	157
	acres on which used	50,455	57,481	40,292

D Withheld to avoid disclosing data for individual farms.

1/ Data for 1987 and 1982 include farms on which lime was applied alone or together with fertilizer and/or chemicals.

2/ Data for 1982 exclude cost of custom applications.

Source: U.S. Bureau of the Census, *1992 Census of Agriculture, Geographic Area Series, Hawaii, State and County Data*, AC92-A-11 (October 1994), table 15, p. 21.

**Table 19.25-- AQUACULTURE INDUSTRY OPERATIONS: 1970 TO 1996**

<b>Year</b>	<b>Number of operations, Dec. 31</b>	<b>Acreage, Dec. 31</b>	<b>Production (1,000 lb.)</b>	<b>Value (\$1,000)</b>
1970	2	193	20	11
1971	2	193	17	17
1972	2	193	18	23
1973	3	203	34	34
1974	4	213	41	136
1975	10	234	82	178
1976	14	235	94	210
1977	25	246	123	281
1978	25	320	178	525
1979	23	493	246	1,531
1980	37	575	320	1,655
1981	41	547	338	1,868
1982	44	643	551	2,625
1983	42	496	345	1,605
1984	47	474	441	2,300
1985	48	465	583	2,780
1986	44	444	1,015	3,549
1987	45	437	1,689	6,263
1988	44	477	1,170	5,560
1989	46	479	1,264	6,835
1990	53	489	1,452	9,241
1991	71	595	1,207	6,884
1992	83	615	1,272	7,134
1993	90	640	1,296	7,469
1994	105	605	990	9,036
1995	107	635	1,410	13,307
1996	115	695	1,992	15,656

Source: Hawaii State Department of Land and Natural Resources, Aquaculture Development Program, records.

**Table 19.26-- AQUACULTURE OPERATIONS, ACREAGE, PRODUCTION,  
AND VALUE, BY COUNTIES: 1995 AND 1996**

Subject	State total	Hawaii	Maui	Honolulu	Kauai
1995					
Number of operations	107	40	18	38	11
Acreage (Dec. 31)	635	175	35	400	25
Production (1,000 lb.)	1,409.6	1,055.9	50.1	303.6	(NA)
Shellfish	414.6	262.1	40.0	112.5	(NA)
Finfish	125.2	40.0	10.1	75.1	(NA)
Algae	869.8	753.8	-	116.0	(NA)
Other 1/	(NA)	(NA)	(NA)	(NA)	(NA)
Value (\$1,000)	13,306.5	11,402.2	279.1	1,625.2	(NA)
Shellfish	3,462.4	2,569.6	240.2	652.6	(NA)
Finfish	769.5	342.3	38.2	389.0	(NA)
Algae	8,685.9	8,428.7	-	257.2	(NA)
Other 1/	388.7	61.6	0.7	326.4	(NA)
1996					
Number of operations	115	43	19	42	11
Acreage (Dec. 31)	695	230	40	400	25
Production (1,000 lb.)	1,991.9	1,612.5	75.1	304.3	(NA)
Shellfish	616.8	432.8	60.0	124.0	(NA)
Finfish	129.2	66.6	15.1	47.5	(NA)
Algae	1,245.9	1,113.1	(NA)	132.8	(NA)
Other 1/	(NA)	(NA)	(NA)	(NA)	(NA)
Value (\$1,000)	15,655.7	13,197.3	402.8	2,055.6	(NA)
Shellfish	4,315.5	3,188.7	350.0	776.8	(NA)
Finfish	1,191.6	764.9	52.8	373.9	(NA)
Algae	9,082.4	8,779.1	(NA)	303.3	(NA)
Other 1/	1,066.2	464.6	(NA)	601.6	(NA)

NA Not available.

1/ Nonfood products: ornamental fish, seedstock, other.

Source: Hawaii State Department of Land and Natural Resources, Aquaculture Development Program, records.