

## Section 19

# AGRICULTURE

This section presents statistics on agricultural land, farms, crops, livestock, dairy products, poultry, and aquaculture. Related information appears in Sections 6, 12, 15, and 22.

There were 4,800 farms in Hawaii in 1994, with a total area of 1.6 million acres. The value of crop sales in 1994 was \$426 million, or about eight percent less than the total for 1984. Livestock sales amounted to \$77 million, or 12 percent less than the 1984 level. Combined crop and livestock sales in 1994 ranged from \$55 million in Kauai County to \$159 million on the Big Island. Major crops were sugar (\$160 million in sales, down 38 percent over the decade), pineapple (\$79 million, or 12 percent below the 1984 total), flowers and nursery products (\$68 million, or 75 percent more than in 1984), vegetables (\$36 million, up 36 percent), and macadamia nuts (\$36 million, up 36 percent). Diversified crops, defined as all crops other than sugar and pineapple, rose from \$117 million in 1984 to \$187 million in 1994, or 59 percent. About 660 farms sold \$68 million of flowers and nursery products in 1994, chiefly anthuriums, potted foliage, and orchids. Important products of livestock farms as of 1994 included cattle and calves (\$20 million in sales), milk (\$32 million), and eggs (\$14 million). In 1994, Hawaii produced 29 percent of the fresh market vegetables consumed locally, 44 percent of the fresh market fruits, eight percent of the beef and veal, 13 percent of the pork, and 80 percent of the eggs.

Aquaculture aggregate value rose from \$11,000 in 1970 to \$9.2 million in 1990 and declined to \$7.5 million in 1993. Shellfish production amounted to 489,000 pounds in 1993, with a value of \$2.5 million.

Statistics on Hawaiian agriculture exclude marijuana and other illicit plants. Authorities confiscated or destroyed marijuana with a potential street value of \$671 million in 1994, but the proportion escaping detection is unknown.

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 Hawaiian Sugar Planters' Association and the Aquaculture Development Program of the 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: 1995*.

**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..... \$1,000 .....	609,741	552,054
Average per farm..... dollars.....	125,203	103,458
Crops, including nursery and		
greenhouse crops..... \$1,000 .....	498,317	453,410
Livestock, poultry, and their products..... \$1,000 .....	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

Continued on next page.

**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
..... \$1,000 .....	113,904	85,228
Average per farm..... dollars.....	23,394	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

Continued on next page.



**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 ..... \$1,000....	187,593	150,527	49,166	164,767
Average per farm..... dollars....	59,421	168,752	112,509	193,844
Crops, including nursery and greenhouse crops..... \$1,000....	158,360	98,312	43,454	153,285
Livestock, poultry, and their products..... \$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 1994**

Year	Number of farms <u>1/</u>	Farm acreage <u>2/</u> (1,000)	Farm employment <u>3/</u>		
			Self-employed farm operators	Unpaid family members <u>3/</u>	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

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 records.

**Table 19.04-- VALUE OF CROP AND LIVESTOCK SALES: 1980 TO 1994**

[\$1,000]

Year	All crops and livestock	Crops				Live-stock
		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 <sup>1/</sup> .....	551,382	464,139	174,900	107,775	181,464	87,243
1992 <sup>1/</sup> .....	520,227	431,958	153,700	102,100	176,158	88,269
1993 <sup>1/</sup> .....	506,475	421,593	163,000	79,850	178,743	84,882
1994.....	502,461	425,819	160,100	78,890	186,829	76,642

<sup>1/</sup> Revised from *Data Book 1993-94*, table 19.3.

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

**Table 19.05-- NUMBER OF FARMS, FARM ACREAGE, AND FARM EMPLOYMENT, BY COUNTIES OR ISLANDS: 1984, 1993, AND 1994**

County or island and year	Number of farms <u>1/</u>	Farm acreage (1,000) <u>2/</u>	Farm employment <u>3/</u>		
			Self-employed farm operators	Unpaid family members <u>4/</u>	Hired workers
State total:					
1984 .....	4,600	1,850	2,200	1,300	11,800
1993 .....	4,800	1,590	2,800	1,100	8,700
1994 .....	4,800	1,590	2,700	1,200	8,100
Hawaii County:					
1984 .....	2,650	1,075	1,500	900	4,100
1993 .....	2,800	929	1,800	620	3,280
1994 .....	2,800	929	1,700	650	3,000
Maui County:					
1984 .....	550	390	300	100	3,700
1993 .....	700	355	290	110	2,060
1994 .....	700	355	260	110	1,980
Oahu:					
1984 .....	1,025	125	400	300	2,850
1993 .....	900	92	540	290	2,280
1994 .....	900	92	490	320	2,040
Kauai County:					
1984 .....	375	260	100	50	1,400
1993 .....	400	214	190	100	1,040
1994 .....	400	214	210	60	1,060

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).



**Table 19.06-- VALUE OF CROP AND LIVESTOCK SALES, BY COUNTIES OR ISLANDS: 1984, 1993, AND 1994**

[\$1,000]

County or island and year	All crops and livestock	Crops				Live-stock
		All crops	Sugar (unprocessed cane)	Pine-apples <sup>1/</sup> (fresh equiv.)	Other crops <sup>1/</sup>	
<b>State total:</b>						
1984 .....	550,517	463,502	256,200	89,928	117,374	87,015
1993 .....	506,475	421,593	163,000	79,850	178,743	84,882
1994 .....	502,461	425,819	160,100	78,890	186,829	76,642
<b>Hawaii County:</b>						
1984 .....	185,216	161,983	94,000	-	67,983	23,233
1993 .....	166,309	140,610	39,000	(Z)	101,610	25,699
1994 .....	159,239	138,531	35,800	(Z)	102,731	20,708
<b>Maui County:</b>						
1984 .....	145,419	132,898	72,600	42,176	18,122	12,521
1993 .....	131,703	118,702	62,700	24,890	31,112	13,001
1994 .....	125,913	115,187	58,500	25,150	31,537	10,726
<b>Oahu:</b>						
1984 .....	156,328	110,270	37,200	47,752	25,318	46,058
1993 .....	162,086	119,906	29,700	54,923	35,283	42,180
1994 .....	162,495	121,741	30,600	53,690	37,451	40,754
<b>Kauai County:</b>						
1984 .....	63,554	58,351	52,400	(Z)	5,951	5,203
1993 .....	46,377	42,375	31,600	(Z)	10,775	4,002
1994 .....	54,814	50,360	35,200	(Z)	15,160	4,454

Z Less than \$50,000.

<sup>1/</sup> County data may fail to add exactly to State total.

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

**Table 19.07-- ACREAGE IN CROP, NUMBER OF CROP FARMS, VOLUME OF CROP MARKETINGS, AND VALUE OF CROP SALES: 1984, 1993, AND 1994**

Subject	1984	1993	1994
Acreage in crop (1,000 acres):			
Sugarcane .....	188.4	132.2	121.1
Pineapples (land used for pineapple) .....	35.0	22.0	22.3
Vegetables and melons (harvested acreage) .....	5.3	5.3	5.3
Fruits, excluding pineapples.....	6.5	6.9	6.6
Coffee .....	2.0	7.0	6.8
Macadamia nuts .....	17.5	20.1	20.2
All other crops.....	12.0	5.3	5.5
Number of crop farms:			
Sugar.....	185	35	24
Pineapples.....	18	20	15
Vegetables and melons.....	677	510	480
Fruits (excluding pineapples) .....	800	787	836
Coffee .....	615	580	585
Macadamia nuts .....	605	650	650
Taro.....	137	190	180
Flowers and nursery products .....	670	662	660
Volume of crop marketings:			
Sugar, unprocessed cane (1,000 tons) .....	8,454	5,508	5,266
Pineapples, fresh equivalent (1,000 tons) .....	600	370	365
Vegetables and melons (1,000 lb.).....	87,350	82,880	80,350
Fruits, excluding pineapples (1,000 lb.).....	99,430	93,510	96,650
Coffee, parchment (1,000 lb.) .....	1,750	2,900	4,000
Macadamia nuts, in shell (1,000 lb.).....	37,700	48,500	51,500
Taro (1,000 lb.).....	6,310	6,000	6,100
Value of crop sales (\$1,000):			
Sugar (unprocessed cane) .....	256,200	163,000	160,100
Pineapples (fresh equivalent).....	89,928	79,850	78,890
Vegetables and melons.....	26,609	34,645	36,105
Fruits (excluding pineapples) .....	13,315	22,173	23,611
Coffee (parchment).....	4,813	6,525	10,400
Macadamia nuts (in shell) .....	26,088	32,980	35,535
Taro.....	1,382	2,760	2,806
Field crops (not estimated separately) .....	6,062	9,827	10,158
Flowers and nursery products .....	38,905	69,513	67,894

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

**Table 19.08-- ACREAGE IN CROP, NUMBER OF CROP FARMS, VOLUME OF CROP MARKETINGS, AND VALUE OF CROP SALES, BY GEOGRAPHIC AREAS: 1994**

Subject	Hawaii County	Maui County	Oahu	Kauai County
<b>Acreage in crop (1,000 acres):</b>				
Sugarcane .....	22.4	41.9	22.3	34.5
Pineapples (land used for pineapple) .....	(1/)	10.8	11.5	(1/)
Vegetables and melons (harvested acreage) .	1.7	2.6	1.0	(1/)
Fruits, excluding pineapples.....	5.0	0.3	0.5	0.8
Coffee .....	1.8	(D)	-	(D)
Macadamia nuts .....	(D)	(D)	(D)	(D)
Miscellaneous crops .....	1.6	2.0	0.8	1.1
<b>Number of crop farms:</b>				
Sugar.....	15	2	2	5
Pineapples.....	6	4	2	3
Vegetables and melons.....	280	80	100	20
Fruits (excluding pineapples) .....	596	61	120	59
Coffee .....	575	(D)	-	(D)
Macadamia nuts .....	630	11	2	7
Taro.....	105	21	4	50
Flowers and nursery products .....	304	102	214	40
<b>Volume of crop marketings:</b>				
Sugar, unprocessed cane (1,000 tons).....	1,345	1,729	1,044	1,148
Pineapples, fresh equivalent (1,000 tons) .....	(2/)	199	166	(2/)
Vegetables and melons (1,000 lb.).....	26,565	42,935	10,580	270
Fruits, excluding pineapples (1,000 lb.).....	77,830	1,860	3,730	13,230
Coffee, parchment (1,000 lb.) .....	1,800	(D)	-	(D)
Macadamia nuts, in shell (1,000 lb.).....	(D)	(D)	(D)	(D)
Taro (1,000 lb.).....	1,960	(D)	(D)	3,160
<b>Value of crop sales (\$1,000):</b>				
Sugar (unprocessed cane) .....	35,800	58,500	30,600	35,200
Pineapples (fresh equivalent).....	(3/)	25,150	53,690	(3/)
Vegetables and melons.....	13,121	15,112	7,627	245
Fruits (excluding pineapples) .....	18,271	984	1,814	2,542
Coffee (parchment).....	6,840	(D)	-	(D)
Macadamia nuts (in shell) .....	(D)	(D)	(D)	(D)
Taro.....	790	(D)	(D)	1,514
Field crops (not estimated separately) .....	51	3,702	1,011	5,394
Flowers and nursery products .....	31,348	7,913	26,791	1,842

D Withheld to avoid disclosure of individual operations.

1/ Less than 50 acres.

2/ Less than 500 tons.

3/ Less than \$50,000.

Source: Hawaii Agricultural Statistics Service, *Statistics of Hawaiian Agriculture 1994*.

**Table 19.09-- VEGETABLES, MELONS, FRUITS, NUTS, COFFEE, AND TARO: 1994**

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

Crop	Acreage harvested <sup>1/</sup>	Yield per acre (1,000 lb.)	Production (1,000 lb.)	Farm price (cents per lb.)	Value of sales (\$1,000)
<b>Vegetables and melons:</b>					
Chinese cabbage .....	400	18.8	7,500	24.0	1,800
Head cabbage .....	600	20.5	12,300	21.0	2,583
Cucumbers .....	340	10.0	3,400	45.5	1,547
Daikon .....	240	14.6	3,500	30.5	1,068
Dry onions .....	175	12.0	2,100	107.0	2,247
Ginger root .....	150	40.0	6,000	87.0	5,220
Green onions .....	180	7.2	1,300	97.5	1,268
Green peppers .....	200	12.5	2,500	53.0	1,325
Sweet potatoes .....	260	9.2	2,400	55.0	1,320
Tomatoes .....	200	24.5	4,900	52.0	2,548
Watermelons .....	690	20.0	13,800	16.0	2,208
Watercress .....	35	...	1,300	111.0	1,443
<b>Fruits:</b>					
Bananas .....	930	14.7	13,700	37.0	5,069
Guavas .....	740	...	17,000	14.4	2,549
Papayas .....	2,200	28.2	62,000	22.3	13,831
Macadamia nuts (1994-1995) .....	18,500	2.8	57,000	62.3	35,535
Coffee (1994-1995) .....	4,400	0.9	4,000	260.0	10,400
Taro .....	490	...	6,100	46.0	2,806

<sup>1/</sup> Acreage in crop for watercress and taro.

Source: Hawaii Agricultural Statistics Service, *Statistics of Hawaiian Agriculture 1994*.

**Table 19.10-- SUGARCANE ACREAGE, BY TYPE OF IRRIGATION:  
1984 TO 1994**

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

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

**Table 19.11-- GOVERNMENT PAYMENTS FOR AGRICULTURE:  
1984 TO 1994**

[\$1,000]

Year	Amount	Year	Amount	Year	Amount
1984.....	2,675	1988 .....	465	1992 .....	734
1985.....	1,184	1989 .....	396	1993 .....	2,018
1986.....	2,810	1990 .....	657	1994 .....	700
1987.....	344	1991 .....	730		

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

**Table 19.12-- FRESH FRUIT AND VEGETABLE ARRIVALS IN HONOLULU,  
BY SOURCE: 1991 TO 1993**

[1,000 pounds, net]

Source	1991	1992	1993
Total arrivals .....	291,626	298,959	306,650
From Hawaii .....	86,410	80,421	83,898
Oahu <u>1/</u> .....	26,347	24,924	20,190
Other islands <u>2/</u> .....	60,063	55,497	62,988
Hawaii <u>2/</u> .....	26,853	26,407	29,643
Maui <u>2/</u> .....	15,565	14,249	15,409
Molokai <u>2/</u> .....	17,457	14,603	17,866
Kauai <u>2/</u> .....	188	238	70
From U.S. Mainland <u>2/</u> .....	198,149	211,082	213,981
From foreign countries <u>2/</u> .....	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 19.13-- LIVESTOCK INVENTORY, 1984 TO 1994, AND BY  
GEOGRAPHIC AREAS, 1994**

[In thousands]

<b>Year and geographic area</b>	<b>All cattle and calves <u>1/</u></b>	<b>Milk cows <u>1/</u></b>	<b>Hogs and pigs <u>2/</u></b>	<b>Chickens (excluding broilers) <u>2/</u></b>	<b>Bee colon- ies</b>
1984.....	221	12	47	1,195	9
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	11
<b>GEOGRAPHIC AREAS: 1994</b>					
Hawaii County .....	122.4	1.7	2.4	(D)	(NA)
Maui.....	22.0	1.0	7.6	(D)	(NA)
Molokai and Lanai ...	6.4	-	( <u>3/</u> )	(D)	(NA)
Oahu.....	13.7	7.2	21.4	800	(NA)
Kauai County.....	10.5	0.6	3.6	(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)*.

**Table 19.14-- NUMBER OF LIVESTOCK OPERATIONS, VOLUME OF LIVESTOCK MARKETINGS, AND VALUE OF LIVESTOCK SALES: 1984, 1993, AND 1994**

Subject	1984	1993 <sup>1/</sup>	1994
Number of livestock operations, Dec. 31:			
Cattle <sup>2/</sup> .....	850	850	800
Hogs.....	650	350	350
Milk.....	90	60	60
Eggs.....	55	55	55
Honey.....	25	18	21
Volume of livestock marketings:			
Beef (dressed weight; 1,000 lb.) <sup>3/</sup> .....	32,116	10,924	9,296
Pork (dressed weight; 1,000 lb.).....	7,878	5,849	5,855
Milk (million lb.).....	146.0	138.5	136.9
Eggs (million).....	209.7	210.6	195.8
Honey (1,000 lb.).....	1,089	1,593	1,100
Value of livestock sales (\$1,000):			
Cattle <sup>4/</sup> .....	28,101	26,860	19,678
Hogs <sup>4/</sup> .....	8,088	6,293	6,120
Milk.....	29,288	32,035	31,747
Eggs.....	15,535	15,005	14,016

<sup>1/</sup> Revised from *Data Book 1993-94*, table 19.3.

<sup>2/</sup> Includes beef, dairy, and dairy replacement farms.

<sup>3/</sup> Includes slaughter cattle, but excludes calves shipped out-of-State.

<sup>4/</sup> Excludes interfarm sales; includes out-of-State sales of slaughter cattle and feeder calves.

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



**Table 19.15-- NUMBER OF LIVESTOCK OPERATIONS, VOLUME OF LIVESTOCK MARKETINGS, AND VALUE OF LIVESTOCK SALES, BY GEOGRAPHIC AREAS: 1994**

Subject	Hawaii County	Maui County	Oahu	Kauai County
Number of livestock operations, Dec. 31:				
Cattle <u>1/</u> .....	410	190	60	140
Hogs.....	60	70	160	60
Milk.....	30	5	15	10
Eggs.....	25	7	19	4
Honey.....	14	4	-	3
Volume of livestock marketings:				
Beef <u>2/</u> (dressed weight; 1,000 lb.).....	4,750	2,714	983	849
Pork (dressed weight; 1,000 lb.).....	533	1,481	3,252	589
Milk (million lb.) .....	(D)	(D)	97.6	(D)
Eggs (million).....	(D)	(D)	164.0	(D)
Honey (1,000 lb.) .....	(D)	(D)	(D)	(D)
Value of livestock sales (\$1,000):				
Cattle <u>3/</u> .....	13,241	4,494	728	1,215
Hogs <u>3/</u> .....	540	1,511	3,382	687
Milk.....	(D)	(D)	22,571	(D)
Eggs.....	(D)	(D)	11,578	(D)

D Withheld to avoid disclosure of individual operations.

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

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 1994*.

**Table 19.16-- FLORICULTURE AND NURSERY PRODUCTS, 1992 TO 1994,  
AND BY ISLANDS, 1994**

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)	
<b>State total:</b>							
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	67,894
<b>Islands, 1994:</b>							
Hawaii.....	304	1,175	2,715	16,330	18	720	31,348
Kauai.....	40	106	105	390	0	95	1,842
Maui/Molokai.....	102	499	310	505	0	480	7,913
Oahu.....	214	510	640	4,375	0	395	26,791

Source: Hawaii Agricultural Statistics Service, *Hawaii Flowers & Nursery Products, Annual Summary* (June 13, 1995), pp. 8 and 11.

**Table 19.17-- OUT-OF-STATE SALES OF FLORICULTURE AND NURSERY PRODUCTS: 1990 TO 1994**

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

Type	1990	1991	1992	1993	1994
Total sales .....	37,734	40,920	41,890	40,740	36,775
Anthuriums, cut .....	11,185	10,595	11,355	11,115	10,310
Foliage, potted .....	8,525	9,595	10,015	9,655	9,090
Other flowers, nursery products....	18,024	20,730	20,520	19,970	17,375

Source: Hawaii Agricultural Statistics Service, *Hawaii Flowers and Nursery Products, Annual Summary* (June 13, 1995), p. 13.

**Table 19.18-- FLORICULTURE AND NURSERY PRODUCTS, BY  
COMMODITY: 1994**

[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	
<b>Selected cut flowers:</b>				
Anthuriums.....	61	1,000 dozens	885	7,338
Birds of Paradise.....	28	1,000 dozens	108	702
Proteas .....	20	1,000 stems	2,042	858
<b>Orchids:</b>				
Sprays: Dendrobium.....	49	1,000 dozens	402	3,017
Potted: Dendrobiums.....	50	1,000 pots	667	3,922
<b>Lei or individual flowers:</b>				
Vanda, Miss Joaquim .....	16	Million blooms	24.9	692
Dendrobiums.....	30	Million blooms	24.6	752
<b>Foliage:</b>				
Potted, primarily for--				
Indoor or patio use.....	77	...	(NA)	12,934
Landscape use .....	66	...	(NA)	3,982
Unfinished stock.....	24	...	(NA)	708
<b>Potted flowering plants:</b>				
Poinsettias .....	29	1,000 pots	231	961
Ornamentals and trees .....	43	...	(NA)	3,868
Plant rentals .....	42	...	(NA)	3,860

NA Not available.

Source: Hawaii Agricultural Statistics Service, *Hawaii Flowers & Nursery Products, Annual Summary* (June 13, 1995), pp. 3-7.

**Table 19.19-- MARKET SUPPLY OF SPECIFIED FOODS:  
1984, 1993, AND 1994**

Commodity and year	Total market supply <u>1/</u>			Per capita market supply <u>2/</u>	Percent from Hawaii
	Total	Inship-ment	Hawaii		
<b>Fresh market fruits:</b>					
1984 .....	98,648	64,318	34,330	87.3	34.8
1993 .....	210,840	107,157	103,683	166.6	49.2
1994 .....	186,564	103,586	83,058	144.9	44.5
<b>Fresh market vegetables:</b>					
1984 .....	194,038	114,508	79,530	171.6	41.0
1993 .....	226,834	155,434	71,400	179.3	31.5
1994 .....	227,890	161,935	65,955	177.0	28.9
<b>Beef and veal: <u>3/</u></b>					
1984 .....	104,388	72,272	32,116	92.3	30.8
1993 .....	113,253	102,329	10,924	89.5	9.6
1994 .....	115,580	106,284	9,296	89.8	8.0
<b>Pork: <u>3/</u></b>					
1984 .....	37,492	29,614	7,878	33.2	21.0
1993 .....	43,026	37,177	5,849	34.0	13.6
1994 .....	43,546	37,691	5,855	33.8	13.4
<b>Poultry meat:</b>					
1984 .....	37,887	29,785	8,102	33.5	21.4
1993 .....	51,193	(D)	(D)	40.5	(D)
1994 .....	52,134	(D)	(D)	40.5	(D)
<b>Eggs, shell:</b>					
1984 .....	22,285	4,810	17,475	19.7	78.4
1993 .....	20,599	3,049	17,550	16.3	85.2
1994 .....	20,527	4,210	16,317	15.9	79.5

D Withheld to avoid disclosing data for individual operations.

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 in table 1.04.

3/ Carcass weight equivalent.

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

**Table 19.20-- 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 19.21-- EMPLOYMENT IN AGRICULTURE: 1900 TO 1994**

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

Year	Number	Percent of total	Year	Number	Percent of total
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	1994.....	11,900	2.2
1950.....	31,806	19.0			

Source: Robert C. Schmitt, *Historical Statistics of Hawaii* (1977), pp. 122-124; present volume, tables 12.06, 12.10 and 12.12.

**Table 19.22-- GENERAL EXCISE TAX BASE FOR PRODUCING:  
1985 TO 1995**

[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]

Year <sup>1/</sup>	Amount	Year <sup>1/</sup>	Amount	Year <sup>1/</sup>	Amount
1985.....	262,791	1989.....	326,400	1993.....	474,861
1986.....	250,954	1990.....	317,337	1994.....	467,174
1987.....	274,202	1991.....	301,884	1995.....	457,538
1988.....	298,261	1992.....	408,662		

<sup>1/</sup> 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).

**Table 19.23-- AGRICULTURAL CHEMICALS USED, INCLUDING  
FERTILIZER: 1982 TO 1992**

Chemicals used	1982	1987	1992
Any chemicals, fertilizer, or lime used <u>1/</u> ..... farms	3,532	4,105	4,476
Commercial fertilizer <u>2/</u> ..... 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 <u>2/</u> ..... 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 19.24-- AQUACULTURE INDUSTRY OPERATIONS: 1970 TO 1993**

Year	Number of operations, Dec. 31		Acreage, Dec. 31	Production (1,000 lb.)	Value (\$1,000)
	Total	Prawn producers			
1970.....	2	1	193	20	11
1971.....	2	1	193	17	17
1972.....	2	1	193	18	23
1973.....	3	2	203	34	34
1974.....	4	3	213	41	136
1975.....	10	3	234	82	178
1976.....	14	6	235	94	210
1977.....	25	13	246	123	281
1978.....	25	16	320	178	525
1979.....	23	19	493	246	1,531
1980.....	37	24	575	320	1,655
1981.....	41	21	547	338	1,868
1982.....	44	22	643	551	2,625
1983.....	42	21	496	345	1,605
1984.....	47	17	474	441	2,300
1985.....	48	20	465	583	2,780
1986.....	44	20	444	1,015	3,549
1987.....	45	14	437	1,689	6,263
1988.....	44	12	477	1,170	5,560
1989.....	46	10	479	1,264	6,835
1990.....	53	10	489	1,452	9,241
1991.....	71	12	595	1,207	6,884
1992.....	83	14	615	1,272	7,134
1993.....	90	14	640	1,296	7,469

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



**Table 19.25-- AQUACULTURE OPERATIONS, ACREAGE, PRODUCTION,  
AND VALUE, BY COUNTIES: 1993**

Subject	State total	Hawaii	Maui	Honolulu	Kauai
Number of operations.....	90	28	10	39	13
Prawn producers .....	14	2	-	10	2
Acreage (Dec. 31) .....	640	100	20	495	25
Production (1,000 lb.) .....	1,295.8	642.7	29.0	618.4	5.7
Shellfish .....	489.0	104.0	21.0	360.3	3.7
Finfish .....	206.0	96.7	3.0	104.3	2.0
Algae .....	600.8	442.0	5.0	153.8	(NA)
Other <sup>1/</sup> .....	(NA)	(NA)	(NA)	(NA)	(NA)
Value (\$1,000).....	7,468.7	4,336.9	128.0	2,971.0	32.8
Shellfish .....	2,463.2	750.0	110.0	1,578.4	24.8
Finfish .....	926.4	445.8	9.5	463.1	8.0
Algae .....	3,466.5	3,140.1	8.5	317.9	(NA)
Other <sup>1/</sup> .....	612.6	1.0	(NA)	611.6	(NA)

NA Not available.

<sup>1/</sup> Nonfood products: ornamental fish, seedstock, other.

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