

## Section 19

# AGRICULTURE

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

There were 4,500 farms in Hawaii in 1991, with a total area of 1.7 million acres. The value of crop sales in 1991 was \$464 million, or 16 percent more than the total for 1981. Livestock sales amounted to \$90 million, or two percent more than the 1981 level. Combined crop and livestock sales in 1991 ranged from \$56 million in Kauai County to \$182 million on the Big Island. Major crops were sugar (\$175 million in sales, down 16 percent over the decade), pineapple (\$108 million, or 20 percent over the 1981 total), flowers and nursery products (\$68 million, or 131 percent more than in 1981), and macadamia nuts (\$35 million, up 31 percent). Diversified crops, defined as all crops other than sugar and pineapple, rose from \$104 million in 1981 to \$181 million in 1991, or 74 percent. About 735 farms sold \$68 million of flowers and nursery products in 1991, chiefly anthuriums, potted foliage, and orchids. Important products of livestock farms as of 1991 included cattle and calves (\$33 million in sales), milk (\$30 million), and eggs (\$16 million). In 1991, Hawaii produced 33 percent of the fresh market vegetables consumed locally, 48 percent of the fresh market fruits, 24 percent of the beef and veal, 14 percent of the pork, 11 percent of the chickens, and 88 percent of the eggs.

Aquaculture has been growing in importance in recent years, with an aggregate value rising from \$11,000 in 1970 to \$9.2 million in 1990. Shellfish production amounted to 599,000 pounds in 1990, with a value of \$3.0 million.

Statistics on Hawaiian agriculture exclude marijuana and other illicit plants. Authorities confiscated or destroyed marijuana with a potential street value in excess of \$2.5 billion in 1991, but the proportion escaping detection is unknown.

Important sources for data on agriculture include the United States Census of Agriculture, most recently published for 1987, 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: 1992.

Table 558.-- FARMS, LAND IN FARMS, AND SELECTED ITEMS:  
1987 AND 1982

Item	All farms		Farms with sales of \$10,000 or more	
	1987	1982	1987	1982
Farms ..... number ..	4,870	4,595	2,049	1,775
Land in farms ..... acres ..	1,721,521	1,957,501	1,634,955	1,858,568
Average size of farm   acres ..	353	426	798	1,047
Value of land and buildings:				
Average per farm ... dollars ..	603,435	778,471	1,096,618	1,693,553
Average per acre ... dollars ..	1,707	1,826	1,374	1,617
Estimated market value of all machinery and equipment:				
Average per farm ... dollars ..	41,208	41,735	85,275	94,031
Farms by size:				
1 to 9 acres .....	2,855	2,743	976	820
10 to 49 acres .....	1,401	1,261	734	629
50 to 179 acres .....	341	320	151	145
180 to 499 acres .....	128	126	62	64
500 to 999 acres .....	31	33	21	21
1,000 acres or more .....	114	112	105	96
Total cropland ..... farms ..	4,170	3,836	1,814	1,536
acres ..	327,396	346,113	299,180	324,830
Harvested cropland ..... farms ..	3,837	3,538	1,758	1,485
acres ..	152,719	155,960	145,422	149,843
Irrigated land ..... farms ..	1,827	1,544	975	777
acres ..	148,884	145,982	146,907	143,986
Market value of agricultural products sold ..... \$1,000 ..	609,740	558,608	600,637	549,601
Average per farm ... dollars ..	125,203	121,569	293,137	309,635
Crops, including nursery and greenhouse crops .... \$1,000 ..	498,317	456,069	491,320	449,457
Livestock, poultry, and their products ..... \$1,000 ..	111,424	102,539	109,317	100,144

Continued on next page.

Table 558.-- FARMS, LAND IN FARMS, AND SELECTED ITEMS:  
1987 AND 1982 -- Con.

Item	All farms		Farms with sales of \$10,000 or more	
	1987	1982	1987	1982
Farms by value of sales:				
Less than \$2,500 .....	1,402	1,454	-	-
\$2,500 to \$4,999 .....	674	706	-	-
\$5,000 to \$9,999 .....	745	653	-	-
\$10,000 to \$24,999 .....	911	788	911	788
\$25,000 to \$49,999 .....	476	397	476	397
\$50,000 to \$99,999 .....	287	237	287	237
\$100,000 or more .....	375	353	375	353
Operators by principal occupation:				
Farming .....	2,816	2,565	1,557	1,352
Other .....	2,054	2,030	492	423
Operators by days worked off farm:				
Any .....	2,728	2,534	909	722
200 days or more .....	1,476	1,371	470	375
Average age of operator .. years ..	53.0	52.7	51.1	51.5
Total farm production				
expenses ..... \$1,000 ..	495,759	(NA)	482,975	(NA)
Average per farm ... dollars ..	101,840	(NA)	235,828	(NA)
Selected farm production expenses:				
Livestock and poultry				
purchased ..... \$1,000 ..	15,230	17,581	14,646	17,032
Feed for livestock and				
poultry ..... \$1,000 ..	42,629	41,548	42,095	40,889
Interest expense ..... \$1,000 ..	22,930	17,771	21,407	16,665
Petroleum products .... \$1,000 ..	17,197	19,864	16,065	18,759
Livestock and poultry:				
Cattle and calves				
inventory ..... farms ..	1,003	1,040	259	268
number ..	211,045	241,969	193,062	219,651
Beef cows ..... farms ..	724	784	198	208
number ..	83,427	90,523	76,126	81,629
Milk cows ..... farms ..	73	88	27	38
number ..	11,836	12,767	11,736	12,662
Cattle and calves sold farms ..	807	817	225	241
number ..	101,315	91,675	96,239	86,603

Continued on next page.

Table 558.-- FARMS, LAND IN FARMS, AND SELECTED ITEMS:  
1987 AND 1982 -- Con.

Item	All farms		Farms with sales of \$10,000 or more	
	1987	1982	1987	1982
<b>Livestock and poultry, con.:</b>				
Hogs and pigs inventory farms ..	372	371	136	132
number ..	47,564	49,029	42,784	42,683
Hogs and pigs sold ..... farms ..	307	319	127	126
number ..	69,019	66,875	64,618	61,919
Sheep and lambs				
inventory ..... farms ..	42	34	11	8
number ..	(D)	(D)	(D)	(D)
Chicken 3 months old or				
older inventory ..... farms ..	181	201	56	58
number ..	(D)	929,210	(D)	921,810
Broilers and other meat-				
type chickens sold ... farms ..	12	23	8	15
number ..	2,069,316	3,173,500	2,069,219	3,172,382
<b>Selected crops harvested:</b>				
Sugarcane for sugar .... farms ..	79	188	62	157
acres ..	79,234	89,696	79,140	(D)
tons ..	7,934,181	8,950,242	7,929,989	8,941,044
Pineapples harvested ... farms ..	18	15	12	14
acres ..	22,262	23,141	22,254	(D)
tons ..	683,182	626,860	683,086	(D)
Vegetables harvested				
for sale ..... farms ..	710	746	428	366
acres ..	5,587	4,673	5,165	4,133
Land in orchards ..... farms ..	2,128	1,825	796	612
acres ..	33,564	23,178	27,525	18,656
Macadamia nuts ..... farms ..	1,036	879	377	307
acres ..	23,233	15,472	20,284	13,960
pounds ..	44,464,884	35,594,548	42,380,242	34,258,992
Nursery and greenhouse				
crops ..... farms ..	1,139	1,050	573	467
sales, \$1,000 ..	56,527	35,973	(D)	34,062

(D) Withheld to avoid disclosing data for individual farms.

Source: U.S. Bureau of the Census, 1987 Census of Agriculture, Advance State Report, Hawaii, AC87-A-15-000(A) (May 1989), and Geographic Area Series, Hawaii, State and County Data, AC87-A-11 (August 1989).

Table 559.-- FARMS AND LAND IN FARMS, FOR COUNTIES: 1987

Item	Hawaii	Honolulu	Kauai	Maui
Farms ..... number ..	2,810	938	400	722
Land in farms ..... acres ..	1,007,287	130,771	224,153	359,310
Average size of farm acres ..	358	139	560	498
Value of land and buildings:				
Average per farm .. dollars ..	573,527	440,397	709,213	873,008
Average per acre .. dollars ..	1,600	3,159	1,266	1,754
Estimated market value of all machinery and equipment:				
Average per farm .. dollars ..	27,187	39,523	70,317	81,608
Farms by size:				
1 to 9 acres ..	1,602	707	181	365
10 to 49 acres ..	883	156	139	223
50 to 179 acres ..	180	31	51	79
180 to 499 acres ..	71	21	11	25
500 to 999 acres ..	14	7	5	5
1,000 acres or more ..	60	16	13	25
Total cropland ..... farms ..	2,561	742	294	573
acres ..	137,924	49,887	50,146	89,439
Harvested cropland ..... farms ..	2,390	716	235	496
acres ..	63,098	24,779	21,890	42,952
Irrigated land ..... farms ..	644	583	190	410
acres ..	12,899	36,301	32,486	67,198
Market value of agricultural products sold ..... \$1,000 ..	219,756	168,824	67,847	153,313
Average per farm .. dollars ..	78,205	179,983	169,619	212,345
Crops, including nursery and greenhouse crops ... \$1,000 ..	195,140	100,356	62,099	140,722
Livestock, poultry, and their products ..... \$1,000 ..	24,616	68,468	5,748	12,591

Source: U.S. Bureau of the Census, 1987 Census of Agriculture, Geographic Area Series, Hawaii, State and County Data, AC87-A-11 (August 1989), pp. 130-132.

Table 560.-- EMPLOYMENT IN AGRICULTURE: 1900 TO 1990

[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	1950 .....	31,806	19.0
1910 .....	54,742	54.1	1960 .....	15,981	7.6
1920 .....	54,803	49.0	1970 .....	13,161	4.6
1930 .....	61,811	40.1	1980 .....	14,560	3.5
1940 .....	54,629	35.5	1990 .....	16,509	3.1

Source: Robert C. Schmitt, Historical Statistics of Hawaii (1977), pp. 122-124; present volume, table 359.

Table 561.-- GENERAL EXCISE TAX BASE FOR PRODUCING:  
1982 TO 1992

[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; see HRS, 1985 Replacement, Section 237-5]

Year <u>1/</u>	Amount	Year <u>1/</u>	Amount	Year <u>1/</u>	Amount
1982 .....	173,891	1986 .....	250,954	1990 .....	317,337
1983 .....	220,298	1987 .....	274,202	1991 .....	301,884
1984 .....	242,641	1988 .....	298,261	1992 .....	408,662
1985 .....	262,791	1989 .....	326,400		

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).

Table 562.-- NUMBER OF FARMS, FARM ACREAGE, AND FARM EMPLOYMENT:  
1970 TO 1991

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	Hired workers
1970 .....	4,500	2,300	3,200	1,450	12,450
1971 .....	4,400	2,300	3,050	1,500	11,810
1972 .....	4,300	2,300	3,050	1,550	11,220
1973 .....	4,300	2,300	3,050	1,550	10,770
1974 .....	3,800	2,200	3,040	1,660	10,180
1975 .....	3,900	2,150	3,060	1,720	11,040
1976 .....	4,000	2,100	2,890	1,560	11,240
1977 .....	4,100	2,050	2,840	1,550	11,300
1978 .....	4,300	1,980	2,890	1,810	11,600
1979 .....	4,300	1,980	3,020	1,520	10,800
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 .....	4,600	1,710	2,500	1,000	9,600
1991 .....	4,500	1,710	3,100	1,100	9,600

1/ Based on farm definition of \$600 or more of agricultural sales prior to 1974 and \$1,000 or more thereafter.

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

3/ Annual averages through 1980, and varying dates thereafter.

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

Table 563.-- VALUE OF CROP AND LIVESTOCK SALES: 1970 TO 1991

[\$1,000]

Year	All crops and livestock	Crops				Live-stock
		All crops	Sugar (unprocessed cane)	Pine-apples (fresh equiv.)	Other crops	
1970 .....	213,950	172,302	110,600	39,500	22,202	41,648
1971 .....	221,829	178,776	115,800	40,300	22,676	43,053
1972 .....	232,760	186,518	117,300	43,900	25,318	46,242
1973 .....	266,161	210,892	141,900	39,600	29,392	55,269
1974 .....	575,432	517,523	442,300	40,259	34,964	57,909
1975 .....	377,575	319,304	237,000	41,616	40,688	58,271
1976 .....	327,820	265,498	164,700	52,983	47,815	62,322
1977 .....	325,182	260,164	144,200	62,249	53,715	65,018
1978 .....	380,655	308,098	182,700	63,090	62,308	72,557
1979 .....	441,253	362,789	217,600	69,409	75,780	78,464
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 <sup>1/</sup> ...	595,030	506,586	213,800	106,365	186,421	88,444
1991 .....	553,979	463,844	174,900	107,775	181,169	90,135

1/ Revised from Data Book 1991, table 554.

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



Table 564.-- NUMBER OF FARMS, FARM ACREAGE, AND FARM EMPLOYMENT, BY COUNTIES OR ISLANDS: 1981, 1989, 1990, AND 1991

County or island	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	Hired workers
State total:					
1981 .....	4,400	1,965	3,100	900	10,500
1989 .....	4,650	1,720	2,400	1,100	9,800
1990 .....	4,600	1,710	2,500	1,000	9,600
1991 .....	4,500	1,710	3,100	1,100	9,600
Hawaii County:					
1981 .....	2,550	1,150	2,125	750	2,950
1989 .....	2,700	1,010	1,575	725	3,610
1990 .....	2,650	1,005	1,560	610	3,475
1991 .....	2,600	1,005	1,915	640	3,640
Maui County:					
1981 .....	550	420	400	100	2,675
1989 .....	600	360	225	110	2,560
1990 .....	600	355	260	125	2,525
1991 .....	600	355	350	140	2,540
Oahu:					
1981 .....	1,000	125	725	150	2,400
1989 .....	950	125	450	200	2,425
1990 .....	950	125	460	225	2,425
1991 .....	900	125	625	290	2,300
Kauai County:					
1981 .....	375	275	200	50	1,475
1989 .....	400	225	175	60	1,175
1990 .....	400	225	200	60	1,140
1991 .....	400	225	215	75	1,140

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.

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

Table 565.-- VALUE OF CROP AND LIVESTOCK SALES, BY COUNTIES  
OR ISLANDS: 1981, 1989, 1990, AND 1991

[\$1,000]

County and year	All crops and livestock	Crops				Live-stock
		All crops	Sugar (unprocessed cane)	Pine-apples (fresh equiv.)	Other crops	
State total:						
1981 .....	489,502	401,348	207,500	89,745	104,103	88,154
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 .....	553,979	463,844	174,900	107,775	181,169	90,135
Hawaii County:						
1981 .....	163,730	140,712	76,800	-	63,912	23,018
1989 .....	207,445	174,741	56,900	-	117,841	32,704
1990 .....	198,564	169,147	55,000	-	114,147	29,417
1991 .....	182,459	149,070	43,600	-	95,470	33,389
Maui County:						
1981 .....	115,295	103,690	50,500	39,915	13,275	11,605
1989 .....	133,042	124,781	66,400	32,863	25,518	8,261
1990 .....	151,519	142,685	69,600	43,388	29,697	8,834
1991 .....	144,397	134,444	57,900	45,700	30,844	9,953
Oahu:						
1981 .....	115,295	105,222	34,200	49,830	21,192	48,287
1989 .....	179,670	133,608	35,500	65,447	32,661	46,062
1990 .....	180,772	135,588	36,800	62,977	35,791	45,184
1991 .....	170,725	128,899	30,600	62,075	36,224	41,826
Kauai County:						
1981 .....	56,968	51,724	46,000	(Z)	5,724	5,244
1989 .....	64,891	60,131	51,500	(Z)	8,631	4,760
1990 .....	64,175	59,166	52,400	(Z)	6,766	5,009
1991 .....	56,398	51,431	42,800	(Z)	8,631	4,967

Z Less than \$50,000.

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

Table 566.-- ACREAGE IN CROP, NUMBER OF CROP FARMS, VOLUME OF CROP MARKETINGS, AND VALUE OF CROP SALES: 1981, 1990 AND 1991

Subject	1981	1990	1991
Acreage in crop (1,000 acres):			
Sugarcane .....	216.1	162.0	155.6
Pineapples (land used for pineapple) .....	41.0	30.9	28.4
Vegetables and melons (harvested acreage) ..	4.2	5.3	5.2
Fruits, excluding pineapples .....	5.4	7.0	6.9
Coffee .....	1.8	5.3	<u>1/</u> 2.3
Macadamia nuts .....	13.8	22.6	22.5
Miscellaneous crops .....	9.0	4.6	5.5
Number of crop farms:			
Sugar .....	360	55	55
Pineapples .....	18	10	10
Vegetables and melons .....	583	485	490
Fruits (excluding pineapples) .....	657	735	800
Coffee .....	625	630	<u>1/</u> 615
Macadamia nuts .....	490	690	690
Taro .....	123	140	180
Flowers and nursery products .....	680	710	735
Volume of crop marketings:			
Sugar, unprocessed cane (1,000 tons) .....	8,831	6,538	5,857
Pineapples, fresh equivalent (1,000 tons) ..	636	575	555
Vegetables and melons (1,000 lb.) .....	73,330	84,920	91,660
Fruits, excluding pineapples (1,000 lb.) ...	83,010	107,310	83,960
Coffee, parchment (1,000 lb.) .....	2,210	2,800	<u>1/</u> 2,300
Macadamia nuts, in shell (1,000 lb.) .....	33,360	50,000	49,500
Taro (1,000 lb.) .....	6,100	5,800	7,000
Value of crop sales (\$1,000):			
Sugar (unprocessed cane) .....	207,500	213,800	174,900
Pineapples (fresh equivalent) .....	89,745	106,365	107,775
Vegetables and melons .....	21,669	35,825	38,660
Fruits (excluding pineapples) .....	15,516	24,079	24,330
Coffee (parchment) .....	4,420	<u>2/</u> 7,560	<u>1/</u> 4,600
Macadamia nuts (in shell) .....	26,454	41,000	34,650
Taro .....	1,305	2,262	3,010
Field crops (not estimated separately) .....	5,107	5,052	<u>2/</u> 7,591
Flowers and nursery products .....	29,482	70,393	68,078

1/ Excludes Kauai.

2/ Includes Kauai coffee value.

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

Table 567.-- ACREAGE IN CROP, NUMBER OF CROP FARMS, VOLUME OF CROP MARKETINGS, AND VALUE OF CROP SALES, BY GEOGRAPHIC AREAS: 1991

Subject	Hawaii County	Maui County	Oahu	Kauai County
Acreage in crop (1,000 acres):				
Sugarcane .....	56.1	42.5	23.0	34.0
Pineapples (land used for pineapple) .....	-	15.7	12.7	(1/)
Vegetables and melons (harvested acreage) .....	1.5	2.7	0.9	0.1
Fruits, excluding pineapples .....	5.3	0.2	0.7	0.7
Coffee .....	(D)	(D)	-	(D)
Macadamia nuts .....	(D)	(D)	(D)	(D)
Miscellaneous crops .....	1.8	2.0	0.8	0.9
Number of crop farms:				
Sugar .....	45	2	3	5
Pineapples .....	-	5	2	3
Vegetables and melons .....	260	85	125	20
Fruits (excluding pineapples) .....	575	55	120	50
Coffee .....	(D)	(D)	(D)	(D)
Macadamia nuts .....	(D)	(D)	-	(D)
Taro .....	100	23	7	50
Flowers and nursery products .....	335	120	230	50
Volume of crop marketings:				
Sugar, unprocessed cane (1,000 tons) .....	1,725	1,693	1,012	1,427
Pineapples, fresh equivalent (1,000 tons) .....	-	334	221	(2/)
Vegetables and melons (1,000 lb.) .....	32,570	47,380	11,140	570
Fruits, excluding pineapples (1,000 lb.) .....	71,455	665	4,480	7,360
Coffee, parchment (1,000 lb.) .....	2,300	-	-	(D)
Macadamia nuts, in shell (1,000 lb.) .....	(D)	(D)	(D)	(D)
Taro (1,000 lb.) .....	1,380	(D)	(D)	4,000
Value of crop sales (\$1,000):				
Sugar (unprocessed cane) .....	43,600	57,900	30,600	42,800
Pineapples (fresh equivalent) .....	-	45,700	62,075	(3/)
Vegetables and melons .....	15,404	15,010	7,891	355
Fruits (excluding pineapples) .....	20,611	292	1,881	1,546
Coffee (parchment) .....	4,600	-	-	(D)
Macadamia nuts (in shell) .....	(D)	(D)	(D)	(D)
Taro .....	552	(D)	(D)	1,744
Flowers and nursery products .....	31,329	7,975	26,238	2,536

D Withheld to avoid disclosure of individual operations.

1/ Less than 500 acres.

2/ Less than 500 tons.

3/ Less than \$50,000.

Source: Hawaii Agricultural Statistics Service, Statistics of Hawaiian Agriculture 1991.

Table 568.-- VEGETABLES, MELONS, FRUITS, NUTS, COFFEE, AND TARO: 1991

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

Crop	Acreage harvested <u>1/</u>	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 .....	460	17.8	8,200	23.1	1,894
Head cabbage .....	620	24.0	14,900	19.7	2,935
Cucumbers .....	250	14.8	3,700	46.0	1,702
Ginger root .....	250	48.0	12,000	63.0	7,560
Lettuce (head, semi-head)	240	12.5	3,000	43.0	1,290
Dry onions .....	115	11.3	1,300	105.0	1,365
Green onions .....	210	7.6	1,600	97.0	1,552
Green peppers .....	170	11.3	1,920	63.5	1,219
Tomatoes .....	250	24.0	6,000	52.0	3,120
Watermelons .....	580	24.3	14,100	14.4	2,030
Watercress .....	40	...	1,400	115.0	1,610
Sweet corn .....	465	5.4	2,500	42.2	1,055
Daikon .....	250	15.2	3,800	28.2	1,072
<b>Fruits:</b>					
Bananas .....	890	12.8	11,400	41.0	4,674
Guavas .....	900	...	14,000	14.6	2,044
Papayas .....	2,025	27.3	55,350	29.3	16,228
Macadamia nuts (1991-1992)	18,200	2.7	53,900	64.3	34,650
Coffee (1991-1992) <u>2/</u> .....	2,300	1.4	2,300	200.0	4,600
Taro .....	600	...	7,000	43.0	3,010

1/ Acreage bearing for macadamia nuts; acreage in crop for watercress and taro.

2/ Excludes Kauai.

Source: Hawaii Agricultural Statistics Service, Statistics of Hawaiian Agriculture 1991.

Table 569.-- SUGARCANE ACREAGE, BY TYPE OF IRRIGATION:  
1972 TO 1991

Year	Total cane land	Irrigated cane land		Unirrigated cane land
		Drip	Furrow or overhead	
1972 .....	229,611	327	119,704	109,580
1973 .....	226,580	2,544	116,136	107,900
1974 .....	224,227	5,662	112,919	105,646
1975 .....	221,426	12,719	103,998	104,709
1976 .....	221,551	21,250	98,797	101,504
1977 .....	220,729	30,042	91,368	99,319
1978 .....	220,697	39,167	80,207	101,323
1979 .....	218,773	49,202	70,936	98,635
1980 .....	217,718	60,241	58,966	98,511
1981 .....	216,099	69,665	48,493	97,941
1982 .....	204,749	73,551	41,896	89,302
1983 .....	194,258	80,019	33,459	80,780
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

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

Table 570.-- FRESH FRUIT AND VEGETABLE ARRIVALS IN HONOLULU,  
BY SOURCE: 1989 TO 1991

[1,000 pounds, net]

Source	1989	1990	1991
Total arrivals .....	303,526	290,606	291,626
From Hawaii .....	91,881	88,631	86,410
Oahu <u>1/</u> .....	33,314	29,215	26,347
Other islands <u>2/</u> .....	58,567	59,416	60,063
Hawaii <u>2/</u> .....	30,203	27,123	26,853
Maui <u>2/</u> .....	15,388	15,137	15,565
Molokai <u>2/</u> .....	12,667	16,938	17,457
Kauai <u>2/</u> .....	309	218	188
From U.S. Mainland <u>2/</u> .....	205,915	194,610	198,149
From foreign countries <u>2/</u> .....	5,730	7,365	7,067

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 (June 1991), table 1, and records.

Table 571.-- GOVERNMENT PAYMENTS FOR AGRICULTURE: 1982 TO 1991

[\$1,000]

Year	Amount	Year	Amount	Year	Amount
1982 .....	586	1986 .....	2,810	1989 .....	396
1983 .....	6,775	1987 .....	344	1990 .....	657
1984 .....	2,675	1988 .....	465	1991 .....	730
1985 .....	1,184				

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

Table 572.-- LIVESTOCK INVENTORY, 1981 TO 1991, AND BY GEOGRAPHIC AREAS, 1991

[ In thousands ]

Year and geographic area	All cattle and calves <u>1/</u>	Milk cows <u>1/</u>	Hogs and pigs <u>2/</u>	Chickens (excluding broilers) <u>2/</u>	Bee colonies
1981 .....	228	13	55	1,242	7
1982 .....	230	12	49	1,148	8
1983 .....	226	12	48	1,140	9
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 .....	214	11	36	1,183	10
1991 .....	200	10	34	1,213	10
GEOGRAPHIC AREAS: 1991					
Hawaii County .....	136.0	1.7	2.6	(D)	(NA)
Maui .....	27.7	0.9	8.3	(D)	(NA)
Molokai and Lanai .....	7.2	-	0.7	(D)	(NA)
Oahu .....	18.0	7.3	19.3	982	(NA)
Kauai County .....	11.1	0.5	4.0	(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.

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



Table 573.-- NUMBER OF LIVESTOCK OPERATIONS, VOLUME OF LIVESTOCK MARKETINGS,  
AND VALUE OF LIVESTOCK SALES: 1981, 1990 AND 1991

Subject	1981	1990 <u>1/</u>	1991
Number of livestock operations, Dec. 31:			
Cattle <u>2/</u> .....	900	900	900
Hogs .....	650	500	450
Milk .....	80	80	80
Eggs .....	55	55	55
Broilers .....	10	8	8
Honey .....	28	12	13
Volume of livestock marketings:			
Beef (dressed weight; 1,000 lb.) <u>3/</u> .....	28,666	29,071	27,328
Pork (dressed weight; 1,000 lb.) .....	8,708	6,850	6,059
Milk (million lb.) .....	147.9	148.6	138.8
Eggs (million) .....	221.3	227.5	224.5
Broilers and chickens (1,000 lb.) <u>4/</u> .....	9,046	7,266	5,545
Honey (1,000 lb.) .....	875	1,570	1,310
Value of livestock sales (\$1,000):			
Cattle <u>5/</u> .....	28,405	28,735	32,667
Hogs <u>5/</u> .....	8,382	7,252	6,463
Milk .....	30,320	30,760	30,328
Eggs .....	15,159	16,115	15,996
Broilers and chickens .....	5,307	4,334	3,386
Other <u>6/</u> .....	581	1,248	1,295

1/ Revised from Data Book 1991, table 564.

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

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

4/ Ready-to-cook weight.

5/ Excludes interfarm sales; includes out-of-State sales of slaughter cattle and feeder calves.

6/ Includes sheep, wool, turkeys, horses, honey, and beeswax.

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

Table 574.-- NUMBER OF LIVESTOCK OPERATIONS, VOLUME OF LIVESTOCK MARKETINGS,  
AND VALUE OF LIVESTOCK SALES, BY GEOGRAPHIC AREAS: 1991

Subject	Hawaii County	Maui County	Oahu	Kauai County
Number of livestock operations, Dec. 31:				
Cattle <u>1/</u> .....	460	210	70	160
Hogs .....	70	80	230	70
Milk .....	41	7	20	12
Eggs .....	25	7	19	4
Broilers .....	-	-	7	1
Honey .....	9	2	-	2
Volume of livestock marketings:				
Beef <u>2/</u> (dressed weight; 1,000 lb.) .....	22,087	3,130	1,021	1,090
Pork (dressed weight; 1,000 lb.) .....	472	1,490	3,380	717
Milk (million lb.) .....	(D)	(D)	99.2	(D)
Eggs (million) .....	(D)	(D)	177.3	(D)
Broilers and chickens <u>3/</u> (1,000 lb.) .....	(D)	(D)	(D)	(D)
Honey (1,000 lb.) .....	(D)	(D)	(D)	(D)
Value of livestock sales (\$1,000):				
Cattle <u>4/</u> .....	26,864	3,787	886	1,130
Hogs <u>4/</u> .....	507	1,609	3,515	832
Milk .....	(D)	(D)	21,913	(D)
Eggs .....	(D)	(D)	12,456	(D)
Broilers and chickens .....	(D)	(D)	(D)	(D)
Other <u>5/</u> .....	848	167	50	230

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/ Ready-to-cook weight.

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

5/ Includes sheep, wool, turkeys, horses, honey, and beeswax.

Source: Hawaii Agricultural Statistics Service, Statistics of Hawaiian Agriculture 1991.

Table 575.-- FLORICULTURE AND NURSERY PRODUCTS, 1989 TO 1991,  
AND BY ISLANDS, 1991

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:							
1989 .....	710	2,206	3,615	25,395	50	1,490	62,206
1990 .....	710	2,364	3,950	24,775	35	1,670	70,393
1991 .....	735	2,555	4,095	27,715	35	1,790	68,078
Islands, 1991:							
Hawaii .....	335	1,361	2,855	17,230	35	865	31,329
Kauai .....	50	124	60	325	-	115	2,536
Mauai/Molokai .	120	475	340	1,190	0	440	7,975
Oahu .....	230	595	840	8,970	0	370	26,238

Source: Hawaii Agricultural Statistics Service, Hawaii Flowers & Nursery Products, Annual Summary (July 28, 1992), pp. 10 and 13.

Table 576.-- OUT-OF-STATE SALES OF FLORICULTURE AND NURSERY PRODUCTS: 1987 TO 1991

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

Type	1987	1988	1989	1990	1991
Total sales ...	31,904	33,042	37,475	37,734	40,920
Anthuriums, cut ....	9,170	8,816	9,280	11,185	10,595
Foliage, potted ....	8,935	8,609	8,130	8,525	9,595
Other flowers, nursery products .	13,799	15,617	20,065	18,024	20,730

Source: Hawaii Agricultural Statistics Service, Hawaii Flowers and Nursery Products, Annual Summary (July 28, 1992), p. 15.

Table 577.-- FLORICULTURE AND NURSERY PRODUCTS, BY COMMODITY: 1991

[Shown for commodities with value of sales over \$750,000]

Commodity	Number of farms	Number sold		Value of sales (\$1,000)
		Unit	Number	
Selected cut flowers:				
Anthuriums .....	133	1,000 dozens	972	6,707
Birds of Paradise .....	57	1,000 dozens	150	841
Ginger, pink .....	88	1,000 dozens	98	710
Ginger, red .....	110	1,000 dozens	154	791
Heliconias .....	108	1,000 dozens	154	1,052
Proteas .....	39	1,000 stems	1,125	766
Roses, Tea .....	13	1,000 dozens	656	3,234
Orchids:				
Sprays: Dendrobium .....	77	1,000 dozens	416	2,980
Potted: Dendrobiums .....	73	1,000 pots	580	3,061
Lei flowers:				
Carnations .....	19	Million blooms	22.6	1,178
Dendrobiums .....	52	Million blooms	27.8	808
Tuberose .....	10	Million blooms	(D)	(D)
Foliage:				
Potted, primarily for--				
Indoor or patio use .....	84	...	(NA)	14,148
Landscape use .....	61	...	(NA)	3,620
Unfinished stock (for further growing on) .....	38	...	(NA)	1,410
Potted flowering plants:				
Chrysanthemums .....	6	1,000 pots	284	1,082
Poinsettias .....	32	1,000 pots	320	1,234
Ornamentals and trees .....	57	...	(NA)	4,550
Plant rentals .....	44	...	(NA)	3,887

D Withheld to avoid disclosure of individual operations.

NA Not available.

Source: Hawaii Agricultural Statistics Service, Hawaii Flowers & Nursery Products, Annual Summary (July 28, 1992), pp. 3-9.

Table 578.-- MARKET SUPPLY OF SPECIFIED FOODS: 1981, 1990, AND 1991

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>					
1981 .....	82,439	61,556	20,883	77.6	25.3
1990 .....	200,948	89,753	111,195	159.7	55.3
1991 .....	173,628	90,018	83,610	135.9	48.2
<b>Fresh market vegetables:</b>					
1981 .....	174,567	105,052	69,515	164.3	39.8
1990 .....	218,538	149,638	68,900	173.7	31.5
1991 .....	229,355	153,130	76,225	179.5	33.2
<b>Beef and veal: <u>3/</u></b>					
1981 .....	94,792	66,126	28,666	89.2	30.2
1990 .....	111,537	82,466	29,071	88.7	26.1
1991 .....	114,320	86,992	27,328	89.5	23.9
<b>Pork: <u>3/</u></b>					
1981 .....	34,632	25,924	8,708	32.6	25.1
1990 .....	41,762	34,912	6,850	33.2	16.4
1991 .....	42,934	36,875	6,059	33.6	14.1
<b>Chickens:</b>					
1981 .....	32,896	23,850	9,046	31.0	27.5
1990 .....	48,929	41,663	7,266	38.9	14.9
1991 .....	49,304	43,759	5,545	38.6	11.2
<b>Eggs:</b>					
1981 .....	20,906	2,464	18,442	19.7	88.2
1990 .....	21,462	2,504	18,958	17.1	88.3
1991 .....	21,153	2,445	18,708	16.6	88.4

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 3.

3/ Carcass weight equivalent.

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

Table 579.-- 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	2	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 580.-- AGRICULTURAL CHEMICALS USED, INCLUDING FERTILIZER AND LIME:  
1978 TO 1987

Chemicals used	1978	1982	1987
Any chemicals, fertilizer, or lime used ..... farms	3,568	3,532	4,105
Commercial fertilizer ..... farms	3,172	3,158	3,524
acres on which used	284,452	228,982	225,457
\$1,000	26,530	33,477	30,717
Lime ..... farms	525	525	825
acres on which used	12,488	9,547	21,544
tons	12,011	10,423	23,220
Agricultural chemicals <sup>1/</sup> ..... farms	3,277	3,084	3,881
\$1,000	13,700	16,417	18,233
Sprays, dusts, granules, fumigants, etc., to control --			
Insects on hay and other crops ..... farms	1,204	1,702	2,008
acres on which used	28,787	45,671	68,150
Nematodes in crops ..... farms	441	654	663
acres on which used	9,806	9,638	15,792
Diseases in crops and orchards ..... farms	912	1,067	1,151
acres on which used	12,310	18,085	(D)
Weeds, grass, or brush in crops and pasture farms	2,325	2,385	2,887
acres on which used	269,801	213,551	235,871
Chemicals used for defoliation or for growth control of crops or thinning of fruit ..... farms	160	165	212
acres on which used	57,280	50,455	57,481

D Withheld to avoid disclosing data for individual farms.

<sup>1/</sup> Data after 1978 exclude the cost of lime.

Source: U.S. Bureau of the Census, 1987 Census of Agriculture, Geographic Area Series, Hawaii, State and County Data, AC87-A-11 (August 1989), table 15, p. 19.

Table 581.-- AQUACULTURE INDUSTRY OPERATIONS: 1970 TO 1991

Year	Number of operations, Dec. 31		Acreage, Dec. 31	Produc- tion (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

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



Table 582.-- AQUACULTURE OPERATIONS, ACREAGE, PRODUCTION, AND VALUE,  
BY COUNTIES: 1991

Subject	State total	Hawaii	Maui	Honolulu	Kauai
Number of operations ...	71	21	8	27	15
Prawn producers .....	12	-	-	10	2
Acreage (Dec. 31) .....	595	84	15	470	26
Production (1,000 lb.)..	1,206.6	581.7	32.0	589.9	3.0
Shellfish .....	389.0	(NA)	32.0	354.0	3.0
Finfish .....	319.8	222.7	(NA)	97.1	(NA)
Algae .....	497.8	359.0	(NA)	138.8	(NA)
Other <u>1/</u> .....	(NA)	(NA)	(NA)	(NA)	(NA)
Value (\$1,000) .....	6,884.0	3,599.5	145.0	3,117.0	22.5
Shellfish .....	2,075.0	212.5	145.0	1,695.0	22.5
Finfish .....	1,287.9	846.5	(NA)	441.4	(NA)
Algae .....	2,698.6	2,320.0	(NA)	378.6	(NA)
Other <u>1/</u> .....	822.5	220.5	(NA)	602.0	(NA)

NA Not available.

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

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