

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 4,596 farms in Hawaii as of 1982, with a total area of 1.96 million acres. The value of crop sales in 1984 was \$467 million, or 10 percent lower than the total for 1974. Livestock sales amounted to \$87 million, or 50 percent more than the 1974 level. Combined crop and livestock sales in 1984 ranged from \$64 million in Kauai County to \$185 million on the Big Island. Major crops were sugar (\$256 million in sales, down 42 percent over the decade), pineapple (\$90 million, or 123 percent over the 1974 total), flowers and nursery products (\$43 million, or 423 percent more than in 1974), vegetables and melons (\$26 million, up 164 percent), and macadamia nuts (\$26 million, up 398 percent). Diversified crops, defined as all crops other than sugar and pineapple, rose from \$35 million in 1974 to \$121 million in 1984, or approximately 245 percent. About 670 farms sold \$43 million of flowers and nursery products in 1984, chiefly anthuriums, potted foliage, and orchids. Important products of livestock farms as of 1984 included cattle (\$28 million in sales), milk (\$29 million), and eggs (\$16 million). In 1984, Hawaii produced 41 percent of the fresh market vegetables consumed locally, 30 percent of the fresh market fruits, 31 percent of the beef and veal, 21 percent of the chickens, none of the rice, and 78 percent of the eggs.

Aquaculture has been growing in importance in recent years. Freshwater prawn production amounted to 318,000 pounds in 1984, with a value of more than \$1.7 million. Ten years earlier the corresponding figures had been only 11,000 pounds and \$38,000.

Statistics on Hawaiian agriculture exclude pakalōlō (marijuana) and other illicit plants. Authorities confiscated \$47 million worth of marijuana in 1984, but the proportion escaping detection is unknown.

Important sources for data on agriculture include the United States Census of Agriculture, most recently conducted as of 1982, the annual report on Statistics of Hawaiian Agriculture issued by the Hawaii Agricultural Reporting 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 24 of the Statistical Abstract of the United States: 1985.

Table 521.-- FARMS, LAND IN FARMS, AND LAND USE: 1982 AND 1978

Subject	1982	1978
Farms	4,595	4,310
Land in farms	1,957,501	1,988,282
Average size of farm	426	461
Value of land and buildings:		
Average per farm	778,471	413,948
Average per acres	1,826	897
Farms by size:		
1 to 9 acres	2,743	2,527
10 to 49 acres	1,261	1,211
50 to 179 acres	320	296
180 to 499 acres	126	146
500 to 999 acres	33	24
1,000 to 1,999 acres	33	32
2,000 acres or more	79	74
Land in farms according to use:		
Total cropland	3,836	3,565
farms		
acres	346,113	333,262
Harvested cropland	3,538	3,299
farms		
acres	155,960	158,639
Cropland used only for pasture or grazing	400	272
farms		
acres	33,557	27,191
Other cropland	855	1,089
farms		
acres	156,596	147,432
Woodland, including woodland pastured ...	148	146
farms		
acres	117,270	145,802
Pastureland and rangeland other than cropland and woodland pastured	743	611
farms		
acres	1,132,849	1,143,095
Land in house lots, ponds, roads, wasteland, etc.	2,227	1,859
farms		
acres	361,269	366,123
Irrigated land	1,544	1,493
farms		
acres	145,982	159,323

Source: U.S. Bureau of the Census, 1982 Census of Agriculture, Geographic Area Series, Hawaii, State and County Data, AC82-A-11 (September 1984), Chapter 1, tables 1 and 4.

Table 522.-- FARM SALES AND INCOME: 1982 AND 1978

Subject	1982	1978
Market value of agricultural products sold \$1,000 ..	558,608	419,251
Average per farm dollars ..	121,569	97,274
Crops, including nursery and greenhouse products		
\$1,000 ..	456,069	331,020
Grains	\$1,000 .. 3,392	1,397
Hay, silage, and field seeds	\$1,000 .. (D)	450
Vegetables, sweet corn, and melons	\$1,000 .. 18,703	15,337
Fruits, nuts, and berries	\$1,000 .. 113,819	73,505
Nursery and greenhouse products	\$1,000 .. 35,973	24,291
Other crops	\$1,000 .. 284,164	216,040
Livestock, poultry, and their products	\$1,000 .. 102,539	88,230
Poultry and poultry products	\$1,000 .. 21,519	17,187
Dairy products	\$1,000 .. 24,329	23,206
Cattle and calves	\$1,000 .. 45,495	39,625
Sheep, lambs, and wool	\$1,000 .. (D)	(D)
Hogs and pigs	\$1,000 .. 9,175	(D)
Other livestock and livestock products	\$1,000 .. (D)	742
Farms by value of sales:		
\$250,000 or more	161	130
\$100,000 to \$249,999	192	150
\$40,000 to \$99,999	343	313
\$20,000 to \$39,999	469	380
\$10,000 to \$19,999	610	565
\$5,000 to \$9,999	653	672
Less than \$5,000	2,160	2,086
Value of agricultural products sold directly to individuals for human consumption		
farms ..	549	457
\$1,000 ..	4,546	2,494
Farm-related income:		
Income from machine work, customwork, and other agricultural services		
farms ..	146	119
\$1,000 ..	1,963	1,200

D Withheld to avoid disclosing data for individual farms.

Source: U.S. Bureau of the Census, 1978 Census of Agriculture, State and County Data, Hawaii, AC78-A-11 (June 1981), Chapter 1, tables 11 and 12. 1982 Census of Agriculture, Geographic Area Series, Hawaii, State and County Data, AC82-A-11 (September 1984) Chapter 1, tables 11, 15, and 49.

Table 523.-- CHARACTERISTICS OF FARM OPERATORS: 1982 AND 1978

Subject	1982	1978
Farms by type of organization:		
Individual or family	3,852	3,614
number		
acres	481,212	656,332
Partnership	351	326
number		
acres	130,761	222,668
Corporation:		
Family held	272	233
number		
acres	507,280	377,595
Other than family held	80	93
number		
acres	492,941	595,644
Other -- cooperative, estate or trust, institutional, etc.	40	44
number		
acres	345,307	136,043
Tenure of operator:		
Full owners	2,332	2,111
farms		
acres	328,728	281,019
Part owners	794	713
farms		
acres	1,286,352	1,388,319
Owned land in farms	537,945	603,654
Rented land in farms	748,407	784,665
Tenants	1,469	1,486
farms		
acres	342,421	318,944
Operators by principal occupation and residence:		
Farming 1/.....	2,565	2,239
Residence on farm operated	1,629	1,287
Residence not on farm operated	657	516
Other than farming 1/.....	2,030	2,071
Residence on farm operated	1,043	890
Residence not on farm operated	779	660
Operators by age group:		
Under 25 years	35	51
25 to 34 years	630	535
35 to 44 years	794	600
45 to 54 years	803	1,005
55 to 64 years	1,325	1,270
65 years and over	1,008	849
Average age	52.7	52.7
Female operators:		
Farms	615	579
number		
Land in farms	129,674	132,173
acres		

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Table 523.-- CHARACTERISTICS OF FARM OPERATORS:
1982 AND 1978 -- Con.

Subject	1982	1978
Operators by race:		
White	1,304	1,039
Black and other races	3,291	3,271
Operators reporting days of work off farm:		
Any	2,534	2,495
100 days or more	2,024	1,878

1/ Components do not sum to category total because of non-reporting.

Source: U.S. Bureau of the Census, 1982 Census of Agriculture, Preliminary Report, Hawaii, AC82-A-15-000(P) (January 1984), table 2. 1982 Census of Agriculture, Geographic Area Series, Hawaii, State and County Data, AC82-A-11 (September 1984), Chapter 1, tables 5 and 46.

Table 524.-- IRRIGATION OF FARMS: 1982, 1978, AND 1974

Subject	1982	1978	1974
Irrigated farms number	1,544	1,493	889
Proportion of farms percent ...	33.6	34.6	29.4
Land in irrigated farms acres	645,774	600,255	648,948
Irrigated land acres	145,982	159,323	141,742
Average per farm acres	95	107	159
Harvested crop land farms	1,516	1,465	(NA)
acres	76,035	77,396	(NA)

NA Not available.

Source: U.S. Bureau of the Census, 1982 Census of Agriculture, Geographic Area Series, Hawaii, State and County Data, AC82-A-11 (September 1984), Chapter 1, table 2.

Table 526.-- CROPS HARVESTED: 1982 AND 1978

Subject	1982	1978
Sugarcane for sugar		
farms ..	188	328
acres ..	89,696	99,065
tons ...	8,950,242	9,213,485
Pineapples harvested		
farms ..	15	20
acres ..	23,141	25,314
tons ...	626,860	685,502
Taro		
farms ..	218	175
acres ..	417	426
pounds .	6,360,054	8,908,700
Vegetables harvested for sale		
farms ..	746	751
acres ..	4,673	5,509
Farms by acres harvested:		
0.1 to 4.9 acres	548	546
5.0 to 24.9 acres	157	146
25.0 to 99.9 acres	36	55
100.0 acres or more	5	4
Chinese cabbage		
farms ..	47	62
acres ..	413	563
Head cabbage		
farms ..	73	64
acres ..	768	781
Lettuce and romaine		
farms ..	95	94
acres ..	867	1,143
Land in orchards		
farms ..	1,825	1,438
acres ..	23,178	17,948
Farms by acres harvested:		
0.1 to 4.9 acres	1,158	875
5.0 to 24.9 acres	601	503
25.0 to 99.9 acres	48	46
100.0 acres or more	18	14
Avocados		
farms ..	421	302
Bearing and nonbearing acres ..	558	438
pounds .	711,760	413,161
Bananas		
farms ..	533	397
Bearing and nonbearing acres ..	1,104	837
pounds .	5,563,365	6,670,317
Coffee		
farms ..	598	494
Bearing and nonbearing acres ..	1,582	1,585
pounds .	1,806,396	1,797,422
Guavas		
farms ..	174	126
Bearing and nonbearing acres ..	938	1,001
pounds .	5,674,642	2,789,599

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Table 526.-- CROPS HARVESTED: 1982 AND 1978 -- Con.

Subject	1982	1978
Land in orchards -- Con.		
Papayas farms ..	343	256
Bearing and nonbearing acres ..	2,701	3,268
pounds .	50,258,158	70,680,121
Macadamia nuts farms ..	879	583
Bearing and nonbearing acres ..	15,472	10,149
pounds .	35,594,548	22,051,322
Nursery and greenhouse products, mushrooms, and sod grown for sale farms ..	1,050	1,008
under glass or other protection ... sq. ft.	21,063,515	17,637,691
in the open acres ..	1,650	1,355
\$1,000 .	35,973	24,291
Cut flowers and cut florist greens .. farms ..	586	601
under glass or other protection ... sq. ft.	10,863,917	10,851,517
in the open acres ..	823	776
\$1,000 .	14,751	11,451
Foliage and flowering plants farms ..	361	358
under glass or other protection ... sq. ft.	6,130,313	4,582,418
in the open acres ..	517	360
\$1,000 .	13,518	8,820
Nursery products farms ..	177	104
under glass or other protection ... sq. ft.	1,258,657	763,080
in the open acres ..	292	203
\$1,000 .	4,441	2,316

Source: U.S. Bureau of the Census, 1982 Census of Agriculture, Geographic Area Series, Hawaii, State and County Data, AC82-A-11 (September 1984), Chapter 1, tables 41, 42, and 43, and Chapter 2, tables 27 and 31.

Table 527.-- LIVESTOCK AND POULTRY: 1982 AND 1978

Subject		1982	1978
Cattle and calves inventory	farms ...	1,040	839
	number ..	241,969	218,901
Cows and heifers that had calves	farms ...	825	696
	number ..	103,290	98,579
Beef cows	farms ...	784	659
	number ..	90,523	85,623
Milk cows	farms ...	88	76
	number ..	12,767	12,956
Heifers and heifer calves	farms ...	808	672
	number ..	66,844	60,871
Steers, steer calves, bulls, and bull calves	farms ...	940	744
	number ..	71,835	59,451
Cattle and calves sold	farms ...	817	740
	number ..	91,675	105,088
Cattle sold	farms ...	639	515
	number ..	80,888	91,228
Cattle fattened on grain and concentrates sold	farms ...	103	45
	number ..	33,182	38,882
Dairy products sold	farms ...	30	32
	\$1,000 ..	24,329	23,206
Hogs and pigs inventory	farms ...	371	399
	number ..	49,029	50,071
Hogs and pigs used or to be used for breeding	farms ...	285	310
	number ..	6,779	7,267
Hogs and pigs sold	farms ...	319	352
	number ..	66,875	70,361
Feeder pigs sold	farms ...	66	86
	number ..	7,100	9,683
Litters of pigs farrowed between --			
Dec. 1 of preceding year and Nov. 30 ..	farms ...	289	316
	number ..	10,323	11,346
Dec. 1 of preceding year and May 31 ..	farms ...	260	306
	number ..	4,930	5,740
June 1 and Nov. 30	farms ...	251	285
	number ..	5,430	5,606
Sheep and lambs inventory	farms ...	34	13
	number ..	(D)	(D)
Sheep and lambs sold	farms ...	17	5
	number ..	(D)	(D)
Sheep and lambs shorn	farms ...	13	4
	number ..	(D)	(D)
	Wool pounds ..	(D)	(D)

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Table 527.-- LIVESTOCK AND POULTRY: 1982 AND 1978 -- Con.

Subject	1982	1978
Horses and ponies inventory farms ...	505	365
..... number ..	4,030	4,087
Chickens 3 months old or older inventory farms ...	201	141
..... number ..	929,210	1,243,801
Hens and pullets of laying age inventory farms ...	198	137
..... number ..	(D)	1,065,586
Broilers and other meat-type chickens sold farms ...	23	27
..... number ..	3,173,500	2,588,757

D Withheld to avoid disclosing data for individual farms.

Source: U.S. Bureau of the Census, 1978 Census of Agriculture, State and County Data, Hawaii, AC78-A-11 (June 1981), Chapter 1, tables 18 and 21; 1982 Census of Agriculture, Geographic Area Series, Hawaii, State and County Data, AC82-A-11 (September 1984), Chapter 1, tables 11, 17, 23, 29, 30, 31, 35 and 38.

Table 528.-- MARKET VALUE OF AGRICULTURAL PRODUCTS SOLD, BY COUNTIES:
1982 AND 1978

Year	State total	Hawaii	Honolulu	Kauai	Maui
Total sales (\$1,000):					
1982	558,608	206,427	144,028	70,957	137,196
1978	419,251	148,399	118,608	48,679	103,564
Sales per farm (dollars):					
1982	121,569	81,302	147,570	173,066	204,771
1978	97,274	65,490	112,639	131,920	166,502

Source: U.S. Bureau of the Census, 1982 Census of Agriculture, Geographic Area Series, Hawaii, State and County Data, AC82-A-11 (September 1984), Chapter 2, table 3.

Table 529.-- FARMS, LAND IN FARMS, AND LAND USE, FOR COUNTIES: 1982

Subject	Counties 1/			
	Hawaii	Hono- lulu	Kauai	Maui
Farms number ..	2,539	976	410	670
Land in farms acres ..	1,172,448	125,932	255,981	403,140
Average size of farm acres ..	462	129	624	602
Value of land and buildings:				
Average per farm dollars	639,822	389,732	1,833,704	1,225,224
Average per acre dollars	1,385	3,017	2,930	2,036
Farms by size:				
1 to 9 acres	1,468	768	191	316
10 to 49 acres	746	141	136	238
50 to 179 acres	178	27	51	64
180 to 499 acres	68	17	16	25
500 to 999 acres	21	8	1	3
1,000 to 1,999 acres	13	8	7	5
2,000 acres or more	45	7	8	19
Land in farms according to use:				
Total cropland farms ..	2,286	757	286	507
..... acres ..	135,796	50,614	51,868	107,835
Harvested cropland farms ..	2,123	732	240	443
..... acres ..	59,629	(D)	24,039	(D)
Cropland used only for pasture or grazing farms ..	195	32	77	96
..... acres ..	17,438	(D)	2,670	(D)
Other cropland farms ..	514	142	78	121
..... acres ..	58,729	22,696	25,159	50,012
Woodland, including woodland pastured farms ..	80	22	13	33
..... acres ..	80,103	20,366	1,636	15,165
Pastureland and rangeland other than cropland and woodland pastured farms ..	339	84	145	175
..... acres ..	788,077	27,873	108,759	208,140
Land in house lots, ponds, roads, wasteland, etc. .. farms ..	1,109	475	251	392
..... acres ..	168,472	27,079	93,718	72,000
Farms with irrigation number ..	484	525	182	355
Irrigated land acres ..	11,870	36,131	34,414	63,567

D Withheld to avoid disclosing data for individual farms.

1/ Kalawao, not shown separately, did not have any farms in 1982.

Source: U.S. Bureau of the Census, 1982 Census of Agriculture, Geographic Area Series, Hawaii, State and County Data, AC82-A-11 (September 1984), Chapter 2, tables 1, 2, and 4.

Table 530.-- NUMBER OF FARMS, FARM ACREAGE, AND FARM EMPLOYMENT:
1974 TO 1984

Year	Number of farms <u>1/</u>	Farm acreage <u>2/</u> (1,000)	Farm employment <u>3/</u>		
			Self-em- ployed farm operators	Unpaid family members	Hired workers
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 <u>4/</u>	4,500	1,960	2,600	1,300	13,000
1983 <u>4/</u>	4,500	1,960	2,500	1,500	13,000
1984	4,600	1,950	2,200	1,300	12,000

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/ Annual averages through 1980, and varying dates thereafter.

4/ Revised from Data Book 1984, table 571.

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

Table 531.-- VALUE OF CROP AND LIVESTOCK SALES: 1974 TO 1984

[\$1,000]

Year	All crops and livestock	Crops			Live-stock	
		All crops	Sugar (unprocessed cane)	Pine-apples (fresh equiv.)		Other crops
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	507,555	429,147	230,800	94,364	103,983	78,408
1983 ^{1/} ...	568,452	481,964	266,900	100,376	114,688	86,488
1984	553,909	466,884	256,200	89,928	120,756	87,025

^{1/} Revised from Data Book 1984, table 571.

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

Table 532.-- NUMBER OF FARMS, FARM ACREAGE, AND FARM EMPLOYMENT, BY COUNTIES OR ISLANDS: 1974, 1983, AND 1984

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:					
1974	3,800	2,200	3,040	1,660	10,180
1983 <u>4/</u>	4,500	1,960	2,500	1,500	13,000
1984	4,600	1,950	2,200	1,300	12,000
Hawaii Co.:					
1974	2,200	1,330	1,530	830	3,100
1983 <u>4/</u>	2,600	1,145	1,600	1,000	4,050
1984	2,650	1,140	1,500	900	4,100
Maui Co.:					
1974	500	455	430	160	3,200
1983 <u>4/</u>	525	420	300	100	4,250
1984	550	420	300	100	3,700
Oahu:					
1974	800	135	800	560	2,550
1983	1,000	125	500	300	2,950
1984	1,025	120	400	300	2,850
Kauai Co.:					
1974	300	280	280	120	1,300
1983 <u>4/</u>	375	275	100	100	1,450
1984	375	275	100	50	1,400

1/ Farm definition revised in 1979.

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 island estimates may not add due to rounding.

4/ Revised from Data Book 1984, table 572.

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

Table 533.-- VALUE OF CROP AND LIVESTOCK SALES, BY COUNTIES
OR ISLANDS: 1974, 1983, AND 1984

[\$1,000]

County and year	All crops and livestock	Crops				Live-stock
		All crops	Sugar (unpro-cessed cane)	Pine-apples (fresh equiv.)	Other crops	
State total:						
1974	575,432	517,523	442,300	40,259	34,964	57,909
1983 <u>1/</u> ...	568,452	481,964	266,900	100,376	114,688	86,488
1984	553,909	466,884	256,200	89,928	120,756	87,025
Hawaii Co.:						
1974	197,618	182,487	165,400	-	17,087	15,131
1983 <u>1/</u>	191,824	167,951	100,000	-	67,951	23,873
1984	185,027	161,794	94,000	-	67,794	23,233
Maui Co.:						
1974	149,570	141,663	110,400	25,626	5,637	7,907
1983 <u>1/</u>	148,327	135,934	73,500	45,099	17,335	12,393
1984	145,295	132,774	72,600	42,176	17,998	12,521
Oahu:						
1974	126,425	94,322	69,800	14,633	9,889	32,103
1983 <u>1/</u>	166,542	121,431	41,000	55,277	25,154	45,111
1984	160,049	113,991	37,200	47,752	29,039	46,058
Kauai Co.:						
1974	101,819	99,051	96,700	-	2,351	2,768
1983 <u>1/</u>	61,759	56,648	52,400	(<u>2/</u>)	4,248	5,111
1984	63,538	58,325	52,400	(<u>2/</u>)	5,925	5,213

1/ Revised from Data Book 1984, table 572.

2/ Less than \$50,000.

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

Table 534.-- ACREAGE IN CROP, NUMBER OF CROP FARMS, VOLUME OF CROP MARKETINGS, AND VALUE OF CROP SALES: 1974, 1983, AND 1984

Subject	1974	1983 ^{1/}	1984
Acreeage in crop (1,000 acres):			
Sugarcane	224.2	194.3	188.4
Pineapples (land used for pineapple)	55.0	36.0	35.0
Vegetables and melons (harvested acreage) ..	3.7	5.1	5.3
Fruits, excluding pineapples	4.4	6.1	6.5
Coffee	2.9	2.0	2.0
Macadamia nuts	9.9	15.8	16.9
Miscellaneous crops	3.5	12.2	11.9
Number of crop farms:			
Sugar	527	230	185
Pineapples	20	18	18
Vegetables and melons	436	683	677
Fruits (excluding pineapples)	559	724	800
Coffee	760	610	615
Macadamia nuts	400	600	605
Taro	127	155	137
Flowers and nursery products	465	680	670
Volume of crop marketings:			
Sugar, unprocessed cane (1,000 tons)	9,083	8,926	8,454
Pineapples, fresh equivalent (1,000 tons) ..	700	722	600
Vegetables and melons (1,000 lb.)	58,154	89,400	86,770
Fruits, excluding pineapples (1,000 lb.) ...	51,527	78,900	99,430
Coffee, parchment (1,000 lb.)	1,540	2,800	1,800
Macadamia nuts, in shell (1,000 lb.)	16,370	36,420	37,700
Taro (1,000 lb.)	8,835	5,440	6,310
Value of crop sales (\$1,000):			
Sugar (unprocessed cane)	442,300	266,900	256,200
Pineapples (fresh equivalent)	40,259	100,376	89,928
Vegetables and melons	10,013	25,996	26,434
Fruits (excluding pineapples)	6,637	14,593	13,315
Coffee (parchment)	714	6,300	4,770
Macadamia nuts (in shell)	5,238	23,928	26,088
Taro	900	1,229	1,382
Field crops (not estimated separately)	3,071	6,277	5,662
Flowers and nursery products	8,211	36,165	42,905

^{1/} Revised from Data Book 1984, table 573.

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

Table 535.-- ACREAGE IN CROP, NUMBER OF CROP FARMS, VOLUME OF CROP MARKETINGS, AND VALUE OF CROP SALES, BY GEOGRAPHIC AREAS: 1984

Subject	Hawaii County	Mau County	Oahu	Kauai County
Acreage in crop (1,000 acres):				
Sugarcane	70.9	47.2	26.4	43.9
Pineapples (land used for pineapple)	-	23.2	11.8	(1/)
Vegetables and melons (harvested acreage)	2.0	1.8	1.4	0.1
Fruits, excluding pineapples	4.6	0.2	0.8	0.9
Coffee	2.0	-	-	-
Macadamia nuts	15.5	(D)	(D)	(D)
Miscellaneous crops	1.0	9.0	1.2	0.7
Number of crop farms:				
Sugar	174	3	3	5
Pineapples	-	13	2	3
Vegetables and melons	310	80	225	62
Fruits (excluding pineapples)	520	48	151	81
Coffee	615	-	-	-
Macadamia nuts	595	3	3	4
Taro	57	20	10	50
Flowers and nursery products	315	80	250	25
Volume of crop marketings:				
Sugar, unprocessed cane (1,000 tons)	3,420	2,283	1,152	1,599
Pineapples, fresh equivalent (1,000 tons)	-	419	181	(2/)
Vegetables and melons (1,000 lb.)	37,590	32,730	14,560	1,890
Fruits, excluding pineapples (1,000 lb.)	75,320	1,420	6,240	16,450
Coffee, parchment (1,000 lb.)	1,800	-	-	-
Macadamia nuts, in shell (1,000 lb.)	37,500	(D)	(D)	(D)
Taro (1,000 lb.)	795	(D)	(D)	4,350
Value of crop sales (\$1,000):				
Sugar (unprocessed cane)	94,000	72,600	37,200	52,400
Pineapples (fresh equivalent)	-	42,176	47,752	(3/)
Vegetables and melons	10,238	9,088	6,514	594
Fruits (excluding pineapples)	9,360	343	1,699	1,913
Coffee (parchment)	4,770	-	-	-
Macadamia nuts (in shell)	25,950	(D)	(D)	(D)
Taro	205	(D)	(D)	918
Field crops (not estimated separately) ...	142	3,708	122	1,690
Flowers and nursery products	16,944	4,546	20,627	788

D Withheld to avoid disclosure of individual operations.

NA Not available.

1/ Less than 500 acres.

2/ Less than 500 tons.

3/ Less than \$50,000.

Source: Hawaii Agricultural Reporting Service, Statistics of Hawaiian Agriculture 1984.

Table 536.-- VEGETABLES, MELONS, FRUITS, NUTS, COFFEE, AND TARO: 1984

[Data shown for crops with sales in excess of \$500,000]

Crop	Acreage har- vested ^{1/}	Yield per acre (1,000 lb.)	Produc- tion (1,000 lb.)	Farm price (cents per lb.)	Value of sales (\$1,000)
Vegetables and melons:					
Snap beans	170	8.2	1,390	66.0	917
Burdock	50	16.4	820	63.9	524
Chinese cabbage	400	19.8	7,910	13.1	1,036
Mustard cabbage	165	10.7	1,770	30.3	536
Head cabbage	470	28.1	13,190	15.6	2,058
Celery	115	35.2	4,050	20.0	810
Cucumbers	230	21.2	4,870	27.7	1,349
Daikon	200	15.0	3,000	17.1	513
Eggplant	60	23.0	1,380	44.2	610
Ginger root	135	37.4	5,050	45.1	2,280
Lettuce (head, semi-head)	730	14.0	10,200	24.1	2,458
Dry onions	200	13.3	2,660	61.4	1,633
Green onions	170	7.3	1,240	69.7	864
Green peppers	110	13.3	1,460	46.7	682
Watercress	35	...	1,400	83.8	1,173
Tomatoes	280	27.5	7,700	40.3	3,103
Watermelons	400	15.2	6,090	18.5	1,127
Fruits:					
Bananas	870	10.2	8,900	30.0	2,670
Guavas	610	...	6,740	9.8	661
Papayas	2,590	31.1	80,500	11.4	9,196
Macadamia nuts (1984-1985)	12,000	3.1	37,700	69.2	26,088
Coffee (1984-1985)	1,700	1.1	1,800	265.0	4,770
Taro	370	...	6,310	21.9	1,382

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

Source: Hawaii Agricultural Reporting Service, Statistics of Hawaiian Agriculture, 1984, pp. 31-68.

Note: The table corresponding to this table in the Data Book 1984 (table 575) was dated 1983 but actually contained unrevised 1982 statistics.

Table 537.-- LIVESTOCK INVENTORY, 1974, 1983, AND 1984, AND BY GEOGRAPHIC AREAS, 1984

[In thousands]

Year and geographic area	All cattle and calves <u>1/</u>	Milk cows <u>2/</u>	Hogs and pigs <u>3/</u>	Chickens (excluding broilers) <u>3/</u>	Bee colonies
1974	242	13	61	1,322	4
1983 <u>4/</u>	226	12	48	1,140	9
1984	218	12	47	1,195	9
GEOGRAPHIC AREAS: 1984					
Hawaii County	128.1	1.6	3.4	172	(NA)
Maui	33.9	1.0	7.5	(5/)	(NA)
Molokai and Lanai	4.4	-	0.7	(5/)	(NA)
Oahu	37.2	8.9	31.5	1,023	(NA)
Kauai County	14.4	0.5	3.9	(5/)	(NA)

NA Not available.

1/ As of following January 1.

2/ As of January 1.

3/ As of December 1.

4/ Revised from Data Book 1984, table 576.

5/ Kauai, Maui, and Molokai combined with Hawaii to avoid disclosure of individual operations.

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

Table 538.-- NUMBER OF LIVESTOCK OPERATIONS, VOLUME OF LIVESTOCK MARKETINGS,
AND VALUE OF LIVESTOCK SALES: 1974, 1983, AND 1984

Subject	1974	1983	1984
Number of livestock operations, Dec. 31:			
Cattle <u>1/</u>	960	950	850
Hogs	580	650	650
Milk	100	90	90
Eggs	80	55	55
Broilers	15	9	8
Honey	20	27	26
Volume of livestock marketings:			
Beef (dressed weight; 1,000 lb.) <u>2/</u>	27,743	31,985	32,116
Pork (dressed weight; 1,000 lb.)	7,953	7,693	7,878
Milk (million lb.)	137.4	143.7	146.0
Eggs (million)	207	197.3	209.7
Broilers and chickens (1,000 lb.) <u>3/</u>	5,853	8,947	8,102
Honey (1,000 lb.)	320	1,305	1,107
Value of livestock sales (\$1,000):			
Cattle <u>4/</u>	18,286	29,308	28,101
Hogs <u>4/</u>	5,822	7,775	8,088
Milk	19,387	28,869	29,288
Eggs	11,385	14,041	15,535
Broilers and chickens	2,807	5,529	5,189
Other <u>5/</u>	222	966	824

1/ As of January 1; includes beef, dairy, and dairy replacement farms.
1983 figure revised from Data Book 1984, table 578.

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; 1983
figure revised from Data Book 1984, table 578.

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

Table 539.-- NUMBER OF LIVESTOCK OPERATIONS, VOLUME OF LIVESTOCK MARKETINGS,
AND VALUE OF LIVESTOCK SALES, BY GEOGRAPHIC AREAS: 1984

Subject	Hawaii County	Maui County	Oahu	Kauai County
Number of livestock operations, Dec. 31:				
Cattle <u>1/</u>	395	215	75	165
Hogs	85	105	335	125
Milk	40	16	21	13
Eggs	25	6	20	4
Broilers	-	-	7	1
Honey	6	4	5	11
Volume of livestock marketings:				
Beef <u>2/</u> (dressed weight; 1,000 lb.)	20,906	7,686	1,392	2,132
Pork (dressed weight; 1,000 lb.)	651	1,819	4,815	593
Milk (million lb.)	(D)	(D)	112.2	(D)
Eggs (million)	(D)	(D)	177.7	(D)
Broilers and chickens <u>3/</u> (1,000 lb.)	-	-	(D)	(D)
Honey (1,000 lb.)	(D)	(D)	(D)	(D)
Value of livestock sales (\$1,000):				
Cattle <u>4/</u>	18,126	6,889	1,045	2,041
Hogs <u>4/</u>	729	1,940	4,751	668
Milk	(D)	(D)	22,485	(D)
Eggs	(D)	(D)	12,809	(D)
Broilers and chickens	-	-	(D)	(D)
Other <u>5/</u>	535	125	48	116

D Withheld to avoid disclosure of individual operations.

1/ As of January 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 Reporting System, Statistics of Hawaiian Agriculture 1984, pp. 5, 7, 10, and 71.

Table 540.-- FLOWERS AND NURSERY PRODUCTS, 1982 TO 1984, AND BY ISLANDS, 1984

Island and year	Number of farms	Area					Value of sales (\$1,000)
		Total (acres)	Green-house (1,000 sq. ft.)	Artificial shade structure (1,000 sq. ft.)	Natural shade area (acres)	Open field (acres)	
State total:							
1982	650	1,628	2,399	25,126	119	877	30,600
1983	680	1,786	2,327	26,329	106	1,022	36,165
1984	670	1,715	2,414	26,817	92	959	42,905
Islands, 1984:							
Hawaii	315	994	1,195	19,264	83	446	16,944
Kauai	25	38	13	178	4	30	788
Maui	80	277	276	905	-	250	4,546
Oahu	250	406	930	6,470	5	233	20,627

Source: Hawaii Agricultural Reporting Service, Hawaii Flowers and Nursery Products, Annual Summary (May 21, 1985).

Table 541.-- VALUE OF SALES, TOTAL AND OUT-OF-STATE, FOR FLOWERS AND NURSERY PRODUCTS: 1980 TO 1984

[\$1,000]

Subject	1980	1981	1982	1983	1984
Total sales	27,688	29,482	30,600	36,165	42,905
Anthuriums, cut	6,878	5,295	5,633	6,035	7,351
Out-of-State sales	14,082	15,976	17,909	22,000	25,610
Anthuriums, cut	6,592	6,237	6,370	7,005	7,050

Source: Hawaii Agricultural Reporting Service, Statistics of Hawaiian Agriculture 1984 pp. 20 and 28.

Table 542.-- FLOWERS AND NURSERY PRODUCTS, BY KIND OF FLOWER: 1984

[Shown for commodities with value of sales over \$500,000]

Kind of flower	Number of farms	Number sold		Value of sales (\$1,000)
		Unit	Number	
Selected cut flowers:				
Anthuriums	205	1,000 dozens	2,335	7,351
Roses	8	1,000 dozens	453	1,556
Chrysanthemums, pompon	14	1,000 bunches	457	690
Orchids:				
Cut: Dendrobium sprays	71	1,000 dozens	208	1,278
Potted: Dendrobiums	84	1,000 pots	208	854
Lei flowers:				
Carnations	20	Million blooms	33.6	1,112
Vanda, Miss Joaquim	28	Million blooms	28.0	1,090
Tuberose	6	Million blooms	28.0	720
Foliage:				
Potted, primarily for --				
Indoor or patio use	85	...	(NA)	14,050
Landscape use	45	...	(NA)	1,245
Unfinished stock (for further				
growing on)	20	...	(NA)	1,525
Cut: Ti leaves	54	Million leaves	13.3	507
Potted flowering plants:				
Chrysanthemums	10	1,000 pots	278	957
Ornamentals and trees	42	...	(NA)	915

NA Not available.

Source: Hawaii Agricultural Reporting Service, Hawaii Flowers and Nursery Products, Annual Summary (May 22, 1985).

Table 543.-- MARKET SUPPLY OF SPECIFIED FOODS: 1974, 1983, AND 1984

Commodity and year	Total market supply <u>1/</u>			Per capita market supply <u>2/</u>	Percent from Hawaii
	Total	Inship-ment	Hawaii		
Fresh market fruits:					
1974	63,293	41,524	21,769	68.5	34.4
1983 <u>3/</u>	84,546	67,276	17,270	75.8	20.4
1984	91,343	64,318	27,025	80.0	29.6
Fresh market melons:					
1974	9,939	8,314	1,625	10.8	16.3
1983 <u>3/</u>	18,402	14,532	3,870	16.5	21.0
1984	19,636	13,531	6,105	17.2	31.1
Fresh market vegetables:					
1974	128,342	73,943	54,399	138.9	42.4
1983 <u>3/</u>	190,797	107,316	83,481	171.1	43.8
1984	193,463	114,508	78,955	169.5	40.8
Beef and veal: <u>4/</u>					
1974	83,340	55,873	27,467	90.2	33.0
1983 <u>3/</u>	99,799	67,814	31,985	89.5	32.0
1984	104,388	72,272	32,116	91.5	30.8
Pork: <u>4/</u>					
1974	29,772	21,819	7,953	32.2	26.7
1983 <u>3/</u>	36,000	28,307	7,693	32.3	21.4
1984	37,492	29,614	7,878	32.9	21.0
Chickens:					
1974	24,834	18,981	5,853	26.9	23.6
1983 <u>3/</u>	35,879	26,932	8,947	32.2	24.9
1984	37,887	29,785	8,102	33.2	21.4
Eggs:					
1974	18,933	1,633	17,300	20.5	91.4
1983 <u>3/</u>	21,600	5,158	16,442	19.4	76.1
1984	22,285	4,810	17,475	19.5	78.4

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.

3/ Revised from Data Book 1984, table 582.

4/ Carcass weight equivalent.

Source: Hawaii Agricultural Reporting Service, Statistics of Hawaiian Agriculture (annual); Hawaii State Department of Planning and Economic Development, The Population of Hawaii, 1970-1984: Technical Supplement (Statistical Memorandum 85-3), May 8, 1985, as revised.

Table 544.-- AGRICULTURAL, URBAN AND OTHER LAND USE, FOR THE SIX LARGEST ISLANDS: 1978-1980

[Estimated area in thousands of acres, as measured from 1:24,000-scale quadrangle maps. These data differ somewhat from the official statistics compiled from surveys of farmers and ranchers and published in Statistics of Hawaiian Agriculture (annual), cited elsewhere in this section. For greater detail, see Data Book 1984, table 584]

Land use	Six-island total	Hawaii	Maui	Lanai	Molokai	Oahu	Kauai
Total land area ..	4,034.70	2,573.40	465.80	90.50	165.80	385.30	353.90
Agriculture	1,442.20	960.17	216.39	16.92	86.23	77.55	84.94
Sugarcane	251.05	104.13	54.92	-	-	38.68	53.32
Pineapple	44.54	-	11.11	16.82	3.61	12.98	.02
Field crops	17.88	11.06	2.40	-	1.27	2.82	.33
Orchards	35.68	30.08	2.42	-	.08	1.51	1.59
Wetland crops .....	.67	.13	.15	-	.01	.07	.31
Aquaculture .....	.58	.12	.02	-	-	.35	.09
Livestock	1,091.80	814.65	145.37	.10	81.26	21.14	29.28
Feedlot	4.77	1.54	1.97	-	-	1.00	.26
Grazing	1,086.09	813.02	142.55	.10	81.26	20.14	29.02
Other <u>1/</u> .....	.94	.09	.85	-	-	-	-
Urban <u>2/</u>	163.61	36.22	18.91	4.61	4.11	87.43	12.33
Built-up	107.55	15.90	9.64	.33	1.29	71.60	8.79
Vacant	56.06	20.32	9.27	4.28	2.82	15.83	3.54
In agric. use ...	10.06	2.01	1.56	.31	.43	4.48	1.27
Balance <u>3/</u>	2,428.89	1,577.01	230.50	68.97	75.46	220.32	256.63

1/ Unidentified livestock, also including grazing.

2/ Includes Rural District lands.

3/ Includes Conservation District lands.

Source: Hawaii State Department of Agriculture, Annual Report, Fiscal Year 1983, p. 27.

Table 545.-- 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]

Land evaluation rating	Six-island total	Hawaii	Maui	Lanai	Molokai	Oahu	Kauai
Total area	4,042	2,579	466	90	166	386	355
90 or more	66	-	17	3	7	39	-
80 or more	203	17	56	14	23	72	20
70 or more	392	112	76	15	29	99	61
60 or more	604	237	112	16	38	121	80
50 or more	825	350	176	19	48	133	99
40 or more	1,134	577	216	25	58	151	106
30 or more	1,738	1,121	245	26	61	162	122
20 or more	2,230	1,402	300	75	112	192	149

Source: Land Evaluation and Site Assessment Commission, A Progress Report of the State of Hawaii Land Evaluation and Site Assessment System to the Thirteenth Legislature, State of Hawaii (March 1985), p. 29.

Table 546.-- FISHPONDS: PRE-CONTACT AND 1975

Year and condition	Number
Prehistoric royal Hawaiian fishponds	335
Surviving fishponds, 1975	157
Almost completely destroyed or altered	101

Source: Russell A. Apple and William K. Kikuchi, Ancient Hawaii Shore Zone Fishponds (U.S. Department of the Interior, National Park Service, Office of the State Director, July 1975), p. 65.

Table 548.-- FERTILIZER CONSUMPTION BY TYPE: 1982 TO 1984

[In tons. For years ended June 30]

Year	Total	Mixtures <u>1/</u>	Direct application materials	
			Primary nutrient <u>2/</u>	Secondary and micro-nutrient
1982	156,439	100,797	54,627	1,015
1983 <u>3/</u>	138,343	97,360	40,114	869
1984	128,348	83,544	44,108	696

1/ Fertilizers having various combinations of primary nutrients.

2/ The primary nutrients are nitrogen, phosphate, and potash.

3/ Revised from Data Book 1984, table 585.

Source: Hawaii Agricultural Reporting Service, Statistics of Hawaiian Agriculture 1984, p. 95.

Table 549.-- SALES OF AQUACULTURAL PRODUCTS, BY ISLANDS: 1982

Subject	State total	Oahu	Other islands
Number of farms	13	9	4
Water surface area (acres) ...	189	155	34
Sales (\$1,000)	884	755	129

Source: U.S. Bureau of the Census, 1982 Census of Agriculture, Geographic Area Series, Hawaii, AC82-A-11 (September 1984), Chapter 2, table 21.

Table 550.-- FRESHWATER PRAWN FARMS, BY TYPE OF OPERATION AND ISLAND: 1979 TO 1984

[As of December 31]

Operation and island	1979	1980	1981	1982	1983	1984
All prawn farms	19	24	21	22	21	17
Type of operation:						
Full-time	7	8	8	8	7	7
Part-time	12	16	13	14	14	10
Island:						
Hawaii	-	4	4	4	3	3
Maui	-	-	-	-	1	1
Molokai	1	1	1	1	-	-
Oahu	17	16	13	13	13	10
Kauai	1	3	3	4	4	3

Source follows next table.

Table 551.-- FRESHWATER PRAWN ACREAGE, PRODUCTION, AND VALUE: 1979 TO 1984

Year	Acres of prawn ponds ^{1/}	Production (1,000 lb.)	Value (\$1,000)	Wholesale price per pound (dollars)
1979	275	205.0	787.3	3.84
1980	310	300.0	1,125.0	3.75
1981	260	240.0	1,031.0	4.30
1982	306	316.6	1,553.0	4.90
1983	239	268.5	1,347.3	5.01
1984	246	317.7	1,706.6	5.37

^{1/} As of December 31.

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

Table 552.-- AQUACULTURE ACREAGE, PRODUCTION, AND VALUE, BY TYPE:
1979 TO 1984

Subject and year	All types	Fresh-water prawns	Fish-ponds	Post-larvae <u>1/</u>	Other species <u>2/</u>
Acreage:					
1979	493	275	192	1	25
1980	575	310	205	2	58
1981	547	260	199	2	86
1982	643	306	242	2	93
1983	496	239	217	2	38
1984	452	246	180		26
Production (1,000 lbs.): <u>3/</u>					
1979	246.4	205.0	20.0	...	16.4
1980	320.0	300.0	20.0	...	31.0
1981	338.5	240.0	23.1	...	75.4
1982	551.2	316.6	33.8	...	200.8
1983	344.9	268.5	40.5	...	35.9
1984	440.7	317.8	44.0		78.9
Value (\$1,000):					
1979	1,531.3	787.3	22.0	500.0	222.0
1980	1,655.0	1,125.0	20.0	450.0	60.0
1981	1,868.5	1,031.0	23.0	610.0	204.5
1982	2,624.9	1,553.0	74.8	162.0	835.1
1983	1,604.8	1,347.3	97.5	(NA)	160.0
1984	2,299.7	1,706.6	98.0	77.0	418.1

NA Not available.

1/ Juvenile freshwater prawns and marine shrimp.

2/ Oysters, brine shrimp, carp and Chinese catfish, catfish, koi, tilapia, tropical fish and aquarium plants, and trout.

3/ Excludes items not sold by weight: post-larvae, brine shrimp, koi, tropical fish, and aquarium plants.

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