

AGRICULTURE

This section presents statistics on agricultural land, farms, and specific crops, livestock, dairy products, and poultry.

There were 4,100 farms in Hawaii as of 1972, with a total area of 2,300,000 acres. Both figures have declined appreciably during the past decade. The value of crop sales in 1972 was \$180 million, about 35 percent more than in 1962. Livestock sales amounted to \$46 million, or 35 percent more than the 1962 level. Combined crop and livestock sales ranged from \$30 million in Kauai County to \$72 million on the Big Island. Major crops in 1972 were sugar (\$117 million in sales, up 35 percent over the decade), pineapple (\$38 million, or 18 percent over the 1962 total), and vegetables and melons (\$7 million). Diversified agriculture, defined as all crops other than sugar and pineapple, rose from \$14 million in 1962 to \$25 million in 1972, or approximately 76 percent. More than 440 farms sold \$5.1 million of flowers and nursery products, chiefly anthuriums and orchids. Important products of livestock farms as of 1972 included cattle (\$17 million in sales), milk (\$14 million), and eggs (\$8 million). Coffee and rice production have declined sharply since the early years of the century, but macadamia nuts have increased rapidly. In 1972, Hawaii produced 40 percent of the fresh market vegetables consumed locally, 37 percent of the fresh market fruits, none of the butter and oleomargarine, all of the milk, 44 percent of the red meat, 20 percent of the poultry meat, and 94 percent of the eggs.

Important sources for data on agriculture include the *United States Census of Agriculture* for 1969 and earlier years, the annual report on *Statistics of Hawaiian Agriculture* issued by the Hawaii Crop and Livestock Reporting Service, and publications of the Hawaii Agricultural Experiment Station, Hawaiian Sugar Planters' Association, and Pineapple Growers Association of Hawaii. National statistics appear in Section 23 of the *Statistical Abstract of the United States: 1973*.

Table 234.—AGRICULTURAL SUMMARY: 1900 TO 1969

Year	Number of farms, by size (in acres)					Farm acreage (thousands)				
	All farms	1 to 9	10 to 49	50 to 259	260 and over	Total acreage	In farms of 260 or more acres	Harvested cropland	Irrigated	
1900	2,273	1,209	656	230	178	2,610	2,568	(NA)	724.6	
1910	4,320	3,787		533		2,591	(NA)	(NA)	(NA)	
1920	5,284	2,734	1,959	374	217	2,702	(NA)	(NA)	(NA)	
1930	5,955	3,407	2,051	322	175	2,815	2,727	(NA)	(NA)	
1940	4,995	2,870	1,691	263	171	2,486	2,411	184.6	132.7	
1950	5,750	3,558	1,669	339	184	2,432	2,350	159.5	117.4	
1959	6,242	3,569	1,988	432	253	2,461	2,364	176.4	141.2	
1964	4,864	2,603	1,594	416	251	2,354	2,266	167.5	143.9	
1969	3,896	2,024	1,281	389	202	2,058	1,982	178.7	145.6	
Year	Average age of farm operators (years)	Tenant farmers			Regular hired workers ¹	Average value of land and buildings		Market value of agricultural products sold		
		Percent of all operators	Percent of farm acreage	Per farm (\$1,000)		Per acre (dollars)	Total (\$1,000)	Average per farm (\$1,000)	Percent of farms over \$2,500	
1900	(NA)	58.2	1.5	(NA)	26.4	23	(NA)	(NA)	(NA)	
1910	(NA)	71.9	(NA)	(NA)	19.2	32	(NA)	(NA)	(NA)	
1920	(NA)	70.8	(NA)	(NA)	24.4	48	(NA)	(NA)	(NA)	
1930	(NA)	72.5	21.7	(NA)	18.8	40	(NA)	(NA)	(NA)	
1940	49.9	70.6	4.6	(NA)	22.6	45	(NA)	(NA)	(NA)	
1950	47.8	57.5	1.7	21,597	34.0	80	164,554	28.6	(NA)	
1959	49.5	38.7	1.6	14,403	(NA)	(NA)	152,334	24.4	(NA)	
1964	51.0	41.1	2.6	12,375	98.9	205	187,504	38.5	46.4	
1969	53.1	38.1	18.2	13,200	156.8	297	287,939	73.9	55.6	
Year	Livestock and poultry on farms (thousands)				Quantity of crops harvested					
	Cattle and calves	Hogs and pigs	Sheep and lambs	Chickens 4 mo. old and over	Sugar-cane (1,000 tons)	Pineapples (1,000 tons)	Rice (1,000 lb.)	Coffee (1,000 lb. ²)	Macadamia nuts (1,000 lb. ³)	
1900	103	8	102	32	2,239	(NA)	33,442	(NA)	(NA)	
1910	145	20	77	64	4,240	(NA)	41,828	9,834	(NA)	
1920	137	24	43	65	4,863	150	29,572	19,884	(NA)	
1930	138	31	32	271	7,471	355	7,582	19,950	5	
1940	139	32	26	273	8,535	614	1,902	8,547	181	
1950	156	65	14	472	7,889	655	658	4,648	704	
1959	205	78	12	806	9,391	1,010	287	10,005	2,015	
1964	218	68	12	1,045	10,741	924	—	9,679	7,015	
1969	233	52	(D)	1,072	11,258	946	—	2,755	10,323	

D Data withheld to avoid disclosure of information for individual farms.

NA Not available.

¹Working 150 days or more. Data for 1964 and 1969 exclude farms with sales less than \$2,500 (which accounted for 152 hired workers in 1964).

²Parchment.

³Husked, unshelled.

Source: U.S. Bureau of the Census, *U.S. Census of Agriculture: 1959*, Vol. I, Part 50; *U.S. Census of Agriculture: 1964*, Vol. I, Part 50; *U.S. Census of Agriculture: 1969*, Vol. I, Part 50.

Table 235.—AGRICULTURAL SUMMARY, BY COUNTIES: 1969

County	Number of farms, by size (in acres)					Farm acreage (thousands)				
	All farms	1 to 9	10 to 49	50 to 259	260 and over	Total acreage	In farms of 260 or more acres	Harvested cropland	Irrigated	
State total	3,896	2,024	1,281	389	202	2,058	1,982	178.7	145.6	
Hawaii	2,241	1,066	832	227	116	1,203	1,158	64.2	9.1	
Honolulu	768	555	153	32	28	147	138	31.2	41.1	
Kauai	375	185	125	47	18	273	265	28.3	42.5	
Maui	512	218	171	83	40	435	420	55.0	52.8	
County	Average age of farm operators (yrs.)	Tenant farmers		Regular hired workers ¹	Average value of land and buildings		Market value of agricultural products sold			
		Percent of all operators	Percent of farm acreage		Per farm (\$1,000)	Per acre (dollars)	Total (\$1,000)	Average per farm (\$1,000)	Percent of farms over \$2,500	
State total	53.1	38.1	18.2	13,200	156.8	297	287,939	73.9	55.6	
Hawaii	53.6	38.9	16.7	3,752	90.0	168	85,833	38.3	52.9	
Honolulu	52.1	43.6	29.9	2,944	281.7	1,474	87,025	113.3	70.1	
Kauai	52.3	37.6	30.5	2,606	224.7	308	41,596	110.9	49.3	
Maui	52.5	26.5	10.3	3,898	212.1	250	73,485	143.5	50.0	
County	Livestock and poultry on farms (thousands)			Market value of machinery and equipment ² (\$1,000)	Quantity of crops harvested					
	Cattle and calves	Hogs and pigs	Chickens 3 mo. old and over		Coffee (1,000 lb. ³)	Macadamia nuts (1,000 lb. ⁴)	Papayas (1,000 lb.)	Pineapples (1,000 tons)	Sugarcane (1,000 tons)	
State total	233	52.3	1,072	90,847	2,755	10,323	20,216	946	11,258	
Hawaii	133	6.3	149	20,634	} 17	{ 10,197	17,174	—	4,599	
Honolulu	35	35.6	773	20,997			18	910	283	1,910
Kauai	16	3.5	45	22,921			80	688	35	2,551
Maui	48	6.9	104	26,295			28	1,444	627	2,198

¹Working 150 days or more. Limited to farms with sales of \$2,500 and over.

²Limited to farms with sales of \$2,500 or more.

³Parchment.

⁴Husked unshelled.

Source: U.S. Bureau of the Census, *U.S. Census of Agriculture: 1969*, Vol. I, Part 50.

Table 236.—NUMBER OF FARMS, FARM ACREAGE, AND VALUE OF CROP AND LIVESTOCK SALES: 1946 TO 1972

Year	Number of farms	Area in farms ¹ (1,000 acres)	Value of sales (\$1,000)				
			Crops and livestock	Sugar (unprocessed cane)	Pineapples (fresh equivalent)	Other crops	Livestock
1946	5,600	2,570	(NA)	(NA)	(NA)	7,835	15,089
1950	6,000	2,540	(NA)	(NA)	(NA)	8,632	19,675
1955	6,500	2,580	152,379	81,800	34,000	11,176	25,403
1960	6,600	2,600	149,893	67,200	36,100	13,038	33,555
1961	6,200	2,550	160,376	78,600	34,800	12,580	34,396
1962	5,700	2,500	167,293	86,800	32,200	14,001	34,292
1963	5,200	2,450	190,672	108,900	34,400	13,050	34,322
1964	5,100	2,450	172,859	90,500	31,800	14,952	35,607
1965	5,000	2,400	183,154	97,500	35,200	14,849	35,605
1966	4,900	2,400	193,810	105,200	35,100	16,108	37,402
1967	4,800	2,360	191,994	106,000	32,200	16,335	37,459
1968	4,700	2,330	200,334	111,200	33,200	18,049	37,885
1969	4,600	2,310	197,176	104,900	33,500	19,288	39,487
1970	4,500	2,300	210,881	110,600	37,100	21,533	41,648
1971	4,300	2,300	219,603	115,800	38,500	22,232	43,071
1972	4,100	2,300	226,092	117,200	38,100	24,624	46,168
COUNTIES: 1972							
Hawaii	2,200	1,340	72,249	44,100	—	12,895	15,254
Honolulu	840	152	62,795	18,500	13,700	6,451	24,144
Kauai	400	282	29,567	25,400	400	1,556	2,211
Maui	660	526	61,481	29,200	24,000	3,722	4,559

NA Not available.

¹Includes land not in crop and pasture, such as farm houselots, roads, woodlots, etc.

Source: Hawaii Crop and Livestock Reporting Service, *Statistics of Hawaiian Agriculture* (Hawaii State Department of Agriculture, annual), and records.

Table 237.—ACREAGE IN CROP AND PASTURE, NUMBER OF CROP FARMS, VOLUME OF CROP MARKETINGS, AND VALUE OF CROP SALES, BY COUNTY: 1962 AND 1972

Subject	State total		Counties, 1972			
	1962	1972	Hawaii	Kauai	Maui	Honolulu
Acreage (1,000 acres):						
Sugarcane	228.9	229.6	104.5	46.9	45.5	32.7
Pineapples	72	58	—	1.1	41.5	15.5
Vegetables and melons	3.3	2.9	1.0	0.1	0.7	1.1
Fruits (excluding pineapples)	2.7	3.5	2.5	0.2	0.3	0.5
Coffee	4.8	3.0	3.0	—	—	—
Macadamia nuts	4.1	9.3	9.2	(W)	(W)	(W)
Number of crop farms:						
Sugar	845	577	565	6	3	3
Pineapples	116	36	—	14	20	2
Vegetables and melons	786	412	135	34	65	178
Fruits (excluding pineapples)	671	417	220	41	33	123
Coffee	964	710	710	—	—	—
Macadamia nuts	237	326	320	4	1	1
Taro	187	123	36	49	36	2
Volume of crop marketings:						
Sugar (unprocessed cane; 1,000 tons)	9,813	9,929	4,186	2,072	2,258	1,413
Pineapples (fresh equivalent; 1,000 tons)	890	871	Not available by county			
Vegetables and melons (1,000 lb.)	51,296	49,820	16,695	1,885	15,555	15,685
Fruits (excluding pineapples; 1,000 lb.) ¹	28,100	37,993	26,340	1,760	1,030	4,935
Coffee (parchment; 1,000 lb.)	13,392	3,200	3,200	—	—	—
Macadamia nuts (in shell; 1,000 lb.)	5,182	14,155	14,086	60	9	—
Taro (1,000 lb.)	10,055	9,020	2,160	5,300	1,480	80
Value of crop sales (\$1,000):						
Sugar (unprocessed cane)	86,800	117,200	44,100	25,400	29,200	18,500
Pineapple (fresh equivalent)	32,200	38,100	—	400	24,000	13,700
Vegetables and melons	4,948	7,439	2,267	415	1,826	2,931
Fruits (excluding pineapples)	1,608	4,643	3,324	257	380	682
Coffee (parchment)	2,985	1,104	1,104	—	—	—
Macadamia nuts (in shell)	954	3,157	3,141	(W)	(W)	(W)
Taro	574	758	202	441	108	7
Horticultural specialties	2,400	5,101	1,927	70	530	2,574
Other crops	532	1,691	199	357	878	257

W Withheld to avoid disclosure of individual operations.

¹Passion fruit and guavas excluded in county totals.

Source: Hawaii Crop and Livestock Reporting Service, *Statistics of Hawaiian Agriculture* (Hawaii State Department of Agriculture, annual).

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 Table 238.—VEGETABLES, MELONS, FRUITS, AND TARO: 1972

Crop ¹	Acreage harvested	Yield per acre (1,000 lb.)	Production (1,000 lb.)	Farm price (cents per lb.)	Value of sales (\$1,000)
Vegetables and melons:					
Snap beans	80	12.2	980	38.7	379
Head cabbage	420	26.0	10,900	8.2	894
Cucumbers	165	23.0	3,800	17.1	650
Chinese cabbage	220	21.3	4,695	8.3	390
Daikon	230	13.8	3,175	8.3	264
Green onions	75	14.7	1,105	28.7	317
Lettuce (head or semi-head)	380	12.6	4,800	16.5	792
Tomatoes	150	22.0	3,300	23.8	785
Watercress	30	72.3	2,168	18.3	397
Watermelons	175	12.6	2,200	11.7	257
Fruits (excluding pineapples):					
Bananas	720	8.3	6,000	12.0	720
Papayas ²	985	26.1	25,735	15.1	3,423
Taro	455	...	9,020	8.4	758

¹List limited to crops with sales of \$250,000 or more.

²Production and value of sales based on fresh weight; farm price based on fresh market fresh weight.

Source: Hawaii Crop and Livestock Reporting Service, *Statistics of Hawaiian Agriculture 1972* (Hawaii State Department of Agriculture, 1973).

Table 239.—NUMBER OF LIVESTOCK FARMS, VOLUME OF LIVESTOCK MARKETINGS,
AND VALUE OF LIVESTOCK SALES, BY COUNTY: 1962 AND 1972

Subject	State total		Counties, 1972			
	1962	1972	Hawaii	Kauai	Maui	Honolulu
Number of livestock farms:						
Cattle (include beef and dairy)	1,740	970	410	160	260	140
Hogs	1,510	480	85	50	80	265
Milk	230	100	35	10	25	30
Eggs	780	90	40	10	15	25
Broilers	40	16	1	2	1	12
Honey	48	21	4	3	5	9
Volume of livestock marketings:						
Beef (1,000 lb. dressed weight)	24,345	32,183	20,167	2,436	7,133	2,447
Pork (1,000 lb. dressed weight)	8,052	8,357	1,091	385	1,649	5,232
Milk (million lb.)	125	134.6	(W)	(W)	(W)	113.7
Eggs (million)	158	203	26.0	7.1	11.2	159.0
Broilers and chickens (1,000 lb. ready-to-cook weight)	(NA)	6,359	(W)	(W)	(W)	5,689
Value of livestock sales (\$1,000):						
Cattle ¹	9,357	16,557	10,674	1,103	3,651	1,129
Hogs ¹	3,719	4,524	552	238	897	2,837
Milk	10,774	14,494	(W)	(W)	(W)	11,995
Eggs	7,886	7,951	1,166	852		5,933
Broilers and chickens	2,394	2,540	(W)	(W)	(W)	2,224
Others	124	102	47	18	11	26

NA Not available.

W Withheld to avoid disclosure of individual operations.

¹Excludes interfarm sales.

Source: Hawaii Crop and Livestock Reporting Service, *Statistics of Hawaiian Agriculture* (Hawaii State Department of Agriculture, annual).

**Table 240.—FLOWERS AND NURSERY PRODUCTS, BY ISLAND: 1970 TO 1972**

Area and year	Number of farms	Area				Wholesale value (\$1,000)	Out-of-state shipments (\$1,000)	
		Total (acres)	Greenhouse (1,000 square feet)	Artificial shade structure (1,000 square feet)	Natural shade area (acres)			Open field (acres)
State total:								
1970	459	807	116	5,177	144	542	4,225	2,498
1971	449	743	149	5,468	136	479	4,484	2,719
1972	446	757	172	6,665	123	477	5,101	3,090
Islands, 1972:								
Hawaii	226	381	72	4,797	114	155	1,927	(NA)
Kauai	18	18	2	93	2	14	70	(NA)
Maui	54	52	55	120	1	47	530	(NA)
Oahu	148	306	43	1,655	6	261	2,574	(NA)

NA Not available.

Source: Hawaii Crop and Livestock Reporting Service, *Hawaii Flowers and Nursery Products* (August 14, 1973).

Table 241.—FLOWERS AND NURSERY PRODUCTS, BY KIND OF FLOWER: 1972

Kind of flower	Number of farms	Number of flowers sold		Wholesale value (\$1,000)
		Unit	Number	
Cut flowers:				
Anthuriums	205	1,000 dozens	843	1,150
Birds of paradise	33	Do.	21	39
Carnations	12	Do.	20	27
Chrysanthemums, exc. pompon	15	Do.	18	54
Gingers	33	Do.	(NA)	76
Roses	16	Do.	283	205
Gladiolus, lilies, and others	35	Do.	(NA)	130
Chrysanthemums, pompon	26	1,000 bunches	442	214
Cut orchids:				
Cattleyas	43	1,000 flowers	71	38
Cymbidiums	24	Do.	339	115
Vanda hybrids and others	41	Do.	(NA)	43
Dendrobiums, sprays	38	1,000 dozens	14	42
Lei flowers:				
Carnations	23	Million flowers	16.8	329
Vandas Miss Joaquin	61	Do.	60.9	498
Plumerias	12	Do.	8.2	115
Tuberoses	10	Do.	4.5	48
Pikake	7	1,000 strands	103	89
Cut foliage:				
Ti leaves	33	Million leaves	18.1	186
Crotons, lycopodiums, and other greens	27	Do.	10.0	64
Potted flowers:				
Chrysanthemums	14	1,000 pots	98	178
Orchids	75	Do.	158	357
Other nursery products ¹	91	...	(NA)	1,104

NA Not available.

¹Ornamental plants, trees, bedding plants, potted foliage, and potted flowers not elsewhere classified.

Source: Hawaii Crop and Livestock Reporting Service, *Hawaii Flowers and Nursery Products* (August 14, 1973).

✓ **Table 242.—COMMERCIAL LIMU HARVEST: 1963 TO 1973**

Year	Pounds taken	Pounds sold	Value (dollars)
1963	4,738	4,738	1,729
1964	12,271	12,266	2,956
1965	3,230	3,230	700
1966	—	—	—
1967	2,421	2,421	542
1968	355	355	112
1969	74,139	74,012	19,128
1970	49,427	49,302	16,166
1971	88,813	88,813	28,366
1972	96,563	96,460	34,838
1973	97,140	96,987	35,909

Source: Hawaii State Department of Land and Natural Resources, Division of Fish and Game, records.

✓ **Table 243.—MARKET SUPPLY OF SPECIFIED FOODS: 1962 TO 1972**
(Eggs in 1,000 dozens; other foods in 1,000 pounds)

Year and source	Fresh market vegetables	Melons	Miscellaneous crops ¹	Fresh market fruits ²	Butter and oleomargarine	Milk ³	Red meat ⁴	Poultry meat ⁵	Eggs, shell
1962, total	90,937	5,856	57,040	39,572	7,691	125,000	68,839	14,573	14,805
Inshipments	42,813	2,796	57,040	19,540	7,691	—	36,392	9,346	1,639
From Hawaii	48,124	3,060	—	20,032	—	125,000	32,447	5,227	13,166
Percent	52.9	52.3	0	50.6	0	100.0	47.1	35.9	88.9
1971, total	112,373	6,810	75,273	48,440	9,039	131,600	91,829	26,132	18,287
Inshipments	69,510	4,215	75,273	31,329	9,039	—	49,417	20,264	787
From Hawaii	42,863	2,595	—	17,111	—	131,600	42,412	5,868	17,500
Percent	38.1	38.1	0	35.3	0	100.0	46.2	22.5	95.7
1972, total	111,583	9,795	64,157	51,758	8,007	134,600	93,152	32,276	18,078
Inshipments	67,524	7,595	64,157	32,729	8,007	—	52,612	25,917	1,178
From Hawaii	44,059	2,200	—	19,029	—	134,600	40,540	6,359	16,900
Percent	39.5	22.5	0	36.8	0	100.0	43.5	19.7	93.5

¹Chiefly rice (54,636 in 1962, 73,289 in 1971, and 62,343 in 1972).

²Excludes pineapple, fruits not estimated separately, and papaya outshipments to Mainland.

³Amount sold; excludes milk consumed on farms.

⁴Dressed weight

⁵Ready-to-cook.

Source: Hawaii Crop and Livestock Reporting Service, *Statistics of Hawaiian Agriculture* (Hawaii State Department of Agriculture, annual).

Table 244.—LAND USE PRODUCTIVITY RATINGS FOR MAJOR ISLANDS: 1968

Island and land use	Agricultural productivity rating (acres)					
	Total ¹	A (very good)	B (good)	C (moderate)	D (poor)	E (very poor)
Six Islands	4,050,176	68,037	128,833	312,558	783,817	2,668,515
Island:						
Kauai	354,112	10,038	30,276	28,458	30,525	249,276
Oahu	388,928	24,584	32,286	21,986	19,728	228,218
Molokai	167,104	702	—	4,519	40,405	120,309
Lanai	89,280	—	—	4,849	20,219	63,777
Maui	466,432	32,713	20,067	38,467	99,806	268,726
Hawaii	2,584,320	—	46,204	214,279	573,134	1,738,209
Land use:						
Pineapple	69,276	—	16,204	22,131	29,038	1,903
Sugar cane	262,377	65,776	71,354	82,760	40,230	2,257
Diversified agriculture	33,569	2,261	6,497	14,218	6,205	4,388
Grassland grazing	492,905	—	22,905	116,641	175,186	178,173
Wooded grazing	657,629	—	4,313	37,776	175,767	439,773
Idle agricultural land	13,585	—	994	3,139	4,545	4,907
Forest	289,039	—	1,729	7,864	58,877	220,569
Forest reserve	1,190,954	—	1,603	14,596	237,389	937,366
Recreation	17,248	—	798	657	4,630	11,163
Game management	87,585	—	—	2,302	17,565	67,718
National park	229,423	—	—	5,191	26,554	197,678
Military	38,048	—	1,637	3,280	3,624	29,507
Undeveloped subdivision	76,814	—	799	2,003	4,198	69,814
Pali and barren land	503,308	—	—	—	9	503,299
Quarry	1,462	}				
Water	8,063					
Urban: military	17,658					
Urban: civilian	61,233					
			Not rated for productivity			

¹Includes quarry, water, and urban, which were not rated for productivity.

Source: Arthur Y. Ching and Tamotsu Sahara, *Land Use and Productivity Rating, State of Hawaii, 1968*, L.S.B. Circular No. 15 (University of Hawaii, Land Study Bureau, July 1969), pp. 20-21.

244A. FOREST RESERVE, TREES PLANTED, AND FOREST FIRES: 1904-1974