

SECTION 18

AGRICULTURE

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

There were 4,300 farms in Hawaii as of 1971, with a total area of 2,340,000 acres. Both figures have declined appreciably during the past decade. The value of crop sales in 1971 was \$176 million, about 39 percent more than in 1961. Livestock sales amounted to \$43 million, or 26 percent more than the 1961 level. Combined crop and livestock sales ranged from \$28 million in Kauai County to \$68 million on the Big Island.

Major crops in 1971 were sugar (\$116 million in sales), pineapple (\$39 million), and vegetables and melons (\$7 million). Important products of livestock farms as of 1971 included cattle (\$15.6 million in sales), milk (\$13.2 million), and eggs (\$7.5 million). Coffee and rice production have declined sharply since the early years of the century, but macadamia nuts have increased rapidly.

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: 1972*.

Table 213.—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 214.—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	2,737	10,197	17,174	—	4,599	
Honolulu	35	35.6	773	20,997	} 17	{ 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 215.—NUMBER OF FARMS, FARM ACREAGE, AND VALUE OF CROP AND LIVESTOCK SALES
1961 TO 1971**

Area and year	Number of farms	Area in farms ¹ (1,000 acres)	Value of sales (\$1,000)		
			Crops and livestock	Crops	Livestock
The State:					
1961	6,200	2,550	160,330	125,980	34,350
1962	5,700	2,500	167,255	133,001	34,254
1963	5,200	2,450	190,659	156,350	34,309
1964	5,100	2,450	172,854	137,252	35,602
1965	5,000	2,400	183,242	147,549	35,693
1966	4,900	2,400	193,663	156,408	37,255
1967	4,800	2,360	192,456	154,606	37,850
1968	4,700	2,350	200,824	162,518	38,306
1969	4,600	2,350	197,686	157,785	39,901
1970	4,500	2,340	211,545	169,472	42,073
1971	4,300	2,340	218,721	175,576	43,145
Hawaii County:					
1961	3,400	1,491	40,314	32,558	7,756
1971	2,500	1,365	68,374	54,541	13,833
Kauai County:					
1961	550	309	24,967	22,331	2,636
1971	350	284	28,425	26,088	2,337
Maui County:					
1961	1,000	584	44,623	40,593	4,030
1971	600	538	60,082	55,276	4,806
Oahu:					
1961	1,250	166	50,426	30,498	19,928
1971	850	156	61,840	39,671	22,169

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).

Table 216.—ACREAGE IN CROP AND PASTURE, NUMBER OF CROP FARMS, VOLUME OF CROP MARKETINGS, AND VALUE OF CROP SALES, BY COUNTY: 1961 AND 1971

Subject	State total		Counties, 1971			
	1961	1971	Hawaii	Kauai	Maui	Honolulu
Acres (1,000 acres):						
Sugarcane	227	237.2	106.8	49.8	45.7	34.9
Pineapples	74	64	—	2.1	44.8	17.4
Vegetables and melons	3.4	2.9	1.1	0.1	0.6	1.1
Fruits (excluding pineapples)	2.7	3.2	2.2	0.2	0.3	0.5
Coffee	5.2	3.4	3.4	—	—	—
Macadamia nuts	3.9	9.1	9.0	(W)	(W)	(W)
Pasture	1,250	1,286	796	127	324	39
Number of crop farms:						
Sugar	959	612	598	7	3	4
Pineapples	129	36	—	14	20	2
Vegetables and melons	762	419	144	32	54	189
Fruits (excluding pineapples)	692	419	208	47	51	113
Coffee	1,028	720	720	—	—	—
Macadamia nuts	216	295	290	3	1	1
Taro	202	128	35	54	37	2
Volume of crop marketings:						
Sugar (unprocessed cane; 1,000 tons)	9,595	10,811	4,493	2,251	2,326	1,741
Pineapples (fresh equivalent; 1,000 tons)	858	901	Not available by county			
Vegetables and melons (1,000 lb.)	48,257	48,615	18,620	2,010	13,525	14,460
Fruits (excluding pineapples; 1,000 lb.)	30,623	28,330	20,605	1,730	845	5,150
Coffee (parchment; 1,000 lb.)	8,432	4,000	4,000	—	—	—
Macadamia nuts (in shell; 1,000 lb.)	3,751	11,400	11,360	30	(W)	(W)
Taro (1,000 lb.)	9,690	8,840	2,230	4,930	1,590	90
Value of crop sales (\$1,000):						
Sugar (unprocessed cane)	78,600	115,800	43,700	24,100	27,400	20,600
Pineapple (fresh equivalent)	34,800	38,500	—	800	24,200	13,500
Vegetables and melons	4,842	6,798	2,329	412	1,507	2,550
Fruits (excluding pineapples)	1,766	3,745	2,548	236	298	663
Coffee (parchment)	1,886	1,348	1,348	—	—	—
Macadamia nuts (in shell)	693	2,451	2,442	(W)	(W)	(W)
Taro	580	787	200	433	143	11
Horticultural specialties	2,300	4,484	1,801	68	524	2,091
Other crops	513	1,663	173	30	1,204	256

W Withheld to avoid disclosure of individual operations.

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

Table 217.—VEGETABLES, MELONS, FRUITS, AND TARO: 1971

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	85	11.1	940	37.2	350
Head cabbage	370	25.4	9,400	7.7	724
Cucumbers	150	24.0	3,600	14.5	522
Chinese cabbage	210	20.8	4,365	7.2	314
Ginger root	23	40.2	925	27.5	254
Green onions	75	13.2	990	30.6	303
Lettuce (head or semi-head)	420	12.1	5,100	15.5	790
Tomatoes	170	25.9	4,400	20.0	880
Watercress	28	78.7	2,203	18.3	403
Watermelons	200	13.0	2,595	11.2	290
Fruits (excluding pineapples):					
Bananas	725	8.1	5,850	11.7	684
Papayas ²	970	21.2	20,540	13.8	2,670

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 1971* (Hawaii State Department of Agriculture, 1972).

**Table 218.—NUMBER OF LIVESTOCK FARMS, VOLUME OF LIVESTOCK MARKETINGS,
AND VALUE OF LIVESTOCK SALES, BY COUNTY: 1961 AND 1971**

Subject	State total		Counties, 1971			
	1961	1971	Hawaii	Kauai	Maui	Honolulu
Number of livestock farms:						
Cattle (include beef and dairy)	1,780	1,320	540	210	360	210
Hogs	1,730	600	150	60	120	270
Milk	250	120	40	10	35	35
Eggs	840	160	60	15	40	45
Broilers	42	22	1	3	1	17
Honey	46	19	(W)	(W)	(W)	9
Volume of livestock:						
Beef (1,000 lb. dressed weight)	25,690	33,604	20,188	2,569	8,252	2,595
Pork (1,000 lb. dressed weight)	8,725	8,982	1,217	373	1,629	5,763
Milk (million pounds)	121	131	(W)	(W)	(W)	111.2
Eggs (million)	150	211	33.5	8.5	11.2	157.5
Broilers and chickens						
(1,000 lb. live weight)	7,098	7,759	(W)	(W)	(W)	6,917
Honey and beeswax (1,000 lb.)	306	282	(W)	(W)	(W)	44.5
Value of livestock sales (\$1,000):						
Cattle ¹	9,827	15,607	9,398	1,203	3,925	1,081
Hogs ¹	3,777	4,742	606	220	881	3,035
Milk	10,560	13,166	(W)	(W)	(W)	10,964
Eggs	7,599	7,473	1,285	(W)	(W)	5,274
Broilers and chickens	2,459	2,051	(W)	(W)	(W)	1,788
Others	128	106	(W)	(W)	(W)	27

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 219.—FLOWERS AND NURSERY PRODUCTS: 1971

Flower or nursery product	Farms	Quantity sold		Equivalent wholesale value (\$1,000)
		Unit	Amount	
Cut orchids:				
Cattleyas	44	1,000 flowers	63	38
Cymbidiums	25	Do.	284	84
Dendrobiums	38	1,000 dozens	16	48
Other cut orchids	42	—	—	79
Cut flowers and cultivated foliage:				
Anthuriums	207	1,000 dozens	765	1,032
Birds of paradise	33	Do.	23	31
Carnations (cut flowers)	12	Do.	32	35
Chrysanthemums (except pompom)	15	Do.	21	91
Gingers	33	Do.	48	55
Roses	16	Do.	216	162
Woodroses	13	Do.	107	44
Ti leaves	33	1,000 leaves	16,300	186
Other cut cult. foliage	27	Do.	5,500	39
Other cut flowers	36	—	—	62
Chrysanthemums (pompom)	26	1,000 bunches	395	176
Lei flowers:				
Carnation (heads)	24	1,000 flowers	22,400	346
Plumerias	12	Do.	11,700	62
Tuberoses	10	Do.	3,900	40
Orchids (Vanda Miss Joaquim)	62	Do.	58,000	502
Pikake	7	1,000 strands	147	88
Landscape material and finished potted flowering plants:				
Landscape material	93	—	—	744
Potted orchids (all species)	75	1,000's	296	405
Potted chrysanthemums	14	Do.	91	149

Source: Hawaii Crop and Livestock Reporting Service, *Statistics of Hawaiian Agriculture 1971* (Hawaii State Department of Agriculture, 1972).

Table 220.—MARKET SUPPLY OF SPECIFIED FOODS: 1961 TO 1971
(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
1961, total	90,793	4,957	61,697	44,916	7,858	121,000	71,918	15,114	14,205
Inshipments	45,284	2,402	61,697	22,563	7,858	—	37,456	10,003	1,705
From Hawaii	45,509	2,555	—	22,353	—	121,000	34,462	5,111	12,500
Percent	50.1	51.5	0	49.8	0	100.0	47.9	33.8	88.0
1970, total	113,258	10,227	56,139	52,770	6,743	135,000	92,080	25,361	17,224
Inshipments	66,036	7,397	56,139	31,820	6,743	—	51,178	19,673	824
From Hawaii	47,222	2,830	—	20,950	—	135,000	40,902	5,688	16,400
Percent	41.7	27.7	0	39.7	0	100.0	44.4	22.4	95.2
1971, total	112,673	6,810	75,273	48,221	9,039	131,000	91,403	26,009	18,387
Inshipments	69,510	4,215	75,273	31,329	9,039	—	48,817	20,264	787
From Hawaii	43,163	2,595	—	16,892	—	131,000	42,586	5,745	17,600
Percent	38.3	38.1	0	35.0	0	100.0	46.6	22.1	95.7

¹Chiefly rice (59,628 in 1961, 54,805 in 1970, and 73,289 in 1971).

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 221.—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					

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.