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Section 19

AGRICULTURE

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

Important sources for data on agriculture include the *United States Census of Agriculture*, most recently published for 2012; the annual report on *Statistics of Hawaii Agriculture* issued by the Hawaii Agricultural Statistics Service; the Bureau of Economic Analysis; data compiled by the former Hawaiian Sugar Planters' Association, now the Hawaii Agriculture Research Center; and the Aquaculture Development Program of the Hawaii State Department of Agriculture. Agricultural data for earlier years are summarized in *Historical Statistics of Hawaii*, Section 13. National statistics appear in Section 17 of the *Statistical Abstract of the United States: 2012*.

Table 19.01-- FARMS BY SIZE, LAND IN FARMS, AND VALUE OF LAND, BUILDINGS, AND EQUIPMENT: 2007 AND 2012

Item	Unit	2007	2012
Farms	number	7,521	7,000
Land in farms	acres	1,121,329	1,129,317
Farms by size			
1 to 9 acres	number	4,813	4,412
10 to 49 acres	number	1,972	1,752
50 to 179 acres	number	423	480
180 to 499 acres	number	154	172
500 to 999 acres	number	44	57
1,000 to 1,999 acres	number	50	48
2,000 acres or more	number	65	79
Average size of farm	acres	149	161
Median size of farm	acres	5	5
Total cropland	farms	6,281	5,551
	acres	177,626	174,042
Harvested cropland	farms	6,044	5,293
	acres	103,120	99,031
Irrigated land	farms	2,810	2,498
	acres	58,635	81,813
Value of land and buildings			
Average per farm	dollars	1,146,213	1,461,342
Average per acre	dollars	7,688	9,058
Estimated market value of all machinery and equipment			
Total	\$1,000	304,997	307,994
Average per farm	dollars	40,666	43,999

Source: USDA National Agricultural Statistics Service, *2007 Census of Agriculture, Vol. 1, Chapter 2: State Level Data* (December 2009), "Table 1. State Summary Highlights: 2007", pp. 276-293, *2012 Census of Agriculture, Vol.1, Part 1, Hawaii* (May 2014), "Table 1. Historical Highlights: 2012 and Earlier Census Years", pp. 7-8, *2012 Census of Agriculture, Vol. 1, Chapter 2: State Level Data*, "Table 1. State Summary Highlights: 2012", pp. 245-260 (May 2014).

**Table 19.02-- FARMS, MARKET VALUE AND VALUE OF SALES:
2007 AND 2012**

Item	Unit	2007	2012
Total farms in Hawaii	Number	7,521	7,000
Farms by value of sales			
Less than \$2,500	Number	2,932	2,130
\$2,500 to \$4,999	Number	1,012	902
\$5,000 to \$9,999	Number	996	1,058
\$10,000 to \$24,999	Number	1,143	1,397
\$25,000 to \$49,999	Number	557	684
\$50,000 to \$99,999	Number	353	323
\$100,000 to \$499,999	Number	380	358
\$500,000 or more	Number	148	148
Market value of agricultural products sold	\$1,000	513,626	661,347
Crops, including nursery and greenhouse crops	\$1,000	429,916	538,873
Livestock, poultry, and their products	\$1,000	83,711	122,474
Average market value of agricultural products sold per farm	Dollars	68,292	94,478

Source: USDA National Agricultural Statistics Service, *2012 Census of Agriculture, Vol. 1, Part 1, Hawaii*, "Table 1. Historical Highlights: 2012 and Earlier Census Years", pp. 7-8 (May 2014).

Table 19.03-- FARMS BY SIZE, LAND IN FARMS, AND VALUE OF LAND, BUILDINGS AND EQUIPMENT, STATE TOTAL AND BY COUNTY: 2012

Item	Unit	State total	County of Hawaii	City and Co. of Honolulu	County of Kauai	County of Maui
Farms	number	7,000	4,282	999	591	1,128
Land in farms	acres	1,129,317	686,856	69,168	144,127	229,166
Farms by size						
1 to 9 acres	number	4,412	2,610	743	348	711
10 to 49 acres	number	1,752	1,141	162	156	293
50 to 179 acres	number	480	326	51	42	61
180 to 499 acres	number	172	106	22	20	24
500 to 999 acres	number	57	37	3	7	10
1,000 or more acres	number	127	62	18	18	29
Average size of farm	acres	161	160	69	244	203
Median size of farm	acres	5	6	3	7	5
Total cropland	farms	5,551	3,398	835	416	902
	acres	174,042	72,028	22,200	30,236	49,578
Harvested cropland	farms	5,293	3,229	821	391	852
	acres	99,031	57,807	(D)	6,800	(D)
Irrigated land	farms	2,498	1,026	603	266	603
	acres	81,813	6,966	10,776	22,523	41,548
Value of land & buildings						
Average per farm	dollars	1,461,342	1,280,898	1,396,597	1,853,486	1,998,208
Average per acre	dollars	9,058	7,985	20,171	7,600	9,836
Estim. market value of all machinery & equipment	\$1,000	307,994	157,140	56,851	33,961	60,042
Average per farm	dollars	43,999	36,698	56,908	57,464	53,228
Market value of agricultural products sold	\$1,000	661,347	247,245	161,488	64,514	188,100
Average per farm	dollars	94,478	57,741	161,650	109,160	166,755
Crops, including nursery & greenhouse crops	\$1,000	538,873	156,384	145,313	55,696	181,480
Livestock, poultry, & their products	\$1,000	122,474	90,860	16,176	8,817	6,620

D Withheld to avoid disclosing data for individual farms.

Source: USDA National Agricultural Statistics Service, *2012 Census of Agriculture, Vol.1, Part 1, Hawaii* (May 2014), "Table 1. Historical Highlights: 2012 and Earlier Census Years", pp. 7-8, *2012 Census of Agriculture, Vol.1, Part 11, Hawaii*, "Table 1. County Summary Highlights: 2012", pp. 208-209, and *2012 Census of Agriculture, Vol. 1, Chapter 2: State Level Data* (May 2014), "Table 1. State Summary Highlights: 2012", pp. 245-260 (May 2014).

Table 19.04-- FARM PRODUCTION EXPENSES: 2007 AND 2012

[In thousands of dollars]

Item	2007	2012
Total farm production expenses	486,648	659,262
Selected farm production expenses		
Livestock and poultry purchased or leased	3,343	3,880
Feed purchased	24,678	43,811
Fertilizer, lime, and soil conditioners purchased	29,807	46,584
Gasoline, fuels, and oils purchased	24,443	33,157
Hired farm labor	178,496	269,907
Interest expense	14,838	13,208
Chemicals purchased	17,238	32,993

Source: USDA National Agricultural Statistics Service, *2012 Census of Agriculture, Vol. 1, Part 1, Hawaii*, "Table 1. Historical Highlights: 2012 and Earlier Census Years", pp. 7-8 (May 2014).

Table 19.05-- FARM INCOME AND EXPENSES: 2012 TO 2015

[In thousands of dollars]

Item	2012	2013	2014	2015
Cash receipts from marketings	453,645	457,484	478,136	499,062
Livestock and products	97,182	99,286	112,293	144,150
Crops	356,463	358,198	365,843	354,912
Other income	114,652	127,171	131,569	113,958
Government payments	11,448	13,155	24,665	24,841
Imputed and misc. income received 1/	103,204	114,016	106,904	89,117
Production expenses	743,867	765,490	817,359	743,213
Feed purchased	35,034	36,135	36,891	34,512
Livestock purchased	3,880	3,915	4,924	5,562
Seed purchased	20,206	21,173	21,332	19,957
Fertilizer, lime, and ag. chemicals	75,222	75,609	77,559	66,848
Petroleum products purchased	33,057	34,693	35,415	30,524
Hired farm labor expenses 2/	289,429	286,074	297,784	276,555
All other production expenses 3/	287,039	307,891	343,454	309,255
Value of inventory change	-2,584	-2,860	3,416	9,636
Livestock	-3,557	-2,351	1,653	7,554
Crops	-	-	-	-
Materials and supplies	973	-509	1,763	2,082

1/ Consists of the value of home consumption and other farm related income components, such as machine hire and custom work income and income from forest products.

2/ Consists of hired workers' cash pay and perquisites, employers' contributions for social security and Medicare, and payments for contract labor, machine hire, and custom work.

3/ Consists of repair and operation of machinery and depreciation, interest, rent and taxes.

Source: Bureau of Economic Analysis, "Local Area Personal Income and Employment, Farm Income and Expenses (CA45)" (November 17, 2016) <<https://www.bea.gov/itable/>> accessed June 29, 2017.

Table 19.06-- FARM ORGANIZATION AND PRINCIPAL OPERATOR CHARACTERISTICS: 2007 AND 2012

Item	2007	2012
Farm by type of organization		
Family or individual	6,363	5,685
Partnership	437	446
Corporation	617	637
Other- cooperative, estate or trust, institutional, etc.	104	232
Principal operator by primary occupation		
Farming	3,861	3,642
Other	3,660	3,358
Principal operator by days worked off farm		
None	1,903	2,223
Any	5,618	4,777
1 to 49 days	1,015	690
50 to 99 days	857	562
100 to 199 days	919	927
200 days or more	2,827	2,598
Principal operator's place of residence		
On farm operated	5,355	4,649
Not on farm operated	2,166	2,351
Principal operator by sex		
Male	5,715	5,426
Female	1,806	1,574
Average age of principal operator	58.6	60.4
Principal operator by race		
American Indian or Alaska Native	41	32
Asian	2,544	2,824
Black or African American	10	18
Native Hawaiian or Other Pacific Islander	625	689
White	3,627	2,749
More than one race	674	688

Source: USDA National Agricultural Statistics Service, *2012 Census of Agriculture, Vol.1, Part 1, Hawaii*, "Table 1. Historical Highlights: 2012 and Earlier Census Years", pp. 7-8 and "Table 62. Selected Principal Operator Characteristics by Race: 2012 and 2007", p. 48 (May 2014).

Table 19.07-- NUMBER OF FARMS, FARM ACREAGE, AND FARM EMPLOYMENT: 2000 TO 2016

Year	Number of farms 1/	Farm acreage 2/ (1,000)	Farm employment 3/		
			Self-employed farm operators 4/	Unpaid family members 4/ 5/	Hired workers
2000	5,500	1,440	3,100	1,000	7,800
2001	5,500	1,350	3,300	1,100	7,400
2002	5,500	1,320	3,000	1,100	7,500
2003	5,500	1,300	(NA)	(NA)	7,300
2004	5,500	1,300	(NA)	(NA)	7,300
2005	5,500	1,300	(NA)	(NA)	7,000
2006	5,500	1,160	(NA)	(NA)	7,000
2007	7,500	1,120	(NA)	(NA)	6,500
2008	7,500	1,110	3,300	900	6,200
2009	7,500	1,110	3,500	1,000	6,200
2010	7,500	1,110	3,800	1,000	6,400
2011	7,500	1,110	(6/)	(6/)	7/ 7,100
2012	7,000	1,129	(6/)	(6/)	6,500
2013	7,000	1,129	(6/)	(6/)	6,500
2014	7,000	1,129	(6/)	(6/)	7,000
2015	7,000	1,120	(6/)	(6/)	6,500
2016	7,000	1,120	(6/)	(6/)	6,000

NA Not available.

1/ Based on farm definition of \$1,000 or more of agricultural sales.

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

3/ Working 15 or more hours per week.

4/ Total farm workforce, self-employed operators, and unpaid workers estimates were discontinued from July 2002 to April 2007 due to a change in the National labor statistics program.

5/ Unpaid farm workers include family members and others that worked 15 or more hours during the survey week.

6/ Beginning October 2011, data series discontinued.

7/ Annual averages are based on survey data for January, July, and October.

Source: USDA National Agricultural Statistics Service, *Hawaii Annual Statistics Bulletin* (annual) <http://www.nass.usda.gov/Statistics_by_State/Hawaii/Publications/Annual_Statistical_Bulletin/index.asp> accessed June 17, 2013, and Hawaii Agricultural Statistics Service, records; U.S. Dept. of Agriculture, National Agricultural Statistics Service, *2012 Census of Agriculture, Vol.1, Part 1, Hawaii*, "Table 1. Historical Highlights: 2012 and Earlier Census Years", pp. 7-8 (May 2014); USDA National Agricultural Statistics Service, *Farm Labor* <http://usda.mannlib.cornell.edu/usda/current/FarmLabo/FarmLabo-12-05-2013_revision.pdf> accessed May 19, 2014 and records; and USDA National Agricultural Statistics Service, Quick Stats <<https://quickstats.nass.usda.gov/#E0EE5C7C-F94B-3F91-85CB-1C89854C7954>> accessed February 22, 2017.

Table 19.08-- FARM EMPLOYMENT: 1998 TO 2015

[The estimates of employment for 1998-2006 are based on the 2002 North American Industry Classification System (NAICS). The estimates for 2007-2010 are based on the 2007 NAICS. The estimates for 2011 forward are based on the 2012 NAICS]

Year	Total farm employment 1/	Farm proprietors employment 2/	Farm wage and salary employment 3/
1998	12,501	5,297	7,204
1999	12,292	5,274	7,018
2000	12,839	5,258	7,581
2001	12,289	5,236	7,053
2002	11,962	4,795	7,167
2003	11,917	4,719	7,198
2004	11,596	4,604	6,992
2005	11,395	4,605	6,790
2006	11,304	4,513	6,791
2007	12,485	6,154	6,331
2008	11,653	6,006	5,647
2009	11,281	5,903	5,378
2010	11,510	5,848	5,662
2011	12,304	5,776	6,528
2012	11,757	5,658	6,099
2013	11,869	5,693	6,176
2014	13,071	5,696	7,375
2015	12,427	5,693	6,734

1/ 'Total farm employment' is the number of workers engaged in the direct production of agricultural commodities, either livestock or crops; whether as a sole proprietor, partner, or hired laborer.

2/ Consists of sole proprietors and non-corporate partners in the farm industry.

3/ 'Farm wage and salary employment' is the number of hired laborers engaged in the direct production of agricultural commodities, either livestock or crops.

Source: Bureau of Economic Analysis, "Annual State Personal Income and Employment, Total Full-Time and Part-Time Employment by Industry" (SA25N) <<https://www.bea.gov/itable/>> accessed March 29, 2017 and "Full-Time and Part-Time Wage and Salary Employment by Industry" (SA27N) (September 28, 2016) <<https://www.bea.gov/itable/>> accessed June 28, 2017.

Table 19.09-- FARM EMPLOYMENT, BY COUNTY: 2001 TO 2015

[The estimates of employment for 2001-2006 are based on the 2002 North American Industry Classification System (NAICS). The estimates for 2007-2010 are based on the 2007 NAICS. The estimates for 2011 forward are based on the 2012 NAICS]

County and year	Total farm employment 1/	Farm proprietors employment 2/	Farm wage and salary employment 3/
State			
2001	12,289	5,236	7,053
2002	11,962	4,795	7,167
2003	11,917	4,719	7,198
2004	11,596	4,604	6,992
2005	11,395	4,605	6,790
2006	11,304	4,513	6,791
2007	12,485	6,154	6,331
2008	11,653	6,006	5,647
2009	11,281	5,903	5,378
2010	11,510	5,848	5,662
2011	12,304	5,776	6,528
2012	11,757	5,658	6,099
2013	11,869	5,693	6,176
2014	13,071	5,696	7,375
2015	12,427	5,693	6,734
Hawaii			
2001	5,330	3,171	2,159
2002	5,099	2,890	2,209
2003	5,099	2,873	2,226
2004	5,028	2,828	2,200
2005	5,093	2,847	2,246
2006	5,164	2,807	2,357
2007	6,362	3,850	2,512
2008	5,912	3,752	2,160
2009	5,663	3,680	1,983
2010	5,599	3,638	1,961
2011	5,776	3,584	2,192
2012	5,589	3,503	2,086
2013	5,576	3,520	2,056
2014	6,101	3,507	2,594
2015	5,940	3,505	2,435
Honolulu			
2001	2,818	732	2,086
2002	2,813	656	2,157

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**Table 19.09-- FARM EMPLOYMENT, BY COUNTY:
2001 TO 2015-- Con.**

County and year	Total farm employment 1/	Farm proprietors employment 2/	Farm wage and salary employment 3/
Honolulu (con.)			
2003	2,918	627	2,291
2004	2,684	594	2,090
2005	2,529	579	1,950
2006	2,384	554	1,830
2007	2,166	738	1,428
2008	2,068	735	1,333
2009	2,118	736	1,382
2010	2,352	744	1,608
2011	2,717	750	1,967
2012	2,586	750	1,836
2013	2,698	756	1,942
2014	3,002	762	2,240
2015	2,849	761	2,088
Maui 4/			
2001	2,816	792	2,024
2002	2,723	731	1,992
2003	2,597	719	1,878
2004	2,630	702	1,928
2005	2,526	704	1,822
2006	2,569	691	1,878
2007	2,872	942	1,930
2008	2,658	930	1,728
2009	2,461	925	1,536
2010	2,572	928	1,644
2011	2,790	929	1,861
2012	2,595	923	1,672
2013	2,597	931	1,666
2014	2,865	939	1,926
2015	2,574	939	1,635
Kauai			
2001	1,325	541	784
2002	1,327	518	809
2003	1,303	500	803
2004	1,254	480	774
2005	1,247	475	772
2006	1,187	461	726
2007	1,085	624	461
2008	1,015	589	426

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**Table 19.09-- FARM EMPLOYMENT, BY COUNTY:
2001 TO 2015-- Con.**

County and year	Total farm employment 1/	Farm proprietors employment 2/	Farm wage and salary employment 3/
Kauai (con.)			
2009	1,039	562	477
2010	987	538	449
2011	1,021	513	508
2012	987	482	505
2013	998	486	512
2014	1,103	488	615
2015	1,064	488	576

1/ 'Total farm employment' is the number of workers engaged in the direct production of agricultural commodities, either livestock or crops; whether as a sole proprietor, partner, or hired laborer.

2/ Consists of sole proprietors and non-corporate partners in the farm industry.

3/ 'Farm wage and salary employment' is the number of hired laborers engaged in the direct production of agricultural commodities, either livestock or crops. It is calculated by subtracting 'Farm proprietors employment' from 'Total farm employment'. The calculated residuals might include corporate partners.

4/ Maui County includes Kalawao County.

Source: Bureau of Economic Analysis, "Local Area Personal Income and Employment, Total Full-Time and Part-Time Employment by Industry" (CA25N) (November 17, 2016) <<https://www.bea.gov/itable/>>accessed March 29, 2017 and calculations by the Hawaii State Department of Business, Economic Development & Tourism.

**Table 19.10-- VALUE OF CROP, LIVESTOCK, AND AQUACULTURE SALES:
1989 TO 2015**

[Thousands of dollars. Data at county level have been discontinued for 2016 *Data Book*.
See previous editions of *Data Book* for historical data]

Year	All crops, livestock, and aquaculture	Crops				Livestock	Aquaculture
		All crops 1/ 2/	Sugar (unpro- cessed cane)	Pine- apples (fresh equiv.)	Other crops		
1989	591,883	493,261	210,300	98,310	184,651	91,787	6,835
1990	604,271	506,586	213,800	106,365	186,421	88,444	9,241
1991	558,266	464,139	174,900	107,775	181,464	87,243	6,884
1992	527,361	431,958	153,700	102,100	176,158	88,269	7,134
1993	513,944	421,593	163,000	79,850	178,743	84,882	7,469
1994	512,816	427,150	160,100	78,890	188,160	76,630	9,036
1995	506,692	421,089	127,700	87,360	206,029	72,296	13,307
1996	511,343	428,671	108,100	95,914	224,657	67,017	15,655
1997	504,705	420,306	85,500	91,721	243,085	67,799	16,600
1998	509,962	420,634	87,300	92,776	240,558	72,708	16,620
1999	531,094	443,111	86,800	101,448	254,863	69,881	18,102
2000	521,941	431,482	62,200	101,530	267,752	68,289	22,170
2001	524,378	437,438	57,800	96,337	283,301	64,740	22,200
2002	539,518	453,400	64,300	100,616	288,484	60,938	25,180
2003	548,123	461,680	64,400	101,470	295,810	58,793	27,650
2004	552,057	459,702	61,500	83,104	315,098	64,255	28,100
2005	582,785	493,991	58,900	79,288	355,803	60,396	28,398
2006	579,590	499,684	50,200	73,652	375,832	58,649	21,257
2007	577,999	498,338	47,600	(D)	450,738	54,551	25,110
2008	605,570	522,139	44,200	(D)	477,939	48,781	34,650
2009	641,850	553,862	44,200	(D)	509,662	55,658	32,330
2010	674,590	583,680	69,800	(D)	513,880	60,940	29,970
2011	719,474	602,881	78,100	(D)	524,781	76,623	39,970
2012	646,318	527,554	73,322	(D)	454,222	63,024	55,740
2013	(NA)	521,182	77,740	(D)	443,442	61,856	(NA)
2014	631,063	474,707	54,349	(D)	420,358	78,115	78,241
2015	604,052	446,850	48,148	(D)	398,702	80,968	76,234

D Data not shown separately to avoid disclosure of individual operations but combined and included in total crop value.

NA Not available.

1/ Sum of individual commodities may not add to total. Forage crops' and forest products' value combined and included in total crop value.

2/ Since 2007 pineapples included.

Source: USDA National Agricultural Statistics Service, *Hawaii Annual Statistics Bulletin* (annual) <https://www.nass.usda.gov/Statistics_by_State/Hawaii/Publications/Annual_Statistical_Bulletin/> accessed July 26, 2017, *Hawaii Aquaculture* (annual) <https://www.nass.usda.gov/Statistics_by_State/Hawaii/Publications/Miscellaneous/11022015HawaiiAquaculture.pdf> accessed June 30, 2017 and records.

**Table 19.11-- CROPS, BY ACREAGE, NUMBER OF FARMS, AND SALES:
2012 TO 2015**

[Data at county level have been discontinued for 2016 *Data Book*. See previous editions of *Data Book* for historical data]

Subject	2012	2013	2014	2015
Acreage in crop (1,000 acres)				
Sugarcane	35.3	35.6	35.4	35.5
Pineapples	(D)	(D)	(D)	(D)
Vegetables and melons (harvested acreage)	2.5	3.6	3.4	5.4
Fruits, excluding pineapples	(NA)	3.7	4.0	2.8
Coffee	7.9	8.2	7.8	7.8
Macadamia nuts	15.0	16.0	16.0	16.0
All other crops	17.9	18.0	18.1	18.2
Number of crop farms				
Sugar	(D)	(D)	(D)	(D)
Pineapples	(D)	(D)	(D)	(D)
Vegetables and melons 1/	(D)	(D)	(D)	(D)
Fruits (excluding pineapples)	(D)	(D)	(D)	(D)
Coffee	(D)	(D)	(D)	(D)
Macadamia nuts	(D)	(D)	(D)	(D)
Taro	(D)	(D)	(D)	(D)
Flowers and nursery products	(D)	(D)	(D)	(D)
Value of crop sales (\$1,000)				
Sugar (unprocessed cane)	73,322	77,740	54,349	48,148
Pineapples (fresh equivalent)	(D)	(D)	(D)	(D)
Vegetables, ginger root, herbs, and melons 2/	34,152	43,491	39,790	45,190
Fruits (excluding pineapples)	(NA)	22,380	24,972	22,271
Coffee 3/	41,300	52,080	54,270	62,622
Macadamia nuts (in shell)	35,200	35,670	40,020	46,000
Taro	(D)	(D)	(D)	(D)
Seed crops	241,615	184,235	158,800	140,830
Flowers and nursery products	70,300	72,292	67,162	67,399

D Data not shown separately to avoid disclosure of individual operations.

NA Not available.

1/ Beginning 2007, ginger root, herbs, noni, kava (awa) and others combined and included in the total (non-duplicated).

2/ Includes noni, kava (awa), and others. Beginning 2007, non-published commodities not included to avoid disclosure of individual operations but combined and included in total crop value.

3/ Value is expressed in parchment basis for 2012-2014; 2015 value is expressed in cherry basis.

Source: USDA National Agricultural Statistics Service, *Hawaii Annual Statistics Bulletin* (annual) <https://www.nass.usda.gov/Statistics_by_State/Hawaii/Publications/Annual_Statistical_Bulletin/> accessed July 26, 2017, *Hawaii Top 20 Commodities* (March 2017) <https://www.nass.usda.gov/Statistics_by_State/Hawaii/Publications/Annual_Statistical_Bulletin/2015/2015HawaiiTop20Commodities.pdf> accessed May 2, 2017, and records.

Table 19.12-- SEED CROPS, BY NUMBER OF FARMS, ACREAGE, OUTSHIPMENTS, AND VALUE: 2005-2006 TO 2015-2016

[Seed crops are grown year-round in Hawaii with the main season from November to June]

Crop year	Number of farms	Acreage	Outshipments of seed (1,000 lb.)	Value (\$1,000) 1/		
				Total	Seed corn	Other seed crops
2005-2006	10	4,140	7,550	77,330	74,800	2,530
2006-2007	10	4,260	10,470	103,040	98,050	4,990
2007-2008	10	5,300	8,380	140,710	135,580	5,130
2008-2009	10	5,990	11,275	176,990	169,275	7,715
2009-2010	11	6,500	12,000	236,410	224,490	11,920
2010-2011	10	6,205	10,230	239,370	229,935	9,435
2011-2012	10	6,910	10,750	241,615	230,450	11,165
2012-2013	10	5,900	8,245	184,235	178,615	5,620
2013-2014	10	4,840	7,970	158,800	155,000	3,800
2014-2015	10	4,260	8,590	140,830	137,680	3,150
2015-2016	10	3,980	5,740	144,530	140,000	4,530
2016-2017 2/	11	4,010	6,100	145,300	141,000	4,300

1/ Value is based on sales or gross operational budgets.

2/ Preliminary.

Source: USDA National Agricultural Statistics Service, *Hawaii Seed Crops* (annual)

<https://www.nass.usda.gov/Statistics_by_State/Hawaii/Publications/Sugarcane_and_Specialty_Crops/index.php> accessed July 19, 2017.

Table 19.13-- SELECTED CROPS HARVESTED AND LAND IN ORCHARDS, BY NUMBER OF FARMS, ACRES AND WEIGHT: 2007 AND 2012

Item	Unit	2007	2012
Corn for grain	farms	14	15
	acres	3,115	5,198
	bushels	124,878	367,142
Pineapples	farms	42	42
	acres	(D)	(D)
	tons	(D)	(D)
Sugarcane for sugar	farms	9	18
	acres	(D)	(D)
	tons	(D)	(D)
Vegetables harvested	farms	901	960
	acres	6,845	8,880
Potatoes	farms	15	38
	acres	7	26
Sweet potatoes	farms	94	143
	acres	297	882
Land in orchards	farms	4,443	3,488
	acres	36,652	35,832

D Withheld to avoid disclosing data for individual farms.

Source: U.S. Dept. of Agriculture, National Agricultural Statistics Service, *2012 Census of Agriculture, Vol.1, Part 1, Hawaii*, "Table 1. Historical Highlights: 2012 and Earlier Census Years", pp. 7-8 (May 2014).

Table 19.14-- SPECIALTY CROPS, FRUITS, AND VEGETABLES: 2015

Crop	Acreage harvested	Yield per acre (1,000 lb.)	Production (1,000 lb.)	Farm price (cents per lb.)	Value of sales (\$1,000)
Specialty crops					
Coffee 1/	7,800	4.7	36,570	172.0	62,622
Macadamia nuts	16,000	2.9	46,000	87.0	40,020
Seed crops	4,260	(X)	(X)	(X)	140,830
Fruits					
Bananas	830	14.5	12,040	90.2	10,866
Papayas	1,500	18.2	25,200	41.9	10,570
Avocados 2/	3/ 480	3/ 0.85	3/ 410	(NA)	1,031
Vegetables					
Cabbage, chinese	150	18.3	2,740	55.1	1,510
Cabbage, head	490	15.2	7,440	51.1	3,805
Cucumbers	265	26.5	7,020	92.5	6,490
Kale	60	10.5	630	174.6	1,100
Lettuce, head	105	14.3	1,500	134.7	2,020
Lettuce, leaf	200	10.9	2,185	252.2	5,510
Lettuce, romaine	170	10.0	1,700	123.5	2,100
Onions, green	80	10.3	820	176.8	1,450
Snap beans	160	3.1	500	145.0	725
Watercress	65	10.3	620	185.5	1,150

X Not applicable.

NA Not available.

1/ Starting in 2015, valuation of coffee was changed from parchment basis to cherry basis.

2/ Bearing acreage.

3/ Reported in tons.

Source: USDA National Agricultural Statistics Service, *Hawaii Top 20 Commodities* (March 2017)

<https://www.nass.usda.gov/Statistics_by_State/Hawaii/Publications/Annual_Statistical_Bulletin/2015/2015HawaiiTop20Commodities.pdf> accessed May 2, 2017, Quick Stats,

<<https://quickstats.nass.usda.gov/data/printable/8FD2B005-349D-3F63-B718-DB432581F7C6>>

accessed June 28, 2017, and records.

Table 19.15-- TOP 20 AGRICULTURAL COMMODITIES: 2015 CROP YEAR

Commodity	Rank	Value of production (\$1,000)
Seed crops	1	140,830
Cattle	2	68,251
Coffee	3	49,214
Sugarcane	4	48,148
Other aquaculture	5	42,426
Macadamia nuts	6	40,020
Algae	7	33,808
Landscape plant material	8	15,240
Bananas	9	10,866
Papayas	10	10,570
Milk	11	9,975
Lettuce	12	9,270
Cucumbers	13	6,490
Palms, potted	14	5,550
Cabbage, head	15	3,805
Dendrobiums, potted	16	3,502
Plant rentals	17	3,193
Honey	18	2,785
Hogs	19	2,742
Anthurium, cut	20	2,638

Source: USDA National Agricultural Statistics Service, *Hawaii Top 20 Commodities, 2015 Crop Year* (March 2017) <https://www.nass.usda.gov/Statistics_by_State/Hawaii/Publications/Annual_Statistical_Bulletin/2015/2015HawaiiTop20Commodities.pdf> accessed March 29, 2017.

**Table 19.16-- SUGARCANE ACREAGE, BY TYPE OF IRRIGATION:
1993 TO 2016**

Year	Total cane land	Irrigated cane land		Unirrigated cane land
		Drip	Furrow or overhead	
1993	121,322	74,557	11,595	35,170
1994	98,413	68,547	10,753	19,113
1995	81,957	62,462	8,416	11,079
1996	68,816	56,147	7,511	5,158
1997	67,820	55,585	7,115	5,120
1998	67,585	55,828	6,620	5,137
1999	60,758	51,234	4,602	4,922
2000	43,821	43,821	-	-
2001	50,410	50,410	-	-
2002	47,476	47,476	-	-
2003	47,733	47,733	-	-
2004	43,465	43,465	-	-
2005	40,145	40,145	-	-
2006	42,080	42,080	-	-
2007	41,762	41,762	-	-
2008	39,663	39,663	-	-
2009	39,812	39,812	-	-
2010	34,693	34,693	-	-
2011	35,532	35,532	-	-
2012	36,746	36,746	-	-
2013	35,556	35,556	-	-
2014	35,556	35,556	-	-
2015	35,556	35,556	-	-
2016 1/	17,500	17,500	-	-

1/ Hawaii Commercial & Sugar Company ended its sugar operation at the end of 2016.

Source: Hawaii Agriculture Research Center; Hawaiian Commercial & Sugar Company, records.

Table 19.17-- LIVESTOCK INVENTORY: 1987 TO 2016

[In thousands]

Year	All cattle and calves 1/	Milk cows 1/	Hogs and pigs 2/	Chickens (excluding broilers) 2/	Bee colonies
1987	203	12.0	47.0	1,212	9
1988	212	12.0	43.0	1,217	9
1989	205	11.0	39.0	1,216	9
1990	215	11.0	36.0	1,183	10
1991	200	10.0	34.0	1,213	10
1992	178	11.0	35.0	1,109	9
1993	165	11.0	33.0	1,012	9
1994	178	11.0	35.0	981	9
1995	174	10.0	34.0	933	8
1996	172	10.0	28.0	876	8
1997	180	9.0	29.0	863	9
1998	173	9.0	29.0	747	8
1999	164	9.0	28.0	721	8
2000	150	7.0	26.0	722	7
2001	152	7.0	27.0	659	8
2002	151	7.0	24.0	625	7
2003	156	6.0	23.0	600	7
2004	155	5.7	22.0	598	8
2005	161	4.6	19.0	547	9
2006	158	3.8	16.0	470	10
2007	152	2.3	15.0	398	10
2008	150	1.6	13.0	373	10
2009	151	1.8	13.0	379	10
2010	141	2.0	12.5	364	11
2011	140	1.9	11.5	(D)	9
2012	140	1.9	11.5	(D)	10
2013	135	2.2	11.5	(D)	13
2014	133	2.2	9.0	(D)	15
2015	133	2.2	9.0	(D)	14
2016	140	2.2	9.0	(D)	11

D Data not shown separately to avoid disclosure of individual operations but combined and included in the State total.

1/ As of January 1 of the following year.

2/ As of December 1.

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

<https://www.nass.usda.gov/Statistics_by_State/Hawaii/Publications/Annual_Statistical_Bulletin/>
accessed July 26, 2017 and records.

Table 19.18-- LIVESTOCK, BY TYPE AND VALUE OF SALES: 2012 TO 2016

[Data at county level have been discontinued for 2016 *Data Book*. See previous editions of *Data Book* for historical data]

Subject	2012	2013	2014	2015	2016
Number of livestock operations, Dec. 31					
Cattle 1/	(D)	(D)	(D)	(D)	(D)
Hogs	(D)	(D)	(D)	(D)	(D)
Milk	(D)	(D)	(D)	(D)	(D)
Eggs	(D)	(D)	(D)	(D)	(D)
Honey	(D)	(D)	(D)	(D)	(D)
Value of livestock sales (\$1,000)					
Cattle 2/	51,056	50,771	61,444	3/ 68,251	45,209
Hogs 2/	2,432	2,191	4,972	3/ 2,742	2,065
Milk	9,644	10,079	10,514	3/ 10,080	9,318
Eggs	(D)	(D)	(D)	(D)	(D)
Honey	3,113	2,126	3,195	2,785	2,727

D Data not shown separately to avoid disclosure of individual operations.

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

2/ Excludes interfarm sales; includes out-of-state sales of slaughter cattle and feeder calves.

3/ Revised from previous *Data Book*.

Source: USDA National Agricultural Statistics Service, *Hawaii Top 20 Commodities* (March 2017)

<https://www.nass.usda.gov/Statistics_by_State/Hawaii/Publications/Annual_Statistical_Bulletin/2015/2015HawaiiTop20Commodities.pdf> accessed May 8, 2017 and records.

**Table 19.19-- LIVESTOCK AND POULTRY, INVENTORY AND SALES, BY
NUMBER AND FARMS: 2007 AND 2012**

Item	Unit	2007	2012
Cattle and calves inventory	farms	1,142	1,314
	number	151,479	133,957
Beef cows	farms	853	1,173
	number	86,000	(D)
Milk cows	farms	15	12
	number	2,296	(D)
Cattle and calves sold	farms	713	711
	number	70,567	56,159
Hogs and pigs inventory	farms	225	231
	number	14,933	11,441
Hogs and pigs sold	farms	148	131
	number	20,569	12,529
Broilers and other meat-type chickens sold	farms	7	22
	number	(D)	2,639

D Withheld to avoid disclosing data for individual farms.

Source: USDA National Agricultural Statistics Service, *2012 Census of Agriculture, Vol. 1, Part 1, Hawaii*, "Table 1. Historical Highlights: 2012 and Earlier Census Years", pp. 7-8 (May 2014).

Table 19.20-- FLORICULTURE AND NURSERY PRODUCTS: 1998 TO 2015

Year	Number of farms	Growing area					Wholesale value (\$1,000)
		Total (acres) 1/	Greenhouse (1,000 sq. ft.) 2/	Artificial shade structure (1,000 sq. ft.)	Natural shade area (acres)	Open field (acres)	
1998	745	2,679	2,810	24,200	9	2,050	73,207
1999	765	2,712	2,910	25,695	15	2,040	75,725
2000	735	2,719	3,235	25,180	7	2,060	82,684
2001	790	3,049	3,175	26,660	9	2,355	88,597
2002	870	3,648	3,030	30,415	10	2,870	95,715
2003	865	3,890	2,540	27,465	16	3,185	95,601
2004	920	3,830	2,620	26,560	-	3,160	95,178
2005	955	3,988	2,095	27,015	-	3,320	100,962
2006	930	4,064	2,190	25,410	(NA)	3,430	98,725
2007	1,060	4,376	2,020	25,015	(NA)	3,755	108,710
2008	1,025	3,170	2,120	23,570	(NA)	2,580	94,662
2009	1,010	2,780	1,930	24,615	(NA)	2,170	76,814
2010	970	2,650	1,875	20,940	(NA)	2,120	71,100
2011	970	2,695	1,770	19,990	(NA)	2,195	69,600
2012	(D)	2,987	1,748	19,987	(NA)	2,488	70,300
2013	(D)	2,615	1,419	19,873	(NA)	2,126	72,292
2014	(D)	2,540	1,493	20,868	(NA)	2,020	3/ 67,935
2015	(D)	2,281	1,770	19,505	(NA)	1,793	67,399

D Data not shown separately to avoid disclosure of individual operations.

NA Not available.

1/ Details may not sum to total due to rounding and categories not shown separately.

2/ Glass or glass substitute structure.

3/ Revised from previous *Data Book*.

Source: USDA, National Agricultural Statistics Service, Hawaii Field Office, *Hawaii Floriculture and Nursery Products* (annual) <http://www.nass.usda.gov/Statistics_by_State/Hawaii/Publications/Flowers_and_Nursery_Products/flower.pdf> accessed January 12, 2017 and records.

**Table 19.21-- FLORICULTURE AND NURSERY PRODUCTS,
BY COMMODITY: 2015**

[Shown for commodities with value of sales over \$500,000 and excludes "Other" categories.
Includes only producers having total sales of \$10,000 or more. Preliminary data]

Commodity	Number of farms having sales 1/	Number sold		Value of sales (\$1,000)
		Unit	Number	
Selected cut flowers				
Anthuriums	38	1,000 stems	2,912	2,638
Proteas	23	1,000 stems	703	1,030
Orchids				
Cut, Dendrobiums	23	1,000 stems	2,136	1,224
Potted, Dendrobiums	51	1,000 pots	624	3,502
Potted, Phalaenopsis	28	1,000 pots	218	2,034
Foliage				
Potted, dracaena	22	(X)	(NA)	(D)
Potted, palms	30	(X)	(NA)	5,550
Potted flowering plants				
Anthuriums	16	1,000 pots	110	852
Poinsettias	17	1,000 pots	222	1,151
Plant rentals	33	(X)	(NA)	3,193
Landscape plants 2/	129	(X)	(NA)	15,240

X Not applicable.

NA Not available.

D Data not shown separately to avoid disclosure of individual operations.

1/ Number of farms having sales during that year; "Total" is unduplicated count.

2/ Includes broadleaf and coniferous evergreens, deciduous and flower trees, palms, and citrus, fruit and nut trees, and sod. Does not include palms or potted foliage for indoor or patio use, bedding and garden plants, propagative floriculture material, and items which are included in published categories.

Source: USDA National Agricultural Statistics Service, *Hawaii Floriculture and Nursery Products* (September 12, 2016) <https://www.nass.usda.gov/Statistics_by_State/Hawaii/Publications/Flowers_and_Nursery_Products/#skipnav> accessed January 12, 2017.

Table 19.22-- AQUACULTURE OPERATIONS, BY NUMBER, PRODUCTION AND VALUE: 2010 TO 2015

[Data at county level have been discontinued for 2016 *Data Book*. See previous editions of *Data Book* for historical data]

Subject	2010	2011	2012	2013 1/	2014	2015
Farms	75	70	70	(NA)	(NA)	(NA)
Peak number of workers	(NA)	(NA)	(NA)	(NA)	(NA)	406
Production (1,000 lb.)						
Shellfish	76	55	(D)	(NA)	(D)	(D)
Finfish	211	315	(D)	(NA)	(D)	(D)
Value (\$1,000)						
Shellfish	29,970	39,970	55,740	(NA)	78,241	76,234
Finfish	575	413	(D)	(NA)	(D)	(D)
Algae	1,012	1,493	(D)	(NA)	(D)	(D)
Ornamental	16,725	25,230	28,420	(NA)	33,086	33,808
Other 2/	1,837	2,514	(D)	(NA)	(D)	(D)
	9,821	10,320	27,320	(NA)	45,155	42,426

NA Not available.

D Withheld to avoid disclosing data for individual farms but included in 'Other' for 2012, 2014, and 2015.

1/ 2013 value was collected by the Census of Aquaculture. Numbers are not comparable.

2/ Includes seed stock, brood stock, and items not sold by weight which includes number count.

Source: USDA National Agricultural Statistics Service, *Hawaii Aquaculture* (annual)

<https://www.nass.usda.gov/Statistics_by_State/Hawaii/Publications/Miscellaneous/20160928

HawaiiAquaculture.pdf> accessed June 29, 2017.

**Table 19.23-- AGRICULTURAL CHEMICALS USED, INCLUDING FERTILIZER:
2007 AND 2012**

Chemicals used	Unit	2007	2012
Any fertilizer, manure, or chemicals used	farms	5,742	4,457
Manure used	farms	705	634
	acres on which used	3,859	5,165
Any fertilizer or chemical expense	farms	6,158	5,101
	\$1,000	47,046	79,577
Commercial fertilizer, lime and soil conditioners used	farms	4,785	3,450
	acres on which used	116,530	109,503
Commercial fertilizer, lime and soil conditioners expenses	farms	5,653	4,428
	\$1,000	29,807	46,584
Chemical expenses	farms	4,207	4,487
	\$1,000	17,238	32,993
Chemicals used to control			
Insects	farms	2,012	2,349
	acres on which used	33,474	30,417
Nematodes	farms	253	379
	acres on which used	6,889	4,089
Diseases in crops and orchards	farms	836	963
	acres on which used	9,716	9,143
Weeds, grass, or brush	farms	3,053	3,299
	acres on which used	98,108	114,713
Chemicals used on crops to control growth, thin fruit, ripen, or defoliate	farms	255	338
	acres on which used	15,677	19,000

Source: U.S. Department of Agriculture, *2012 Census of Agriculture, Hawaii*, p. 34 (May 2014).

Table 19.24-- FARMS, LAND, AND VALUE OF SALES OF ORGANIC AGRICULTURAL PRODUCTS: 2015

[2015 Data Book included information on exempt organic farms and organic farms by value of sales. See previous edition for data]

Subject	Number	Acres	Subject	Farms	Amount (\$1,000)
Certified organic farms	120	(NA)	Value of organic ag. products sold (\$1,000)	120	12,576
Cert. organic acres operated	119	1,646	Crops including nursery & greenhouse	118	(D)
Land owned	90	953	Livestock and poultry	3	23
Land rented from others	37	(D)	Livestock and poultry products	1	(D)
Land rented to others	1	(D)	Consumer direct sales	65	(NA)
Cropland	118	1,355	Direct-to-retail &		
Pastureland	5	(D)	Institutional sales	62	(NA)
Rangeland	1	(D)	Wholesale market sales	72	(NA)
Transitional land acres operated	2	(D)	First point of sales		
Land owned	2	(D)	Locally 1/	112	(NA)
Land rented from others	2	(D)	Regionally 2/	22	(NA)
Land rented to others	-	-	Nationally 3/	41	(NA)
Cropland	2	(D)	Internationally	15	(NA)
Pastureland	-	-			
Rangeland	-	-			

NA Not available.

D Withheld to avoid disclosing data for individual farms.

1/ Within 100 miles.

2/ More than 100 miles but less than 500 miles.

3/ 500 miles or farther.

Source: USDA National Agricultural Statistics Service, *Certified Organic Survey 2015 Summary* (September 2016), "Table 1. Farms, Land, and Value of Sales of Organic Agricultural Products – Certified Organic Farms: 2015", pp. 1-9 and "Table 16. Marketing Practices on Certified Organic Farms: 2016", pp. 102-104 <<http://usda.mannlib.cornell.edu/usda/current/OrganicProduction/OrganicProduction-09-15-2016.pdf>> accessed May 12, 2017.

**Table 19.25-- GENERAL EXCISE TAX BASE FOR PRODUCING:
1998 TO 2016**

[In thousands of dollars. Data are on a cash basis accounting. "Producing" refers to the raising and production of agricultural products in their natural state, the production of natural resource products, fishing, and aquaculture]

Year 1/	Amount	Year 1/	Amount
1998	478,201	2008	448,975
1999	501,501	2009	351,578
2000	519,272	2010	339,035
2001	499,896	2011	399,078
2002	522,418	2012	401,496
2003	543,561	2013	392,735
2004	550,949	2014	336,675
2005 2/	613,694	2015	337,702
2006 2/	480,012	2016	283,553
2007	475,827		

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.

2/ Revised from previous *Data Book*.

Source: Hawaii State Department of Taxation, "General Excise and Use Tax Base" (annual tabular release) <http://tax.hawaii.gov/stats/a5_3txcolrptarchive/> accessed April 27, 2017.