HAWAII AGRICULTURAL EXPERIMENT STATION
HONOLULU, HAWAII

Under the joint supervision of the
UNITED STATES DEPARTMENT OF AGRICULTURE
and the
UNIVERSITY OF HAWAII

BULLETIN NO. 78

HONOLULU, HAWAII APRIL, 1938

PRODUCTION AND MARKETING OF TRUCK CROPS IN THE TERRITORY OF HAWAII

By
O. C. MAGISTAD, Ph.D., Director
and
T. O. FRAZIER, Statistician

CONTENTS

INTRODUCTION [1]

Production of fresh vegetables in the Territory of Hawaii is equal to about 60 percent of local consumption [2]. There are also, of course, large imports of canned, dried, and prepared vegetables. It has been more profitable to use local lands and resources for growth of crops

[1] The writers wish to express their appreciation of the contributions to this project made by H. H. Warner, director, Agricultural Extension Service; R. H. Gast, manager, Growers' Service Department, Inter-Island Steam Navigation Company; and H. B. Cady, marketing specialist, Agricultural Extension Service.

[2] "Hawaii's Food Supply and The Maritime Strike of 1936-1937" by H. B. Cady, Bulletin No. 30, Agricultural Extension Service, Honolulu, T. H., June 1937, p. 30, fig. 8.

yielding higher returns, purchasing needful vegetables from mainland United States, but such a policy has some drawbacks. Consumption of fresh green vegetables by laboring classes in the cities and on plantations is low and should be increased, as the prevailing rice diet is often not adequate. Many small farmers could and do make their livings growing truck crops on marginal land, but they have had little help in the production and still less in the marketing of their crops. With assistance, it is believed that truck farming in the Territory can become more of an industry, with local production of many commodities now shipped into the Territory. Availability of sugar processing tax funds for the general benefit of agriculture in the Territory provided the means by which studies of truck crop production and marketing of locally grown vegetables could be improved. Experimental work on production problems has also been initiated. This bulletin reports work done with the processing tax funds on a survey of production and marketing problems.

LEGAL AUTHORITY

Pursuant to Section 15 of the Agricultural Adjustment Act, approved May 12, 1933 (48 Stat. 31) as amended by the act approved May 9, 1934 (48 Stat. 670), the President, by Proclamation No. 2091 as amended by Proclamations No. 2100 and 2127, derreed that a certain amount of the processing taxes collected on Hawaiian sugar should be held as a separate fund to be used and expended for the benefit of agriculture in the Territory of Hawaii, as the Secretary of Agriculture, with the approval of the President, should direct. In behalf of the Territory of Hawaii, the Hawaii Agricultural Advisory Committee, consisting of the Governor of the Islands, a representative of the sugar industry, the President of the University of Hawaii, and the local representative of the Agricultural Adjustment Administration, Department of Agriculture, considered means of devoting this fund to the interest of a more efficient utilization of land in the Territory. The committee recommended, and the President and Secretary approved the allotment of $60,000 of this fund to the Hawaii Agricultural Experiment Station for development of truck farming and improvement of marketing facilities for farm products.

After January 6, 1936, when the decision of the Supreme Court invalidated the Agricultural Adjustment Act with respect to the collection and use of processing taxes, the unexpended balance of the

truck farming and marketing fund was made available in the Supplemental Appropriation Act, fiscal year 1936 (49 Stat. 116).

This allotment was originally set up for one year's activity, but the census and marketing portions were spread over an 18-month period, while the production research portion of the fund is being continued over a 30-month period.

The census and marketing work was done in cooperation between the Agricultural Extension Service of the University of Hawaii and the United States Department of Agriculture. The work was so beneficial to the growers and consumers of the Territory that the Territorial Legislature of 1937 passed Act 205, appropriating $30,000 for the ensuing biennium. This appropriation provides for continuation of the truck crop estimates and marketing work under the supervision of the Agricultural Extension Service.

ESTIMATED ACREAGE OF TRUCK CROPS PRODUCED IN HAWAII

STATISTICAL BACKGROUND

Previous to 1936, the main source of statistical data on the acreages of crops produced in Hawaii other than sugarcane and pineapples was the United States Agricultural Census of 1930, supplemented by yearly surveys of acreages planted to coffee and rice and estimates of acreages of some of the more important truck crops, made by the Agricultural Extension Service of the University of Hawaii. This information was deficient in several matters.

John Wesley Coulter[1], in making a detailed study of land utilization in the Hawaiian Islands including events up to the spring of 1933, stated that it was impossible to find out exactly the total of scattered areas of land used for some of the smaller crops, or to determine the acreages of a few minor crops on Maui and Molokai, two islands which are considered as a unit in the United States census of 1930. He expressed the hope that "an accurate survey of all of the arable land of the Hawaiian Islands will soon be made."

"In each region, subregion, area, and subarea there is needed detailed information on all types of farming carried on," he said. A deficiency in the United States Agricultural Census of 1930, fully as

[1] "Land Utilization in the Hawaiian Islands" by John Wesley Coulter, Ph.D., University of Hawaii Research Publication No. 8, Honolulu, T. H., 1933, pp. 41, 47, 49, and 134.

important as the defects observed by Dr. Coulter, is the lack of data on marketing of truck crops produced in Hawaii, information which is essential in helping the truck crop farmer.

CENSUS OF TRUCK CROPS PRODUCED IN HAWAII
(January-May, 1936)

With the availability of funds for the benefit of truck crop farming in the Territory of Hawaii at the beginning of 1936, it was considered advisable to make a detailed survey of the area under cultivation of crops other than sugarcane and pineapples for the purposes of bringing up to date statistics on crop acreages, filling in the lack of information on truck crop farming, and establishing a firm basis for a crop estimating service in the Territory. The survey was begun on January 2, 1936, and completed on May 9 of the same year. Figures were obtained by a staff of trained agriculturists who made a careful personal canvass of every farm on the Islands of Hawaii, Maui, Oahu, Kauai, and Molokai. Valuable assistance was rendered these enumerators by county agents of the Agricultural Extension Service and various agencies and individuals. Planted acreage and estimated production of all crops for human consumption except sugarcane and pineapples, as well as data on where these crops were to be marketed, were reported, and these statistics were subsequently compiled at headquarters for each locality, judicial district, island, and finally for the entire Territory. The total for each island and the combined total for the Territory were published June 1, 1936 in a pamphlet entitled *Census of Truck Crops Produced in Hawaii (January-May, 1936)* which will be referred to hereinafter as the "Crop Census." The crops covered in this survey, occupying approximately 6 percent of the total cultivated land in the Territory, included fruits, nuts, coffee, rice, etc. Those commodities commonly defined as truck crops occupied less than 2 percent of the Territory's arable land.

MONTHLY TRUCK CROP ESTIMATES

The first periodic crop estimating service in the Territory of Hawaii was begun with the *Estimate of Truck Crop Production in Hawaii for the Month of July, 1936*. This crop forecast, a revision of planted acreage and an estimate of production for the month of July, was completed and published a few days before July 1, 1936.

It was believed that the truck crop estimating service would be of distinct value to the farmers in planning their planting programs as well as to the wholesalers and commission merchants in obtaining estimates of the quantity of local produce available. Since a large part of the truck crop produce consumed in the Territory is shipped in from the mainland, many wholesalers have standing orders for mainland shipment. This factor, together with the uncertainty as to quantities of truck crops available locally, induces the wholesaler to adopt the easiest course; namely, to continue shipments from the mainland for the total amount of produce necessary rather than to plan on partial and uncertain delivery from local growers.

In the first crop estimate, 25 of the more important truck crop commodities were listed. It was found desirable, in subsequent months, to include 6 additional commodities in this group. Field estimates of each month's production were received in Honolulu headquarters from enumerators before the twenty-fourth of the preceding month; for example, estimates of September production were in the office by August 24, and the report was compiled, mimeographed, and mailed by September 1. In almost all cases the enumerators made direct personal inspection of the truck crop areas and then obtained from the farmers dates of plantings, probable amounts of harvest, and so forth, to confirm their own estimates. In only a very few cases were the services of farmer collaborators used in obtaining the estimates.

When each enumerator had completed his monthly survey, he wrote a last-minute report on the condition of crops in his territory and sent it to headquarters. This information was summarized in the comment sheet of the published bulletin.

Estimated acreages of the various commodities for the Territory as a whole and for each of the five main islands as reported in the monthly truck crop estimate for the year July 1936 through June 1937 are shown in tables 10 to 15, inclusive, in the appendix. Monthly averages of each commodity are computed. The tables give a picture, month by month, of total acreage devoted to each commodity and the error should not be made of totaling the monthly acreages in order to arrive at the acreage planted to each commodity during the year.

Estimated acreage forms the backbone of crop estimating work. Estimated production is based on planted acreage and follows its trends as shown in figure 1. The curves for both acreage and pro-

duction were plotted from the monthly totals of those commodities only which were reported throughout the entire year, July 1936 through June 1937. The graph shows the curve for production following the general trend of the acreage curve with a lag of approximately two months. This period is the average maturing period of

TRENDS OF PLANTED ACREAGE
AND ESTIMATED PRODUCTION
(Territorial Total)

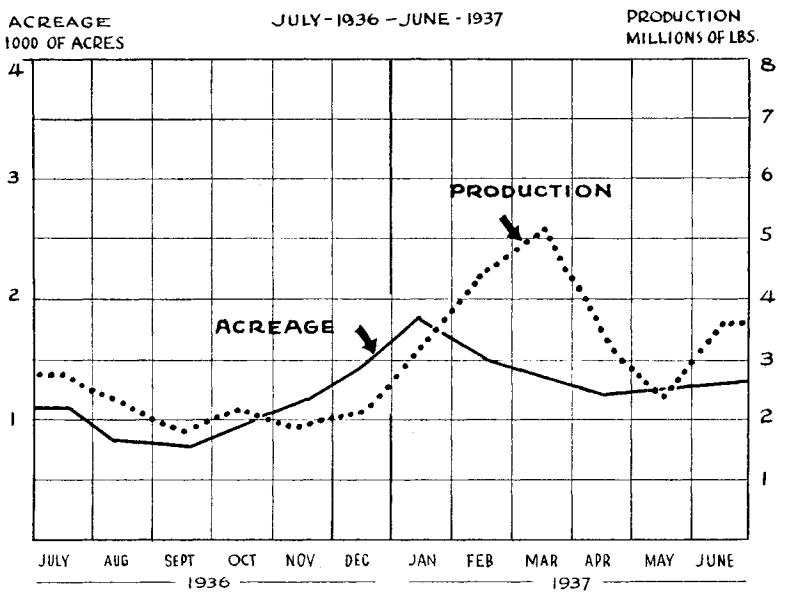
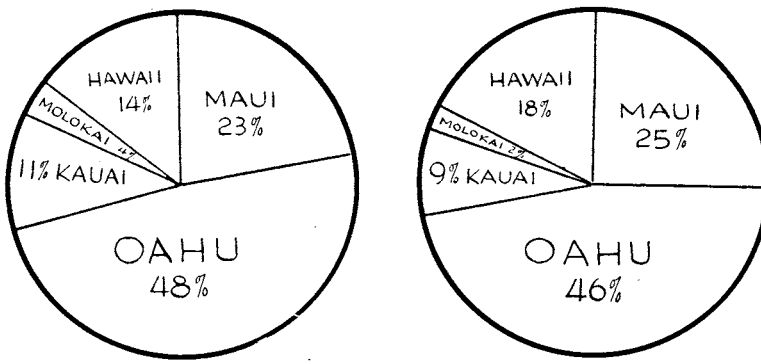


Figure 1

crops reported in the estimates. The high production of truck crops during the months of February, March, and April in comparison with the relatively low acreage is probably caused by the large potato crop harvested during this period and the relatively larger yields in pounds per acre of potatoes as compared with other truck crops.

Figure 2 shows how the production on the various islands correlates with acreage planted.

PROPORTIONS OF PLANTED ACREAGE AND ESTIMATED PRODUCTION FOR EACH ISLAND
JULY 1936 - JUNE 1937



Planted Acreage (Total monthly average—3,047.70 acres)

Estimated Production (Annual Total—49,411,135 lbs.)

Figure 2

COMPARISON OF CROP ESTIMATES AND CROP CENSUS

Land occupied by commodities reported in the Crop Census totaled 17,752 acres, itemized as follows:

	Acres
Truck crops	5,589
Coffee	5,553
Broomcorn, field corn (dry), cotton, pigeonpeas	2,040
Avocados and bananas	1,952
Rice	1,276
Nuts	560
Papaya	361
Other fruits	421

Approximately one year later the acreage devoted to truck crop production as given in revised estimates was 3,056 acres. This figure is 55 percent of the acreage given above. The following explanations can be given for the nonagreement of the census figures with later estimates:

(1) Enumerators failed to cover all truck crop areas in monthly estimates; many small gardens surveyed during the original

census were not included. The monthly estimates should, therefore, be a better index of commercial production than was the Crop Census.

(2) Truck crop acreage was reduced in 1937, mainly because of unfavorable weather conditions. The period January to May 1936 was very favorable for planting while the corresponding period in 1937, including some of the wettest months on record, was unfavorable. Weather Bureau figures show that from October 1935 to May 1936, the months which have a bearing on planted acreage surveyed in the Crop Census, rainfall was 93 percent of normal. Rainfall during the corresponding period one year later was 150 percent of normal. Table 1, presented below, gives rainfall figures for the period January 1936 through June 1937.

Table 1.—Territorial rainfall average from January 1936 through June 1937[1]

Month	Normal	1936	Departure from Normal	1937	Departure from Normal
	Inches	Inches	Inches	Inches	Inches
January	9.12	5.90	—3.22	15.65	+6.53
February	6.37	5.26	—1.11	13.86	+7.49
March	8.95	9.22	+0.27	13.48	+4.53
April	8.11	8.88	+0.77	6.63	—1.48
May	6.03	9.05	+3.02	9.10	+3.07
June	4.62	4.73	+0.11	4.01	—0.61
July	5.97	7.74	+1.77	.....	.....
August	6.50	9.67	+3.17	.....	.....
September	6.03	6.97	+0.94	.....	.....
October	5.51	10.47	+4.96	.....	.....
November	8.26	6.14	—2.12	.....	.....
December	9.23	16.74	+7.51	.....	.....

[1] Represents average of monthly rainfall for all Weather Bureau stations in the Territory.

(3) The number of commodities covered in the monthly estimates was less than in the census. Of the 80 commodities classified as truck crops in the Crop Census, only 29 were surveyed in the estimates for the same period a year later. The 51 commodities thus excluded occupied slightly more than 250 acres, according to the former census.

(4) The possibility exists that the census values were slightly overestimated.

COMPARISON WITH OTHER STATISTICS

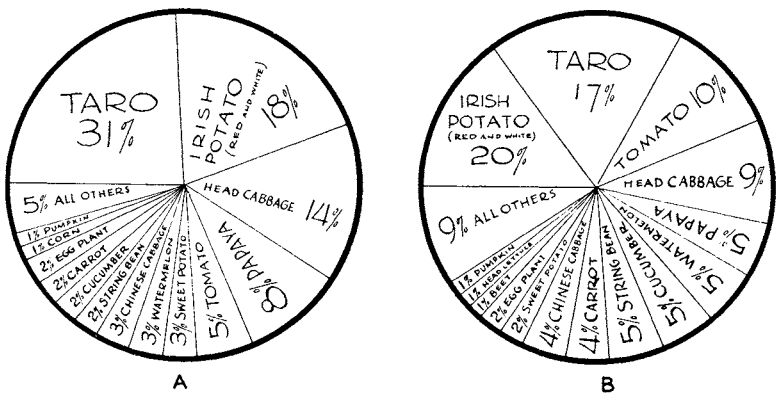
The acreages devoted to truck crop production as given in the U. S. Agricultural Census of 1930 were neither as complete nor as detailed in respect to number of commodities covered as was the census of 1936 made by this experiment station. Twenty-two commodities included in both the U. S. Agricultural Census, as revised by Dr. Coulter in 1933, and the Crop Census, covered 3,419 acres according to the earlier report, or approximately 75 percent of the 4,574 acres which the Crop Census reported for these same commodities in 1936. This discrepancy is in part due to increased activity in truck crop production in the Territory.

ESTIMATED PRODUCTION OF TRUCK CROPS IN HAWAII

IMPORTANCE

The volume of production, while based on planted acreage, is the most important information contained in the monthly truck crop estimates. Previous to 1936, no reliable data were available concerning the production of truck crops in the Territory. Records for

RELATIVE VOLUMES AND MARKET VALUES
OF TRUCK CROPS INCLUDED IN THE MONTHLY
TRUCK CROP ESTIMATES
JULY 1936 - JUNE 1937



Poundage Basis
(Total pounds—49,411,135)

Value Basis
(Total value—$1,844,340)

Figure 3

several years will be needed to establish normal or mean values of production for the Territory and for each of the five principal islands. When index values for normal production are obtained, crop estimating can be simplified, and it may be possible to forecast production in terms of percentage of the normal.

Figures on estimated production of each of the commodities reported in the monthly crop estimates for the Territory and for each of the five main islands are given in tables 16-21 in the appendix. The annual total and monthly averages for each commodity are shown. Production for each commodity is reported in the unit by which it is marketed in the Territory; thus, all commodities are reported in pounds, except bunched beets and carrots and head lettuce, which are reported in bunches or heads. The weights of "bunches" and "heads" may vary, but they are close enough to the pound to be considered as such in order to estimate total production figures.

The relative importance of the various crops listed in the monthly census is shown in figure 3.

GUIDES TO ESTIMATING PRODUCTION

During final compilation of the Crop Census, lists of all commodities were sent to Frederick G. Krauss, at that time director of the Agricultural Extension Service; W. T. Pope, senior horticulturist of the Hawaii Agricultural Experiment Station; and to other agronomists and horticulturists. These men estimated a normal yield per acre for each of the commodities, as a check against the values estimated by enumerators. Recent reliable publications relating to the yield per acre of truck crops in the Territory were studied. At a conference of the enumerators held at headquarters following the completion of the Crop Census, a table was drawn up of normal yields per acre for the commodities. This table has been supplemented as additional commodities were covered in the estimates. Table 2, appearing below, serves the enumerators as a guide in estimating monthly production.

At the end of each annual period, average acre yields for the year for the several crops will be computed from actual Territorial experience. These average yields will, over the years, constitute an index of crop production as affected by climate, cultivation methods, insect damage, and other factors.

As a further aid to enumerators in their work, a table was prepared giving the average number of days from planting to maturity

or harvest for the various truck crops. The values in the table are approximate only, and will vary with climatic conditions and particularly with altitude. This material is produced below in table 3.

Table 2.—Average production per acre of truck crops in Hawaii

Asparagus .....pounds	2,500	Lotus root .....pounds	15,000
Bean, string (green) ..... do	7,000	Onion, bulb ..... do	10,000
Beet .....bunches	5,000	Papaya ..... do	30,000
Beet, topped ....pounds	4,000	Pepper, bell .... do	3,000
Broccoli ..... do	4,500	Potato, red ..... do	8,000
Burdock ..... do	20,000	Potato, white .. do	8,000
Cabbage, Chinese ..... do	9,000	Pumpkin ..... do	8,000
Cabbage, head.. do	8,000	Squash, summer do	7,000
Cantaloup ..... do	4,000	Sweetpotato, Nancy Hall .. do	10,000
Carrot .....bunches	10,000	Sweetpotato (all others including yams) .... do	15,000
Carrot, topped..pounds	7,000	Taro, upland .... do	15,000
Corn, green ..... do	10,000	Taro, wetland .. do	20,000
Cucumber ..... do	8,000	Tomato ..... do	7,500
Eggplant, long.. do	10,000	Tomato, egg .... do	6,000
Eggplant, round do	15,000	Watermelon .... do	16,000
Lettuce, head (California type) .....heads	7,000		

Table 3.—Period from planting to maturity for truck crops in Hawaii

Asparagus .....months	18	Lotus root .....years	1
Bean, string (green) .....days	60	Onion, bulb .....days	150
Beet ..... do	65	Papaya .....years	1
Beet, toppd ..... do	75	Pepper, bell .....days	90
Broccoli ..... do	90	Potato, red ..... do	80
Burdock ..... do	180	Potato, white ..... do	100
Cabbage, Chinese .. do	60	Pumpkin ..... do	100
Cabbage, head ..... do	75	Squash, summer .... do	75
Cantaloup ..... do	100	Sweetpotato, Nancy Hall ..... do	150
Carrot ..... do	75	Sweetpotato (all others including yams) ..... do	180
Carrot, topped ..... do	100	Taro, upland .....years	1
Corn, green ..... do	80	Taro, wetland ..... do	1
Cucumber ..... do	60	Tomato .....days	75
Eggplant, long ..... do	90	Tomato, egg ..... do	75
Eggplant, round .... do	90	Watermelon ..... do	100
Lettuce, head (California type) ..... do	75		

COMPARISON WITH STEAMER RECEIPTS

In addition to the estimate of actual truck crop production, the enumerator makes an estimate of the proportion which will be shipped to Honolulu and this figure can be checked against steamer unloads in Honolulu. About 37 percent of the Territorial population resides in Honolulu, according to population estimate of June 30, 1936, supplied by Bureau of Vital Statistics, Territorial Board of

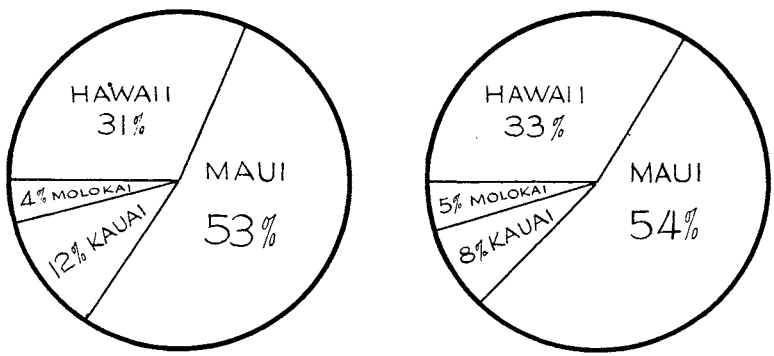
Table 4.—Comparison between estimated shipments to Honolulu from off-islands with actual receipts at Honolulu July 1936—June 1937 (reduced to monthly average basis)

Commodity	Estimated shipments	Steamer unloads
	Pounds	Pounds
Asparagus	8	20
Bean, string	6,978	6,631
Beet	19	2,037
Beet, topped	1,289	
Broccoli	3,650	2,955
Burdock	17,237	15,673
Cabbage, Chinese	75,812	72,700
Cabbage, head	490,329	455,676
Cantaloup	135	.....
Carrot	345	33,863
Carrot, topped	36,227	
Corn, green	10,345	20,652
Cucumber	28,026	42,656
Eggplant, long	13,434	12,887
Eggplant, round	495	
Lettuce, head	22,557	19,908
Lotus root	.....	.....
Onion, bulb	12,885	6,902
Papaya	5,766	190
Pepper, bell	1,886	1,394
Potato, red	75,243	54,676
Potato, white	74,048	
Pumpkin	36,328	41,994
Squash, summer	6,125	8,793
Sweetpotato, Nancy Hall	152	2,958
Sweetpotato, all others	2,784	
Taro, upland	381	35,482
Taro, wetland	33,794	
Tomato	143,749	132,063
Tomato, egg	.....	.....
Watermelon	19,853	10,295
TOTAL	1,119,880	980,405

Health, and much of the Territory's food produced on the other islands is shipped to Honolulu for consumption. The volume of truck crops shipped into Honolulu for the fiscal year 1937 comprised 27 percent of the total production. Receipts of truck crops at Honolulu from the outside islands are published in the weekly market report issued by the Agricultural Extension Service. A comparison between the enumerators' combined estimates of shipments to Honolulu from the off-islands with actual receipts at Honolulu is shown in table 4, based on the monthly average for each commodity from July 1936 through June 1937.

Estimates of shipments to Honolulu were reasonably accurate throughout the year except for the month of February, for which the estimate was based on the assumption that the maritime strike (October 28, 1936 to February 8, 1937) would continue throughout February. Consequently, no shipments for mainland United States were included in the February crop estimate. When the strike suddenly ended, a large quantity of potatoes estimated for shipment to Honolulu was sent directly to the mainland. The volume of truck crops by percentage as estimated for shipment to Honolulu from Hawaii, Maui, Kauai, and Molokai is shown below in chart A of figure 4; chart B gives the proportion of actual steamer unloads in Honolulu from each of these islands.

PERCENTAGES OF TRUCK CROPS PRODUCED FOR OAHU ON OUTSIDE ISLANDS



A
Estimated Shipments for Honolulu
(Fiscal year—13,137,499 lbs.)

B
Steamer Receipts at Honolulu
(Fiscal year—11,467,295 lbs.)

Figure 4

Comparison of estimated shipments for the mainland with actual shipment figures obtained through the courtesy of the U. S. Bureau of Entomology and Plant Quarantine offers a further check on accuracy of the estimates. Mainland shipments comprise 7 percent of the total production. Totals for the year show that the estimates agreed well with actual shipments. The bulk of shipments from the Territory to the mainland is from Oahu. Kauai shipped approximately 420,000 pounds of potatoes, Hawaii a small quantity of lotus root, and nothing was shipped directly from Maui or Molokai.

ADDITIONAL STATISTICS RELATING TO CROP ESTIMATES

SIZE OF TRUCK FARMS IN HAWAII

The most recent and accurate data available on the size of truck farms in the Territory are contained in the monthly truck crop estimates. Acreage figures for the Islands of Kauai, Oahu, Molokai, and the Island of Hawaii with the exception of the Kona and Kau districts appeared in the November 1936 crop estimate, and revised data on the size of truck farms on Maui in the March 1937 estimate. Data for the Kona and Kau districts of Hawaii were released in the June 1937 report. Acreages shown in these reports are areas devoted to truck crops and do not include land in house lots, wood lots, pasture land or in crops such as corn, rice, etc. On the basis of such values, the average size of the truck crop farm in Hawaii was 4.8 acres.

NUMBER OF TRUCK FARMS IN HAWAII

The number of growers reported in the monthly crop estimates is shown below in table 5, by islands and judicial districts. Figures include growers producing only those commodities covered in each crop estimate. Thus, we have 1,177 growers in the Territory in July 1936 and 1,673 in June 1937. In table 6, the growers are listed by the commodities which they produce; as most growers produce several commodities, there is much overlapping. A study of this table indicates that there are almost 400 producers of wetland taro, over 300 of bunched carrots, and almost that number producing string beans. Head cabbage, eggplants, papayas, sweetpotatoes, and tomatoes are each grown by about 200 farmers.

Table 5.—Number of growers reported in monthly crop estimates

Locality	July 1936	Aug. 1936	Sept. 1936	Oct. 1936	Nov. 1936	Dec. 1936	Jan. 1937	Feb. 1937	Mar. 1937	Apr. 1937	May 1937	June 1937
Hawaii:												
North Kohala	6	2	7	9	11	10	13	15	15	14	15	15
South Kohala	33	33	35	37	37	34	39	38	38	35	36	35
Hamakua	14	14	16	21	17	23	22	24	23	24	22	25
North Hilo	3	4	3	2	2	2	.....	2	2	3	3	3
South Hilo	21	21	23	16	16	16	21	19	23	26	26	29
Puna	83	82	82	77	92	99	106	99	100	97	102	112
Kau	10	15	15	12	13	12	17	14	14	14	13	18
South Kona	14	16	19	17	18	23	25	24	29	28	27	26
North Kona	2	9	10	9	8	19	23	27	29	30	34	37
Total	186	196	210	200	214	238	266	262	273	271	278	300
Maui:												
Lahaina	7	7	10	10	9	12	12	13	12	12	10	10
Wailuku	92	91	94	104	102	118	119	123	117	115	112	116
Makawao	216	183	184	195	187	194	204	221	191	194	188	199
Hana	3	1	1	2	.....	18	23	29	28	28	27	27
Total	318	282	289	311	298	342	358	386	348	349	337	352
Oahu:												
Honolulu[1]	108	115	126	128	135	156	147	150	117	107	101	115
Ewa	116	93	77	83	84	120	125	113	100	108	114	114
Waianae	12	13	12	14	16	20	30	29	20	28	26	27
Waialua	75	65	68	70	67	69	72	75	67	69	68	74
Koolauloa	45	22	19	21	25	109	122	122	111	119	121	121
Koolaupoko	82	77	51	50	45	205	197	192	171	167	183	227
Total	438	385	353	366	372	679	693	681	586	598	613	678
Kauai:												
Hanalei	19	16	16	15	22	52	55	53	54	56	57	55
Kawaihau	45	34	44	41	46	70	69	72	71	73	74	75
Lihue	36	30	26	31	27	34	36	34	34	34	34	37
Koloa	61	53	56	54	54	57	57	55	54	48	52	46
Waimea	34	33	30	30	30	54	55	54	52	47	37	36
Total	195	166	172	171	179	267	272	268	265	258	254	249
Molokai:	40	38	43	66	57	70	91	105	113	57	83	94
Total for Territory	1,177	1,067	1,067	1,114	1,120	1,596	1,680	1,702	1,585	1,533	1,565	1,673

[1] 190 FERA growers in Honolulu from July to October 1936 not included.

Table 6.—Number of growers producing each commodity covered by monthly truck crop estimates

Commodity	Territorial total													Monthly average for crop estimates
	1936 Census	July 1936	Aug. 1936	Sept. 1936	Oct. 1936	Nov. 1936	Dec. 1936	Jan. 1937	Feb. 1937	Mar. 1937	Apr. 1937	May 1937	June 1937	
Asparagus	31	23	20	27	26	23	23	25	23	22	23	24	25	24
Bean, string	518	262	296	310	326	313	257	345	303	285	293	296	268	296
Beet	205	90	93	84	122	111	78	120	129	111	108	113	91	104
Beet, topped	6	6	1	1	1	.....	4	1	3	2	6	5	20	4
Broccoli	68	36	39	37	49	54	53	60	49	54	54	57	67	51
Burdock	156	118	122	129	139	114	131	121	112	115	116	113	117	121
Cabbage, Chinese	249	60	75	89	119	137	134	217	154	142	143	128	104	125
Cabbage, head	307	180	170	162	185	201	193	229	252	237	214	198	192	201
Cantaloup	25	6	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2[2]
Carrot	498	279	293	273	310	278	309	326	346	360	370	325	308	315
Carrot, topped	29	44	34	45	53	43	30	35	43	61	33	42	67	44
Corn, green	183	.....	.....	.....	.....	.....	60	104	115	126	118	81	61	95
Cucumber	144	94	110	109	136	114	119	145	98	127	130	137	110	119
Eggplant, long	227	249	277	278	296	244	243	232	221	194	189	192	198	234
Eggplant, round	47	105	117	126	139	111	102	105	93	76	72	77	82	101
Lettuce, head	22[1]	16	15	20	17	27	37	27	33	37	32	33	36	28
Lotus root	60	.....	.....	.....	.....	.....	44	39	33	29	34	46	50	23
Onion, bulb	109	44	17	5	5	5	7	19	30	53	60	61	52	30
Papaya	595	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	210	210
Pepper, bell	42	49	51	57	56	53	47	46	58	48	40	49	46	50
Potato, red	26	8	19	22	24	28	28	31	29	20	14	20	27	23
Potato, white	149	76	45	55	84	95	144	166	112	97	84	97	106	97
Pumpkin	121	106	96	93	96	67	68	79	74	81	71	82	95	84
Squash, summer	10	11	10	9	9	8	14	22	10	22	19	20	22	15
Sweetpotato, Nancy Hall	10[1]	10	11	15	10	11	4	4	4	5	6	7	7	8
Sweetpotato, all others	450	.....	.....	.....	.....	.....	198	207	205	196	182	186	172	192
Taro, upland	231	.....	.....	.....	.....	.....	55	28	14	14	18	18	20	24
Taro, wetland	434	.....	.....	.....	.....	.....	405	406	410	375	378	379	369	389
Tomato	364	260	234	234	260	239	245	257	269	195	147	204	234	232
Tomato, egg	112	126	118	108	100	105	84	98	100	59	65	88	101	96
Watermelon	215	141	55	30	12	5	11	16	29	43	76	126	160	59
Total	5,643	2,399	2,319	2,318	2,574	2,386	3,127	3,510	3,351	3,186	3,095	3,204	3,417	3,398

Note: 190 FERA growers in Honolulu from January to October 1936 not included.

[1] Head lettuce and Nancy Hall sweetpotatoes were included with all varieties in the Crop Census. Figures are estimated.

[2] The average for cantaloup cannot be taken as a true monthly average.

Table 7.—Analysis of mailing list for the monthly truck crop estimate (distribution, as percentage of total, by groups on dates indicated)

Classification of Recipient	July 1936	Aug. 1936	Sept. 1936	Oct. 1936	Nov. 1936	Feb. 1937	April 1937	June 1937
	Per-cent	Per-cent	Per-cent	Per-cent	Per-cent	Per-cent	Per-cent	Per-cent
Growers	31	38	62	67	68	66	64	62
Dealers and transportation companies	21	15	13	10	10	11	12	11
Banks, Chamber of Commerce, official boards, Army and Navy	24	18	12	12	11	11	13	14
Plantations and agencies	15	10	8	6	6	6	6	7
Newspapers and libraries	6	6	3	3	3	3	3	4
County agents and assistants	3	3	2	2	2	3	2	2
Total number of names on the mailing list	405	460	515	562	571	598	631	717

MAILING LIST

The original mailing list for the truck crop estimates was compiled in the latter part of June 1936, based on mailing lists for the Weekly Market Letter and Agricultural Notes of the Agricultural Extension Service. Some names were suggested by the project leader and enumerators. This list has gradually been augmented by names submitted by the enumerators or persons directly requesting copies. Analyses made from time to time show the distribution and growth of the mailing list of the monthly crop estimates. These have been summarized in table 7 on page 17. It is gratifying to know that the community is finding a real use for these truck crop estimates and that the mailing list is continually growing as new requests come in from residents of the Territory.

GRADING AND PACKING

BACKGROUND

Practically no grading of truck crops was done in the Territory of Hawaii prior to 1936, the only commodity sold on the basis of grade being tomatoes. Likewise, there was no standardized packing or containers for locally grown truck crops. The most common type of container was the burlap bag used for shipping cabbage, each bag holding about 60 pounds, and also used extensively for carrots, beans, potatoes, sweet corn, onions, beets, and turnips. Next most prevalent was a type of box, about 2 cubic feet in size, used originally for crating 5-gallon kerosene cans. This box was used by the farmers principally for packing tomatoes.

Improvement of grading and packing methods in the Territory for several years had been recognized as an important phase in the development of truck farming since it was apparent that considerable waste resulted from the crude practices prevailing. This was particularly true in shipping fresh vegetables from the off-islands to the Honolulu market: the cylindrically-shaped burlap bag caused loss of cargo space, freight was paid on unmarketable produce, and waste resulted from rehandling and unduly heavy spoilage.

TOMATO GRADING AND PACKING

In November 1935, with the availability of funds for an educational program covering this aspect of marketing, the grading and packing project was inaugurated on tomatoes because: (1) The tomato season was at hand at the inception of this project on Jan-

uary 1; (2) there existed a pressing need for such work on tomatoes, as was indicated by numerous requests from growers for assistance; (3) it was believed that a technique might be developed for this crop which could be adapted to all important island truck crops; (4) the possibilities for early results from improved grading and packing practices with tomatoes seemed better than with other crops; and (5) this crop was adaptable to a spectacular, graphic demonstration project—this approach was deemed necessary because of the character and attitude of the growers and the trade in Hawaii toward improvements in the handling of truck crops for market.

Preliminary studies in the field indicated that the field quality of Hawaiian tomatoes was excellent at most seasons of the year, although pest injury was a constant menace. It was felt, moreover, that the potential consumer quality of island tomatoes during most seasons of the year was above that of the mainland receipts, particularly during the winter months, yet island fruit had never approached price parity with mainland fruit. At the inception of the project, the mainland product was selling at from 3 to 6 cents a pound more on the Honolulu wholesale market throughout the year, and it seemed obvious that the trouble must lie in the mishandling of locally grown fruit.

Analysis of field and market studies indicated that most of the problems incidental to the packing and handling of island tomatoes could be approached most satisfactorily and conclusively by supplanting the nondescript container in use with the California 30-pound lug, and by grading, wrapping, and packing tomatoes in such a way that their quality would place them on a quotable basis with mainland receipts on the Honolulu market.

For the purpose of inaugurating the improved grading and packing program under conditions which would make for early results, shook was secured from the mainland in sufficient quantity to make up a thousand 30-pound lug boxes for free distribution to the two growers' associations on Maui, the principal tomato-producing area in the Territory, where it was deemed advisable to center the demonstration program. The material for grading and packing, including box-making equipment and grading tables, was secured, and this equipment constructed and established in the associations' packing houses. Actually, field work was begun on Molokai between December 28 and 31, 1935, when several boxes of tomatoes were graded and packed for the Honolulu market.

A demonstrator experienced in grading and packing tomatoes in California was stationed on Maui from January 6 to March 16, 1936, teaching and supervising the packing of lugs. At the close of this period, the demonstration work was held in abeyance for several weeks because, due to unfavorable weather conditions, only a short crop was available for picking. Six growers' meetings were held, at which the advantages of the lug pack were explained and the results of test shipments to Honolulu reported.

Test shipments to the Honolulu market were begun January 10. These shipments were followed by the project leader through their sale on the Honolulu market. Difficulty was experienced from the first in getting growers to ship tomatoes in the "pink" stage. The bulk of the test shipments, shipped "mature-green," necessarily had to be held in the Honolulu market until they ripened so that they could be offered against imports of Mexican tomatoes then on the market.

A preliminary record of sales showed that, during the entire demonstration period, shipments of tomatoes in California lug boxes averaged from 2 to 3 cents a pound more than tomatoes shipped in the ordinary jumble pack kerosene box, or the equivalent of 30 to 45 cents more on each lug box. The cost of the new containers and packing amounted to only 18 cents a box. Further, it was determined that the wastage of fruit shipped in lug boxes was less than 5 percent, while with the old containers the wastage during the entire demonstration period averaged about 35 percent.

In February an experiment was made in shipping tomatoes from the Territory to the Shanghai market and it was found to be practicable. An exhibit showing the excellent quality of locally grown tomatoes was held in the display window of a prominent business concern in the center of the Honolulu business and shopping district, and considerable support was given to the demonstration by local wholesale and retail vegetable dealers as well as the local press. The grading and packing work was constantly publicized by radio and in the English and Japanese newspapers throughout the entire Territory. Demonstrations of grading and packing were given at county fairs and at growers' meetings on all islands of the Territory.

GRADING AND PACKING OTHER COMMODITIES

With work in tomato grading and packing well established by spring, major efforts of the project were next directed toward other

commodities. Early in June small quantities of rhubarb appeared on the Honolulu wholesale market shipped in sacks and selling at about one-fifth the price of mainland rhubarb. Through the projects' scientific aides and the Weekly Market Letter, the growers were informed that any box, preferably the apple box, which is the standard rhubarb container, would be much better than sacks. This resulted in a considerably better price for properly packed Hawaiian rhubarb.

During July and August some fifty test shipments of head cabbage, Chinese cabbage, cucumbers, broccoli, and lettuce were made to Honolulu from the Volcano and Waimea sections of Hawaii, to which the project demonstrator had been transferred. The purpose of the test shipments from Hawaii was twofold:

(1) To study (a) types of containers and their capacities for various commodities, (b) the most desirable packs, (c) handling, stowage, and temperatures in transit, and (d) condition and temperatures of commodities upon arrival; and

(2) To convince the growers, some of whom had previously shown reluctance in the matter, of the advantages of standardized grades and packs.

Cooperating in this project, the Inter-Island Steam Navigation Company issued a revised cubic measurement basis of acceptance, under which growers using standard packs and standard containers were temporarily allowed to ship under an "adjusted measurement basis" at a lower transportation cost than those shipping in non-standard containers. The program was designed to foster the more general use of standardized packs and packages. It was felt necessary to demonstrate to growers that standardization would increase their net returns more than enough to offset the slightly increased costs.

Tomato grading and packing was continued on Maui, meanwhile, in cooperation with the Growers' Service Department of the Inter-Island Steam Navigation Company. A study of the comparative costs of marketing and net returns from tomatoes packed in kerosene cases and in lugs between April and August 1936 is presented in table 8.

Table 8.—Comparison of costs of marketing Territorial grown tomatoes in kerosene cases and lugs

Kerosene Case Receipts

1936	Cost of case[1]	Transportation cost per case[2]	Selling cost per case[3]	Total fixed cost per case[4]	Total fixed cost per pound	Average sales price per pound[5]	Return to grower per pound
	Cents	Cents	Cents	Cents	Cents	Cents	Cents
April	4.0	16.0	36.83	56.83	1.14	4.91	3.77
May	4.0	16.0	31.50	51.50	1.03	4.20	3.17
June	4.0	16.0	25.28	45.28	.91	3.37	2.46
July	4.0	16.0	30.90	50.90	1.02	4.12	3.10
August	4.0	16.0	31.28	51.28	1.03	4.17	3.14

Lug Pack Receipts

1936	Cost of lug[6]	Packing cost per lug[7]	Transportation cost per lug[2]	Selling cost per lug[3]	Total fixed cost per lug[8]	Total fixed cost per pound	Average sales price per pound	Return to grower per pound
	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents
April		No	figures	avail	able			
May	10.0	10.0	8.0	28.08	56.08	1.87	6.24	4.37
June	10.0	10.0	8.0	22.01	50.01	1.67	4.89	3.22
July	10.0	10.0	8.0	23.45	51.45	1.72	5.21	3.49
August	10.0	10.0	8.0	26.01	54.01	1.80	5.78	3.98

Comparison of Returns

1936	Return to grower per pound		Increased return to grower on lug pack
	Kerosene case	Lug[5]	
	Cents	Cents	Percent
April	3.77	.....	.....
May	3.17	4.37	37.9
June	2.46	3.22	30.9
July	3.10	3.49	12.6
August	3.14	3.98	26.8

[1] Figured on basis of 40 cents for case which averages 10 trips to market.
[2] From Kahului, Maui, taken as a fair average.
[3] Basis 15 percent commission.
[4] Case of 50 pounds net weight.
[5] True average of grades, Special, No. 1, and No. 2 (No. 3 being eliminated) with actual percentages of worthless taken into consideration.
[6] 10 cents including lid.
[7] Packing at 9 cents and paper 1 cent, totaling 10 cents.
[8] Lug averaging 30 pounds in weight.

Lugs, lids, and paper were sold to growers at cost, and labor was charged at the rate of 9 cents per packed lug. The total packing cost of 20 cents per lug was probably somewhat lower than would be the case for commercial operations, unless larger volumes were handled. The actual labor during this demonstration cost more than the 9 cents per lug charged because of limited supplies of tomatoes. The deficit was borne by the Growers' Service Department of the Inter-Island Steam Navigation Company.

The comparative net returns as shown in table 8 do not, therefore, accurately reflect commercial packing conditions in the case of the lug pack. The lug pack obviously costs more per pound to put up, but even after allowing another 5 cents per lug, or one-sixth of a cent per pound, for packing operations under commercial conditions, the average net return would still be decidedly in favor of the lug pack. With a steady volume of 1,000 lugs per week or more, it should be possible to grade properly and pack, including cost of all materials, for approximately 25 cents per packed lug.

MARKETING PUBLICATIONS

Partially as a result of the information gained from test shipments, a circular entitled "Some Recommended Truck Crop Packages and Packs" was issued by this project on August 26, 1936, as *Agricultural Notes No. 136*, under the joint auspices of the Agricultural Experiment Station and the Extension Service, University of Hawaii. Packs and packages described therein were taken as standard by the Inter-Island Steam Navigation Company in revising their basis of acceptance.

As a further progress report on the tomato grading, packing, and marketing phases of this project, *Agricultural Notes No. 137*, entitled "Some Economic Aspects of Tomato Growing and Marketing within the Territory of Hawaii," was issued jointly by the Extension Service and the Hawaii Experiment Station.

SUBSEQUENT GRADING AND PACKING WORK

During October, test shipments from Hawaii to Honolulu were continued. The commodities receiving most attention were head cabbage, Chinese cabbage, cucumbers, head lettuce, and summer squash. This work was also carried on in cooperation with the Inter-Island Steam Navigation Company.

Results exceeded expectations, particularly in the case of head cabbage. It was demonstrated that medium-sided, well-graded head cabbage packed in the No. 4 standard crate arrived with a brighter color, showed less wastage, and sold much better than sacked receipts. Growers and wholesalers both accepted the new package more readily than was anticipated. It was recommended that the use of sacks be continued for excessively large-sized cabbage and for No. 2 quality. The crate pack is definitely established, has realized returns more than high enough to justify the increased cost, and is expected to become the universally accepted package for fancy quality cabbage.

Cucumbers well graded and packed in lugs sold at substantial premiums over those shipped indiscriminately in large crates.

Chinese cabbage, packed as recommended in *Agricultural Notes No. 136,* arrived with less wastage and sold at better prices.

The grading of lettuce improved but little, due to a high market shortly after November 1 resulting from the maritime strike.

Summer squash in lugs showed marked improvement in condition upon arrival.

There was compartively little lug box material in the Territory when the shipping strike became effective about November 1. Additional supplies had been ordered but were still on the mainland. The supply of crate material was somewhat larger but was practically exhausted by December 1. This lack of supplies, normally taken care of by the Growers' Service Department, greatly hampered and, in fact, practically stopped the work on improvement of grades and packs.

During the period of the strike, the demonstrator divided his time among the Islands of Molokai, Oahu, and Kauai, and assisted growers by demonstrating what constitutes good grades and, in general, how to pack and market crops for the highest possible returns. Grading and packing demonstrations were held for the benefit of the Agricultural Extension Service county agents and their assistants, who were in Honolulu for their annual conference in late January and early February 1937. Shortly thereafter, lack of funds necessitated termination of the services of the demonstrator.

Subsequently, various shipments from off-islands were checked on the Honolulu market, and reports on arrival conditions and desirability of packs were made to growers, or to county agents who acted as intermediaries.

Territorial production of vegetables, particularly during Febru-

ary and March 1937, was much lighter than normal and prices were higher, due partially to the light local supply and partially to the freeze in California which curtailed supplies from that source. As a resut of these factors, poor quality produce, indiscriminately packed, brought good prices.

From March until June of 1937, the grading and packing work consisted mainly of demonstrations and inspections of market receipts, followed by correspondence with growers and county agents, the aim still being to increase the acceptance and use of standardized grades, packs, and packages. After June, marketing activities ceased to be carried on as a processing tax fund project. Provision for continuation of the work by the Agricultural Extension Service was made possible through a Territorial appropriation. The work will also continue to be supported by the Growers' Service Department of the Inter-Island Steam Navigation Company.

MARKETING OF TRUCK CROPS

STATISTICAL BACKGROUND

Since truck crops occupy less than two percent of the arable land in the Territory of Hawaii, and this small part is comprised mainly of second rate and marginal lands tilled by tenant farmers, market statistics, until recently, have given little place to truck crops. Prior to 1930, prices of a few truck crops on the Honolulu market were given in the Extension Letter issued monthly by the Agricultural Extension Service. Beginning that year, a more complete list of prices was reported weekly by the Extension Service with the cooperation of the Honolulu Chamber of Commerce. This service was later taken over completely by the Extension Service with the publication of the Weekly Market Review. The mailing list of this market news service at that time carried less than fifty names. For a short time the Weekly Market Review was supplemented by the Market Letter issued by the Federal Territorial Food Products Inspection Service, which represented the U. S. Bureau of Agricultural Economics in Hawaii. This market news sheet gave steamer unload figures and prices of fresh vegetables and eggs on the Honolulu market, together with comments. On May 19, 1936, the two publications were combined into the Weekly Market Letter. At the close of June 1937, the mailing list of this market news service had reached a total of 1,051 names.

It was not until 1936 that any current figures on the volume of truck crops shipped into Honolulu from the mainland, foreign countries, and islands of the Hawaiian group other than Oahu were available to the public. Weekly totals of shipments are now published in the Weekly Market Letter, supplemented by monthly totals. These figures have been made available to the Extension Service through the courtesy of the Inter-Island Steam Navigation Company, Young Brothers, Castle & Cooke, and Territorial Plant Inspection Service.

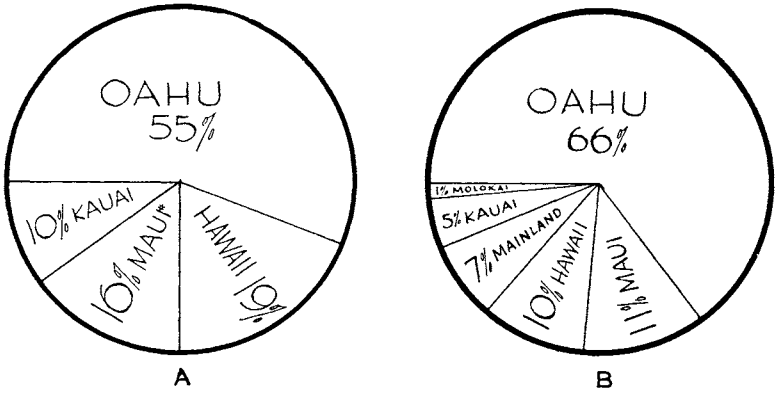
The figures have given an accurate conception of the volume of vegetables produced for the Honolulu market by islands of the Territory other than Oahu. The Crop Census and monthly crop estimates make available, in addition, detailed data on the amount of truck crops produced on each of the islands for local consumption.

DESTINATION OF TRUCK CROPS PRODUCED IN THE TERRITORY

Total commercial truck crop production for the Territory for 1936-37 was estimated at 49,411,135 pounds (see table 16 in the appendix). Of this total, about 3,342,700 pounds were shipped to the mainland. Deducting estimated shipments to Honolulu and the mainland from the total production on each of the Islands of Hawaii, Maui, Kauai, and Molokai (tables 17, 18, 20, and 21 in the apppendix), the total estimated amounts produced by the islands for local consumption were as follow: Hawaii, 4,871,424 pounds; Maui, 5,223,310 pounds, Kauai, 2,865,144 pounds; and Molokai, 220,193 pounds. The total consumption for Oahu, obtained as the sum of production on Oahu (table 19 in the appendix) plus shipments from off-islands and deducting shipments to the mainland, was 32,888,737 pounds. Inter-Island shipments, except from outside islands to Oahu, were insignificant in amount. To obtain actual figures, a special analysis of inter-island shipping records would be necessary.

A comparison, by islands, of the consumption of truck crops and distribution of population as shown in figure 5 indicates that consumption on Oahu is a relatively large percentage of production in the Territory. This percentage probably would be somewhat reduced had figures been compiled on the amount of truck crops shipped from Oahu to the other islands, and further reduced if small farms on outside islands, producing vegetables for home consumption, were surveyed in the crop estimates.

TERRITORIAL POPULATION BY COUNTIES, AND DESTINATION (FOR CONSUMPTION) OF THE TRUCK CROPS PRODUCED IN THE TERRITORY IN 1936 - 1937.



Territorial Population
by Counties
(Population estimate as of June 30, 1936, Bureau of Vital Statistics, Territorial Board of Health)
(Total Population—393,277)
*Includes Islands of Molokai and Lanai

Destination of the Territory's Truck Crops
June 1936 - July 1937

(Total Production—49,411,135 lbs.)

Figure 5

VALUE OF TRUCK CROPS PRODUCED IN THE TERRITORY

The wholesale value of commodities reported in the estimates for the period July 1936 through June 1937 totaled $1,844,340. The monthly value of each commodity was obtained as a product of monthly production and average price as reported in the Weekly Market Letter of the Extension Service. Prices for the year 1936-1937 doubtless were higher than normal as the result of the food shortage during the maritime strike. The values, on an annual basis, of the commodities reported in the estimates, are shown in table 9.

Table 9.—Computed value of truck crops produced in the Territory of Hawaii during the year July 1, 1936, to June 30, 1937. (Home and plantation gardens not included.)

	Dollars
Asparagus	20,325
Bean, green-pod	96,114
Beet	20,021
Beet, topped	404
Broccoli	11,671
Burdock	15,989
Cabbage, Chinese	82,130

	Dollars
Cabbage, head	164,079
Cantaloup	3,085
Carrot	14,815
Corn, green	17,840
Cucumber	91,988
Eggplant, long	31,928
Eggplant, round	14,052
Lettuce, head	23,854
Lotus root	18,913
Onion, bulb	4,511
Papaya	98,951
Pepper, bell	13,154
Potato, red	256,775
Potato, white	111,368
Pumpkin	20,483
Squash, summer	7,452
Sweetpotato (Nancy Hall)	1,865
Sweetpotato (all others including yams)	31,267
Taro, upland	11,217
Taro, wetland	305,820
Tomato	165,040
Tomato, egg	26,439
Watermelon	93,470
Total value	1,844,340

PRICE

The relationship between price and production affords an interesting study in connection with the monthly crop estimates and doubtless will play an increasingly important part in the work as growers and dealers learn to evaluate the monthly crop estimates and Weekly Market Letter. When the monthly crop production can be reported in terms of percentage of normal, this relationship will be more obvious.

Prices on the Honolulu market vary as a result of changes in supply and demand. Forecasts of production as shown in the monthly estimates often have not been directly correlated with price changes because of many other factors affecting the supply. Principal among these is the varying quantity arriving from without the Territory, especially during the maritime strike.

In the following series of graphs (figs. 6, 7, and 8), comparisons are drawn between estimated monthly production and prices as reported in the Weekly Market Letter. In some instances the graphs include average wholesale prices and volumes of mainland and foreign-grown commodities, on the Honolulu market, which have an effect on the prices of the same commodities produced in the Territory. The price curves, in most cases, apparently react in accordance with the law of supply and demand.

VOLUME AND AVERAGE WHOLESALE PRICE ON THE HONOLULU MARKET, JULY 1936 - JUNE 1937

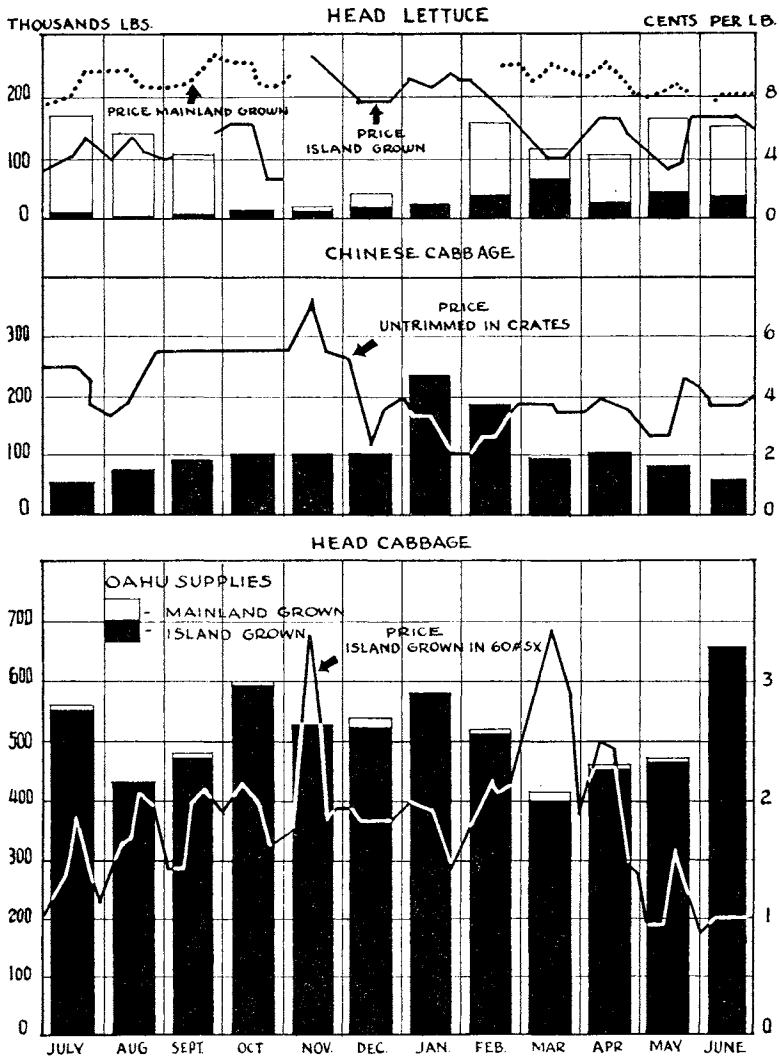


Figure 6

Head lettuce, Chinese cabbage, and head cabbage are the most important leaf vegetables grown in Hawaii. Prices reached exceptionally high levels in November at the outset of the maritime strike and again in March when supplies were low due to rainy weather during the preceding months. (Interrupted lines indicate no quotations available.)

VOLUME AND AVERAGE WHOLESALE PRICE ON THE HONOLULU MARKET, JULY 1936 - JUNE 1937

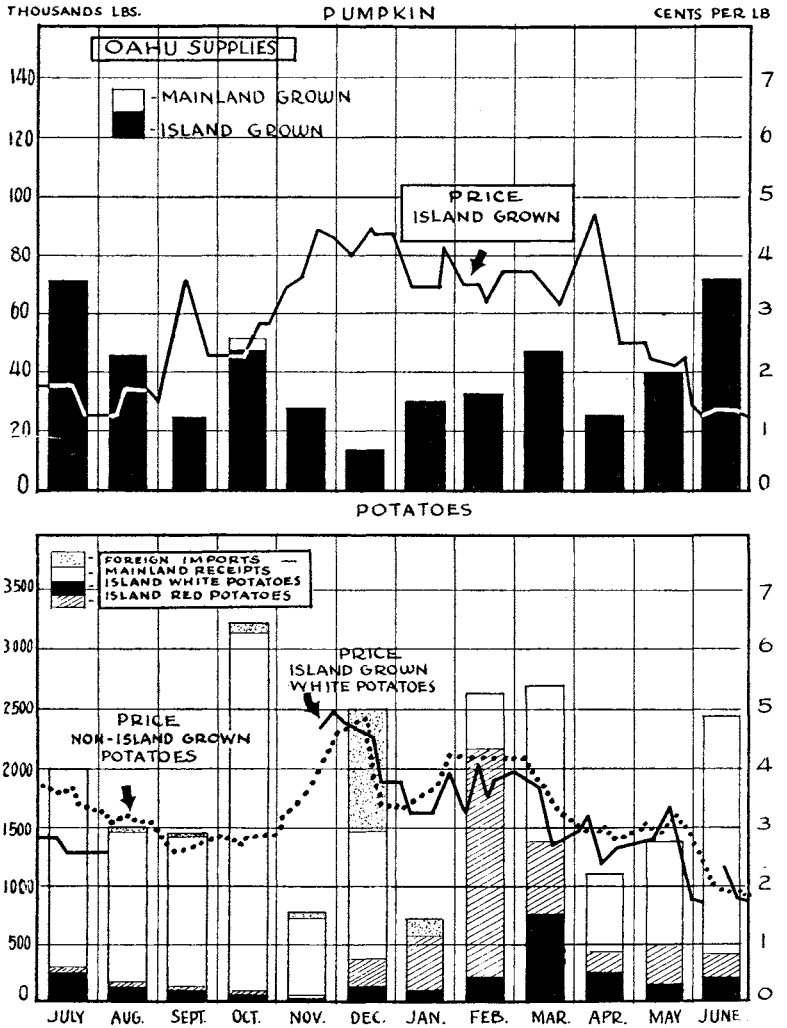


Figure 7

Potatoes are the principal truck crop produced in Hawaii for export to the mainland. While a distinction is made between supplies of island-grown red and white potatoes, the price curve on island-grown white potatoes only is shown in the above chart. Prices on island-grown red potatoes were quoted between January and April, inclusive, and corresponded very closely with prices on the island-grown whites. (Interrupted lines indicate no quotations available.)

Potatoes were imported from the Orient from July to the first of November when the U. S. Department of Agriculture placed a ban on Oriental potatoes. During November, December, and January, imports were from Canada.

VOLUME AND AVERAGE WHOLESALE PRICE ON THE HONOLULU MARKET, JULY 1936 - JUNE 1937

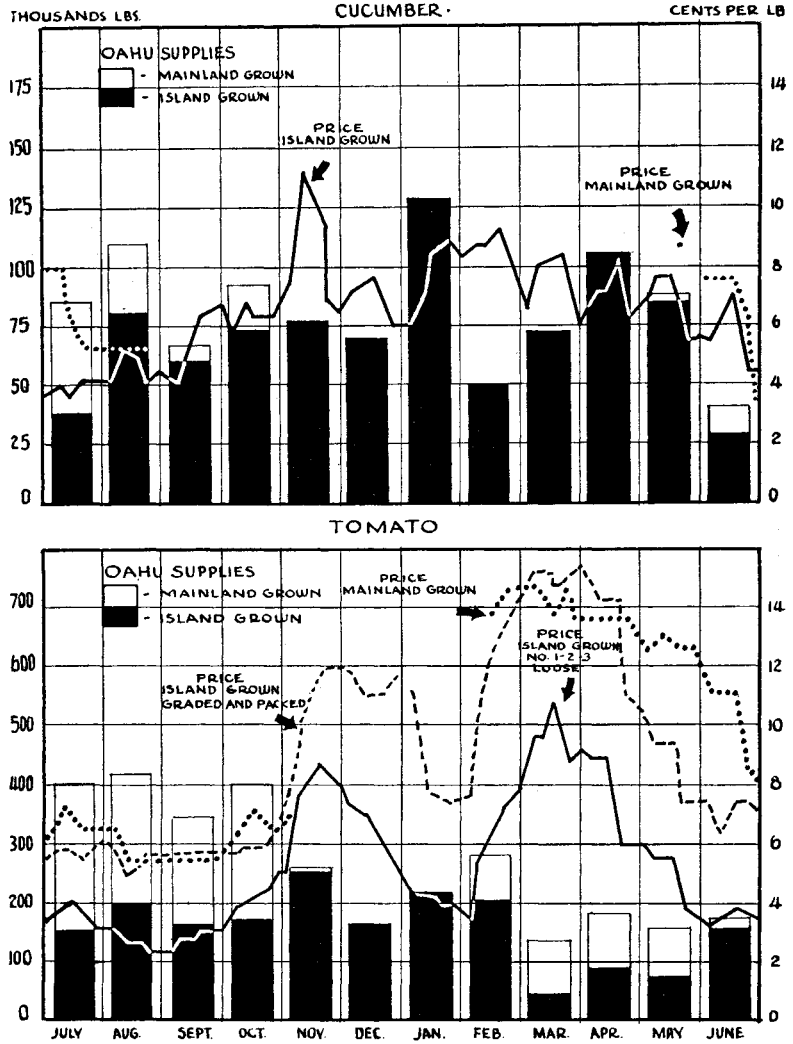


Figure 8

The prices and Oahu supplies of egg tomatoes are not included in the above chart. The average monthly supply of egg tomatoes is estimated to be approximately 37,000 pounds and the price corresponds to No. 2 loose-pack globe tomato prices. The above chart depicts the premium paid on the Honolulu market for properly graded tomatoes. The price of tomatoes reached peaks during the maritime strike and in March when production had been affected by the winter rains. (Interrupted lines indicate no quotations available.)

CONCLUSION

Monthly truck crop estimates covering a full year are published in the appendix of this bulletin, making possible direct comparisons between a given month and the same month one year earlier. With the continuance of the crop estimating and reporting service assured, by Territorial appropriation, for the biennium beginning July 1, 1937, these monthly records will become increasingly valuable.

It is believed that, as the growers become convinced of the advantages of improved grading and packing, the acceptance and use of standardized grades, packs, and packages will increase. The county agents are continuing demonstrations and inspections of market receipts. Marketing activities are also being continued as an Extension Service project.

As explained in the introduction, the production research portion of the truck crop project funds is being expended over a 30-month period. Under the leadership of J. H. Beaumont, field experiments are being carried on at Waipahu, Oahu; Waimea, Hawaii; and at the Haleakala Branch Station at Makawao, Maui. Varietal studies are being made of beans, beets, broccoli, cabbage, carrots, chard, eggplant, onions, peas, peppers, rutabagas, tomatoes, and turnips. The current status of this phase of the project is described at the end of each quarter in the mimeographed reports issued by the Hawaii Agricultural Experiment Station.

APPENDIX

Table 10.—Total planted acreage—Territorial summary, 1936-37

	July 1936	Aug. 1936	Sept. 1936	Oct. 1936	Nov. 1936	Dec. 1936	Jan. 1937	Feb. 1937	Mar. 1937	Apr. 1937	May 1937	June 1937	Monthly Average	
Asparagus	40.25	42.73	44.56	45.58	49.43	49.58	50.38	48.63	49.47	48.72	58.70	66.96	49.58	
Bean, string (green)	30.07	31.49	37.87	42.04	33.50	35.52	45.23	44.08	37.45	40.19	35.07	26.68	36.60	
Beet	3.17	2.75	3.19	5.39	6.25	4.13	6.99	6.53	6.23	5.96	6.47	4.98	5.17	5.56
Beet, topped	.86	.12	.12	.12	.....	.37	.09	.14	.03	.36	.64	1.84	.39	
Broccoli	5.52	4.05	4.29	6.30	7.28	8.13	7.86	10.79	10.96	11.24	10.29	11.99	8.23	
Burdock	8.58	15.67	16.95	15.65	15.94	16.98	14.81	12.88	13.84	14.40	15.01	16.62	14.77	
Cabbage, Chinese	12.19	13.93	14.61	17.32	29.18	44.13	65.10	51.03	41.50	31.67	29.51	22.04	31.02	
Cabbage, head	117.90	111.15	103.19	195.73	194.38	164.63	177.18	158.89	178.90	176.27	177.50	203.56	163.27	
Cantaloup	4.99	.45	.....	.....									1.36[1]	
Carrot	17.00	25.73	26.33	30.65	28.82	26.55	32.55	35.46	39.92	45.00	40.07	30.66	31.56	43.86
Carrot, topped	9.40	9.21	12.98	13.42	11.23	8.99	10.57	14.62	19.23	10.68	9.81	17.48	12.30	
Corn, green						44.60	99.03	134.39	159.54	139.05	87.71	39.55	100.55	
Cucumber	22.68	29.46	21.91	30.78	39.79	56.72	75.03	47.75	55.83	49.26	57.42	37.00	43.64	
Eggplant, long	38.22	37.95	36.58	39.39	33.91	30.45	29.80	27.97	23.48	23.13	22.87	25.94	30.81	42.40
Eggplant, round	15.55	12.13	13.08	15.57	15.64	10.71	11.98	11.34	8.08	7.82	8.21	9.05	11.59	
Lettuce, head (California type)	1.51	2.70	3.31	3.49	5.06	6.71	11.42	10.81	14.19	11.68	13.78	10.70	7.95	
Lotus root						46.89	48.39	47.72	47.60	46.97	53.06	54.18	49.26	
Onion, bulb	44.11	15.27	1.60	2.37	.79	1.29	5.47	11.95	25.04	30.26	31.30	27.33	16.40	
Papaya												275.94	275.94[1]	
Pepper, bell	8.03	7.24	7.49	6.06	7.07	7.90	7.58	11.60	10.13	8.79	8.73	5.96	8.05	
Potato, red	4.18	4.22	1.75	8.87	146.56	461.30	668.33	460.09	298.25	187.56	41.25	29.94	192.69	297.55
Potato, white	52.40	22.66	22.37	53.87	94.29	154.93	209.30	167.79	196.98	92.44	102.37	88.88	104.86	
Pumpkin	121.80	114.03	185.66	184.69	143.89	81.70	99.18	88.17	89.42	77.67	83.13	96.86	113.85	
Squash, summer	4.95	4.38	3.63	2.35	1.07	2.15	6.12	2.14	4.67	4.07	3.61	3.38	3.55	
Sweetpotato (Nancy Hall)	2.64	2.34	3.25	1.90	2.31	.70	.78	5.79	5.87	3.87	.82	.92	2.60	88.78
Sweetpotato (all others including yams)						78.30	77.09	95.21	95.89	76.73	91.47	88.59	86.18	
Taro, upland						76.55	77.69	68.47	69.99	69.76	69.58	72.97	72.14	
Taro, wetland						1,187.10	1,332.23	1,292.73	1,223.51	1,178.32	1,169.58	1,189.98	1,224.77	1,296.91
Tomato	205.43	181.63	173.94	207.26	203.73	192.27	212.77	227.31	145.89	108.84	125.10	146.00	177.51	206.73
Tomato, egg	24.81	25.18	24.01	22.38	28.16	33.75	40.58	35.78	25.54	24.82	33.11	32.50	29.22	
Watermelon	302.58	135.14	74.84	36.25	8.50	12.70	18.29	45.70	105.37	209.00	366.49	387.80	141.89	
Total	1,098.82	851.61	837.51	987.43	1,106.78	2,845.73	3,441.82	3,175.76	3,002.80	2,734.53	2,752.66	3,026.28	3,047.70	

[1] Not true monthly average for cantaloup and papaya in tables 10 - 21.

Table 11.—Total planted acreage—Hawaii, 1936-37

	July 1936	Aug. 1936	Sept. 1936	Oct. 1936	Nov. 1936	Dec. 1936	Jan. 1937	Feb. 1937	Mar. 1937	Apr. 1937	May 1937	June 1937	Monthly Average	
Asparagus	1.30	.....	0.88	0.89	0.35	0.50	0.85	0.75	0.70	0.70	0.83	0.84	0.71	
Bean, string (green)	1.86	2.64	3.36	3.17	2.96	2.25	3.02	2.48	4.00	3.78	3.69	3.38	3.05	
Beet	.26	.61	.57	1.42	1.96	1.15	1.69	1.53	1.97	1.79	2.15	1.57	1.39	
Beet, topped	.64	.....	.....	.....	.....	.37	.09	.14	.....	.17	.44	.90	.23	1.62
Broccoli	1.06	2.07	1.71	1.89	2.06	1.67	2.64	1.45	1.94	1.46	2.79	4.92	2.14	
Burdock	3.24	10.94	11.71	9.91	12.21	12.14	10.14	8.31	8.90	9.29	9.92	11.54	9.85	
Cabbage, Chinese	6.60	7.67	9.45	7.50	15.66	19.84	20.14	15.80	15.58	13.11	12.89	8.93	12.76	
Cabbage, head	16.89	39.04	42.40	44.31	53.01	52.88	48.90	39.24	42.10	38.97	55.09	59.66	44.37	
Cantaloup	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Carrot	2.32	8.35	5.27	5.59	7.21	6.37	7.71	5.82	9.14	11.36	12.24	6.73	7.34	
Carrot, topped	1.56	.68	5.73	7.02	5.23	6.72	4.57	4.41	4.04	1.72	2.03	6.06	4.15	11.49
Corn, green						12.50	7.32	5.03	9.49	9.04	9.00	11.69	9.15	
Cucumber	5.52	14.31	12.82	12.61	12.70	8.99	8.40	4.36	6.83	12.46	16.69	16.54	11.02	
Eggplant, long	2.92	2.31	3.36	3.68	3.62	3.66	4.27	4.19	3.53	3.11	3.49	5.06	3.60	
Eggplant, round	2.45	2.56	4.75	3.72	4.67	1.80	1.97	2.06	1.67	1.43	1.44	2.77	2.61	6.21
Lettuce, head (California type)	1.29	2.60	3.05	3.48	4.95	6.27	10.76	10.47	13.64	11.25	13.21	10.44	7.62	
Lotus root						.85	1.00	1.00	1.00	1.00	1.00	1.50	1.05	
Onion, bulb	4.00	.20	.....	.....	.....	.....	.....	.....	.02	.06	.14	.....	.37	
Papaya												11.98	11.98	
Pepper, bell	3.45	1.23	2.84	2.33	2.56	1.32	1.63	2.01	1.49	1.09	2.02	3.39	2.11	
Potato, red	2.03	2.60	1.41	2.72	4.40	6.95	11.39	10.19	5.53	4.32	6.23	7.46	5.44	
Potato, white	6.22	6.01	4.62	16.07	15.13	12.89	15.86	13.28	12.34	7.97	9.40	8.62	10.70	16.14
Pumpkin	14.90	15.77	105.19	113.24	115.12	45.48	34.45	21.86	17.94	15.19	18.44	29.11	45.56	
Squash, summer	.54	.60	.65	.49	.87	.96	1.19	.94	1.42	1.39	1.81	2.05	1.08	
Sweetpotato (Nancy Hall)	2.64	2.30	3.25	1.85	1.80	.....	.....	.....	.....	.07	.07	.07	1.00	
Sweetpotato (all others including yams)						6.53	5.25	4.21	3.63	3.85	6.21	6.95	5.23	6.23
Taro, upland						55.34	60.38	60.30	61.46	61.83	61.75	62.29	60.48	
Taro, wetland						108.00	90.72	79.22	60.39	54.64	48.69	81.41	74.72	135.20
Tomato	10.18	14.83	15.33	16.87	20.09	24.13	37.03	47.50	50.41	44.97	37.70	38.96	29.83	
Tomato, egg	.59	.51	1.12	.91	.81	.24	.30	.46	.02	.15	.67	1.10	.57	30.40
Watermelon	11.36	1.10	3.47	2.75	2.75	2.65	3.85	4.10	5.37	4.70	20.59	33.26	8.00	
Total	103.82	138.93	242.94	262.42	290.12	402.45	395.52	351.11	344.55	320.87	360.62	439.18	378.11	

Table 12.—Total planted acreage—Maui, 1936-37

	July 1936	Aug. 1936	Sept. 1936	Oct. 1936	Nov. 1936	Dec. 1936	Jan. 1937	Feb. 1937	Mar. 1937	Apr. 1937	May 1937	June 1937	Monthly Average	
Asparagus	0.30	0.25	0.25	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.07	
Bean, string (green)	5.62	4.37	5.04	8.02	6.47	3.10	4.60	4.33	2.89	1.52	1.56	2.54	4.17	
Beet	.88	.57	.42	.66	.44	.34	.48	.66	1.17	1.08	.71	.57	.66	0.82
Beet, topped	.22	.12	.12	.12	.....	.....	.....	.....	.03	.19	.20	.94	.16	
Broccoli	2.20	1.27	1.79	2.89	1.87	2.65	1.82	3.11	2.49	2.12	1.64	1.88	2.14	
Burdock	1.46	.54	.68	1.70	.66	1.58	1.30	.88	1.04	1.06	1.08	1.17	1.10	
Cabbage, Chinese	1.31	2.10	1.60	2.25	3.01	5.40	21.89	17.52	11.08	5.40	7.13	6.24	7.08	
Cabbage, head	90.30	64.80	54.81	140.86	130.60	103.02	117.00	97.32	110.71	118.69	109.37	131.49	105.75	
Cantaloup	.25	.....	.....	.....									.06	
Carrot	2.51	1.66	1.50	3.56	.86	1.55	2.80	2.64	2.59	8.63	6.21	6.01	3.38	11.32
Carrot, topped	7.36	8.47	7.05	6.04	6.00	2.24	5.98	10.21	15.19	8.46	7.03	11.22	7.94	
Corn, green						1.62	44.26	88.16	133.99	117.35	56.35	11.35	64.72	
Cucumber	3.20	2.64	1.18	3.07	4.81	8.20	14.75	6.54	7.43	6.08	5.32	4.53	5.65	
Eggplant, long	3.75	3.44	3.50	4.11	3.42	2.95	2.42	2.53	2.25	2.04	1.92	1.73	2.84	3.26
Eggplant, round	.19	.38	.55	.93	.25	.50	.48	.48	.49	.30	.29	.25	.42	
Lettuce, head (California type)	.22	.10	.26	.01	.11	.44	.66	.23	.49	.43	.57	.26	.32	
Lotus root						.84	.12	.02	.....	.12	.28	.36	.25	
Onion, bulb	40.10	14.05	1.60	2.37	.79	1.29	3.87	8.25	21.77	25.85	25.61	24.93	14.21	
Papaya												3.90	3.90	
Pepper, bell	.01	.62	.74	.62	.50	.24	.13	.05	.02	.....	.....	.01	.25	
Potato, red	.....	.75	.12	.....	.....	20.00	20.00	20.00	.....	.....	.....	1.00	6.82	53.01
Potato, white	44.86	16.41	17.38	33.74	64.48	77.06	93.93	32.05	15.07	34.45	57.71	67.11	46.19	
Pumpkin	95.82	95.77	77.62	67.56	24.30	29.43	54.95	57.00	59.68	56.65	57.47	57.97	61.19	
Squash, summer	4.41	2.28	.20	.20	.20	1.19	2.93	1.08	1.50	1.58	.75	1.08	1.45	
Sweetpotato (Nancy Hall)	.....	.....	.....	.....	.....	.....	.02	.18	.16	.19	.44	.44	.12	8.55
Sweetpotato (all others including yams)						4.04	7.71	7.85	11.48	10.36	8.82	8.75	8.43	
Taro, upland						11.75	11.23	3.24	1.50	1.00	.65	1.50	4.41	100.96
Taro, wetland						81.40	97.33	99.51	99.64	102.50	94.72	100.76	96.55	
Tomato	156.44	143.53	137.35	142.40	117.65	77.24	61.95	58.93	38.98	19.69	39.00	60.15	87.78	87.79
Tomato, egg	.....	.....	.....	.04	.01	.....	.....	.....	.....	.....	.....	.....	.01	
Watermelon	84.62	24.55	19.12	6.00	2.00	.....	.....	4.00	18.75	47.00	78.00	83.50	30.63	
Total	546.03	388.67	332.88	427.15	368.43	438.07	572.61	526.77	580.39	572.74	562.83	591.64	568.65	

Table 13.—Total planted acreage—Oahu, 1936-37

	July 1936	Aug. 1936	Sept. 1936	Oct. 1936	Nov. 1936	Dec. 1936	Jan. 1937	Feb. 1937	Mar. 1937	Apr. 1937	May 1937	June 1937	Monthly Average	
Asparagus	34.44	35.92	36.58	37.83	42.23	42.28	42.28	41.03	42.00	42.25	52.10	60.35	42.44	
Bean, string (green)	20.82	22.44	26.77	28.27	21.56	27.33	33.24	32.84	26.89	31.27	26.14	17.53	26.26	
Beet	1.90	1.50	2.13	3.04	3.62	2.42	4.45	3.87	2.71	2.79	3.26	2.66	2.86	
Beet, topped														
Broccoli	2.01	.64	.72	1.45	3.22	3.61	3.27	5.99	6.04	7.03	5.46	4.57	3.67	
Burdock	1.45	.83	.84	.67	.69	.71	.82	.82	.94	.81	.49	.56	.80	
Cabbage, Chinese	4.28	3.26	2.44	6.48	9.79	17.63	19.99	15.35	12.31	10.88	7.70	6.11	9.69	
Cabbage, head	8.52	5.76	3.13	6.01	5.29	5.09	6.18	13.21	16.77	12.37	9.40	9.30	8.42	
Cantaloup	4.50												1.13	
Carrot	10.50	13.35	16.98	18.42	17.64	16.01	18.85	22.65	23.42	20.92	18.70	15.22	17.72	17.82
Carrot, topped	.46										.75		.10	
Corn, green						29.07	42.21	23.22	1.90	1.55	2.97	1.88	14.69	
Cucumber	10.49	8.39	5.62	10.58	15.48	29.81	35.23	22.38	27.45	24.44	26.37	8.95	18.77	
Eggplant, long	17.80	15.05	11.46	12.63	10.31	8.66	9.19	9.28	5.10	6.87	7.56	8.75	10.22	17.99
Eggplant, round	10.49	6.83	6.81	10.00	9.99	7.57	9.26	8.64	5.78	5.79	6.25	5.84	7.77	
Lettuce, head (California type)								.11	.06				.01	
Lotus root						44.47	45.82	45.42	45.52	44.87	50.55	51.09	46.82	
Onion, bulb		1.00					1.60	3.60	3.15	4.25	5.45	2.25	1.77	
Papaya												257.60	257.60	
Pepper, bell	3.77	4.57	3.12	2.49	3.60	5.24	4.74	8.11	7.27	6.57	5.39	1.74	4.72	
Potato, red	.10	.12			105.00	300.51	501.00	341.08	256.08	175.00	35.00	20.00	144.49	179.49
Potato, white	.70	.15	.19	3.87	14.33	44.04	77.73	99.96	107.61	27.05	31.75	12.60	35.00	
Pumpkin	8.83	.22	.23	1.23	1.00	3.60	5.25	5.75	6.65	3.10	2.35	4.25	3.54	
Squash, summer		1.50	2.78	1.66							.25	.25	.54	
Sweetpotato (Nancy Hall)					.50	.65	.75	5.60	5.70	3.60	.30	.30	1.45	56.60
Sweetpotato (all others including yams)						55.77	46.77	60.49	59.41	49.71	59.05	54.82	55.15	
Taro, upland						5.40	5.66	4.58	6.68	6.68	6.93	8.18	6.30	820.68
Taro, wetland						801.17	867.57	839.38	792.66	795.91	802.91	801.05	814.38	
Tomato	22.69	8.09	2.92	8.36	12.90	18.15	29.18	35.19	15.87	19.30	25.45	24.87	18.58	44.34
Tomato, egg	22.55	21.76	19.44	17.69	22.79	30.07	34.26	33.23	24.26	24.11	30.91	28.08	25.76	
Watermelon	185.40	100.08	33.25	7.00		5.00	5.00	20.50	54.45	138.05	233.55	226.25	84.04	
Total	371.70	251.46	175.41	177.68	299.94	1,504.26	1,850.30	1,702.28	1,556.68	1,465.17	1,456.99	1,635.05	1,664.69	

Table 14.—Total planted acreage—Kauai, 1936-37

	July 1936	Aug. 1936	Sept. 1936	Oct. 1936	Nov. 1936	Dec. 1936	Jan. 1937	Feb. 1937	Mar. 1937	Apr. 1937	May 1937	June 1937	Monthly Average	
Asparagus	4.06	6.31	6.60	6.61	6.60	6.60	6.60	6.60	6.58	5.58	5.58	5.58	6.11	
Bean, string (green)	1.38	1.72	2.53	2.35	2.30	2.63	4.34	4.39	3.44	3.28	3.12	2.90	2.86	
Beet	.13	.07	.06	.26	.21	.21	.37	.45	.38	.30	.35	.18	.25	
Beet, topped														
Broccoli	.25	.07	.07	.07	.13	.20	.13	.24	.49	.63	.40	.62	.28	
Burdock	2.41	3.34	3.68	3.29	2.31	2.51	2.52	2.83	2.93	3.20	3.42	3.24	2.97	
Cabbage, Chinese		.90	1.12	1.09	.72	1.26	3.08	2.36	2.53	2.28	1.79	.76	1.49	
Cabbage, head	2.19	1.55	2.84	4.52	5.40	3.55	5.05	8.04	7.92	5.18	3.49	3.11	4.40	
Cantaloup	.20	.45											.16	
Carrot	1.53	2.24	2.52	2.78	2.85	2.31	3.16	4.31	4.48	3.64	2.39	2.48	2.89	2.97
Carrot, topped			.10	.34		.03				.50			.08	
Corn, green						1.41	5.24	10.23	6.41	3.11	1.14	.88	4.06	
Cucumber	3.25	4.00	1.73	2.34	5.61	8.79	10.38	9.95	9.95	5.51	5.91	3.43	5.90	
Eggplant, long	4.48	6.57	7.22	7.32	7.61	6.35	6.99	4.94	5.30	4.87	5.52	5.32	6.04	6.80
Eggplant, round	2.41	2.35	.97	.92	.73	.84	.27	.16	.14	.18	.11	.07	.76	
Lettuce, head (California type)														
Lotus root						.73	1.45	1.28	1.08	.98	1.23	1.23	1.14	
Onion, bulb	.01	.02						.10	.10	.10	.10		.04	
Papaya														
Pepper, bell	.14	.12	.10	.09			.03	.20	.20	.26	.29	.52	.16	
Potato, red	2.05	.75	.22	6.15	37.16	133.84	135.94	88.82	16.64	8.24	.02	1.48	35.94	48.47
Potato, white	.61	.09	.18	.16	.35	20.94	21.78	20.50	60.71	21.72	3.01	.30	12.53	
Pumpkin	1.43	1.77	2.50	2.44	3.35	2.82	4.41	2.56	1.90	2.48	3.07	3.63	2.69	
Squash, summer														
Sweetpotato (Nancy Hall)						.01	.01	.01	.01	.01	.01	.01	.01	11.06
Sweetpotato (all others including yams)						11.46	14.53	13.08	12.86	9.69	8.12	7.62	11.05	
Taro, upland						4.06	.42	.25	.25	.25	.25	1.00	.92	190.81
Taro, wetland						172.03	207.61	205.62	201.82	188.27	185.20	168.70	189.89	
Tomato	10.49	13.14	13.37	12.73	18.64	17.46	25.44	30.75	17.49	15.18	11.45	12.37	16.54	19.42
Tomato, egg	1.67	2.91	3.45	3.74	4.55	3.44	6.02	2.09	1.26	.56	1.53	3.32	2.88	
Watermelon	17.65	9.41	2.00	1.50	.75	1.50	1.75	10.25	13.75	15.50	18.45	21.64	9.51	
Total	56.34	57.78	51.26	58.70	99.27	404.98	467.52	430.01	378.62	301.50	265.95	250.39	321.55	

Table 15.—Total planted acreage—Molokai, 1936-37

	July 1936	Aug. 1936	Sept. 1936	Oct. 1936	Nov. 1936	Dec. 1936	Jan. 1937	Feb. 1937	Mar. 1937	Apr. 1937	May 1937	June 1937	Monthly Average	
Asparagus	0.15	0.25	0.25	0.25	0.25	0.20	0.65	0.25	0.19	0.19	0.19	0.19	0.25	
Bean, string (green)	.39	.32	.17	.23	.21	.21	.03	.04	.23	.34	.56	.33	.26	
Beet			.01	.01	.02	.01		.02					.01	
Beet, topped														
Broccoli														
Burdock	.02	.02	.04	.08	.07	.04	.03	.04	.03	.04	.10	.11	.05	
Cabbage, Chinese														
Cabbage, head			.01	.03	.08	.09	.05	1.08	1.40	1.06	.15		.33	
Cantaloup	.04												.01	
Carrot	.14	.13	.06	.30	.26	.31	.03	.04	.29	.45	.53	.22	.23	
Carrot, topped	.02	.06	.10	.02			.02					.20	.03	0.26
Corn, green								7.75	7.75	8.00	18.25	13.75	7.93	
Cucumber	.22	.12	.56	2.18	1.19	.93	6.27	4.52	4.17	.77	3.13	3.55	2.30	
Eggplant, long	9.27	10.58	11.04	11.65	8.95	8.83	6.93	7.03	7.30	6.24	4.38	5.08	8.11	
Eggplant, round	.01	.01								.12	.12	.12	.03	8.14
Lettuce, head (California type)														
Lotus root														
Onion, bulb												.15	.01	
Papaya												2.46	2.46	
Pepper, bell	.66	.70	.69	.53	.41	1.10	1.05	1.23	1.15	.87	1.03	.30	.81	
Potato, red														
Potato, white	.01			.03				2.00	1.25	1.25	.50	.25	.44	
Pumpkin	.82	.50	.12	.22	.12	.37	.12	1.00	3.25	.25	1.80	1.90	.87	
Squash, summer							2.00	.12	1.75	1.10	.80		.48	
Sweetpotato (Nancy Hall)		.04		.05	.01	.04						.10	.02	
Sweetpotato (all others including yams)						.50	2.83	9.58	8.51	3.12	9.27	10.45	6.32	6.34
Taro, upland								.10					.03	
Taro, wetland						24.50	69.00	69.00	69.00	37.00	38.06	38.06	49.23	49.26
Tomato	5.63	2.04	4.97	26.90	34.45	55.29	59.17	54.94	23.14	9.70	11.50	9.65	24.75	
Tomato, egg														
Watermelon	3.55		17.00	19.00	3.00	3.55	7.69	6.85	13.05	3.75	15.90	23.15	9.71	
Total	20.93	14.77	35.02	61.48	49.02	95.97	155.87	165.59	142.56	74.25	106.27	110.02	114.70	

Table 16.—Estimated production—Territorial summary, 1936-37

	July 1936	Aug. 1936	Sept. 1936	Oct. 1936	Nov. 1936	Dec. 1936	Jan. 1937	Feb. 1937	Mar. 1937	Apr. 1937	May 1937	June 1937	Total	Monthly Average
Asparagus ..... pounds	9,620	6,000	4,700	3,830	4,930	12,480	17,545	28,200	10,700	700	7,230	4,050	109,985	9,165
Bean, string (green) ..... do	112,690	134,185	127,325	152,465	125,970	111,990	140,395	143,645	111,450	139,960	153,605	103,965	1,557,645	129,804
Beet ..... bunches	9,585	11,660	13,945	21,050	15,390	12,065	17,710	18,155	14,175	20,820	19,870	18,985	193,410	16,118
Beet, topped ..... pounds	3,200	300	1,000	800	.....	1,730	500	400	500	1,500	1,800	6,000	17,730	1,478
Broccoli ..... do	7,475	8,465	7,165	7,270	7,985	10,090	12,620	7,820	9,470	11,425	9,455	23,800	123,040	10,253
Burdock ..... do	39,595	45,700	34,820	42,125	37,405	72,580	32,615	16,080	16,440	21,070	23,120	29,400	410,950	34,246
Cabbage, Chinese ..... do	80,375	108,700	131,900	155,970	138,555	139,410	320,915	274,060	173,280	163,640	149,410	130,920	1,967,135	163,928
Cabbage, head ..... do	831,065	570,460	596,940	815,870	716,140	709,290	743,400	713,790	713,770	727,260	779,595	1,129,725	9,047,305	753,942
Cantaloup ..... do	18,600	100	.....	.....									18,700	4,675
Carrot ..... bunches	53,667	47,755	57,995	62,205	41,945	34,215	38,145	41,035	75,345	104,275	88,185	68,815	713,582	59,465
Carrot, topped ..... pounds	46,860	49,800	42,350	66,200	31,390	14,850	21,700	36,200	47,700	44,800	31,400	66,900	500,150	41,679
Corn, green ..... do						37,310	75,940	35,060	34,170	72,790	64,225	59,130	378,625	54,089
Cucumber ..... do	66,355	129,075	94,175	116,050	120,705	100,710	174,725	79,735	109,365	129,900	135,415	97,910	1,354,120	112,843
Eggplant, long ..... do	74,595	84,270	90,305	92,330	74,950	42,715	39,715	43,360	21,225	23,815	43,480	55,760	686,520	57,210
Eggplant, round ..... do	26,445	34,510	36,040	49,685	40,915	21,770	33,170	27,350	15,750	20,420	27,260	23,075	356,390	29,699
Lettuce, head (California type) ..... heads	8,886	7,570	7,700	13,820	11,175	16,130	20,152	51,315	84,100	34,665	69,690	62,195	387,398	32,283
Lotus root ..... pounds						58,800	36,400	17,100	32,650	56,100	32,700	3,000	236,750	33,821
Onion, bulb ..... do	128,100	44,500	8,500	10,000	300	3,450	5,600	3,400	6,600	3,500	7,800	20,800	242,550	20,213
Papaya ..... do												418,575	418,575	418,575
Pepper, bell ..... do	9,435	7,455	10,340	11,665	7,135	7,840	10,235	9,550	5,640	10,405	6,685	5,385	101,770	8,481
Potato, red ..... do	13,150	16,000	4,000	4,270	4,550	355,050	782,650	2,138,500	2,281,200	1,441,150	366,300	235,300	7,642,120	636,843
Potato, white ..... do	295,375	121,600	98,700	78,800	84,740	151,000	317,700	337,850	1,249,250	376,850	199,200	320,515	3,631,580	302,632
Pumpkin ..... do	90,445	64,850	42,550	71,805	54,440	46,950	63,070	54,610	66,015	39,650	58,080	131,930	784,395	65,366
Squash, summer ..... do	11,595	5,600	2,100	4,650	1,885	1,650	14,110	3,450	8,825	10,200	9,275	13,875	87,215	7,268
Sweetpotato (Nancy Hall) ..... do	8,800	7,200	5,950	2,750	3,420	.....	.....	26,200	600	25,600	.....	3,800	84,320	7,027
Sweetpotato (all others including yams) ..... do						241,350	197,545	194,925	126,300	135,350	157,250	130,750	1,183,470	169,067
Taro, upland ..... do						44,600	81,730	57,100	58,500	59,600	56,700	53,300	411,530	58,790
Taro, wetland ..... do						1,995,720	1,676,470	1,631,160	1,563,660	1,454,100	1,512,100	1,386,600	11,219,810	1,602,830
Tomato ..... do	233,555	292,705	231,305	274,845	373,025	225,105	315,750	306,760	115,880	156,255	156,295	275,950	2,957,430	246,453
Tomato, egg ..... do	36,120	43,640	36,210	34,780	37,645	25,850	33,730	44,525	38,965	55,870	81,450	58,950	527,735	43,978
Watermelon ..... do	549,200	412,100	158,700	85,500	5,900	2,850	4,000	17,400	5,000	1,200	81,600	735,750	2,059,200	171,600
TOTAL	2,764,788	2,254,200	1,844,715	2,178,735	1,940,495	4,497,550	5,228,237	6,358,735	6,996,525	5,342,870	4,329,175	5,675,110	49,411,135	5,303,821

Table 17.—Estimated production—Hawaii, 1936-37

	July 1936	Aug. 1936	Sept. 1936	Oct. 1936	Nov. 1936	Dec. 1936	Jan. 1937	Feb. 1937	Mar. 1937	Apr. 1937	May 1937	June 1937	Total	Monthly Average
Asparagus ..... pounds	100	.....	70	80	.....	.....	.....	.....	.....	.....	80	400	730	61
Bean, string (green) ..... do	5,530	16,880	10,780	10,000	10,180	15,630	14,960	9,050	12,175	10,530	11,835	15,450	143,060	11,922
Beet ..... bunches	1,310	1,295	580	900	1,230	2,855	1,660	2,375	2,850	4,240	3,225	5,000	27,520	2,293
Beet, topped ..... pounds	2,600	.....	.....	.....	.....	1,730	500	400	.....	400	800	3,100	9,530	794
Broccoli ..... do	2,590	6,120	3,510	1,785	2,090	3,045	5,280	1,590	1,555	1,195	1,400	9,160	39,320	3,277
Burdock ..... do	20,770	32,550	24,825	25,850	23,550	58,400	22,420	12,570	11,350	11,820	11,950	18,050	274,105	22,842
Cabbage, Chinese ..... do	65,825	74,900	87,350	97,710	88,880	90,580	118,580	125,750	68,700	67,595	73,300	44,925	1,004,095	83,675
Cabbage, head ..... do	188,730	208,000	247,450	311,120	265,330	314,405	275,630	279,760	245,450	159,390	282,680	495,365	3,273,310	272,776
Cantaloup ..... do	.....	.....	.....	.....									.....	.....
Carrot ..... bunches	9,300	8,010	7,880	5,780	6,770	5,375	4,255	4,335	10,375	11,810	10,515	13,650	98,055	8,171
Carrot, topped ..... pounds	14,000	9,000	10,100	8,400	5,600	13,550	7,850	1,700	7,600	3,200	10,600	24,100	115,700	9,642
Corn, green ..... do						23,225	2,920	2,350	6,590	2,800	5,800	18,630	62,315	8,902
Cucumber ..... do	17,900	58,650	51,815	53,840	38,190	36,370	43,680	21,470	18,800	22,475	29,075	39,750	432,015	36,001
Eggplant, long ..... do	6,675	8,210	12,020	12,850	11,550	11,320	15,805	18,075	9,950	7,775	8,565	18,250	141,045	11,754
Eggplant, round ..... do	6,800	7,200	11,150	13,880	15,800	7,770	14,125	11,275	5,620	4,140	3,650	6,300	107,710	8,976
Lettuce, head (California type) ..... heads	8,186	7,070	6,050	13,745	10,365	14,285	18,652	48,495	79,700	32,140	62,990	56,095	357,773	29,814
Lotus root ..... pounds						2,500	4,000	1,500	.....	.....	.....	.....	8,000	1,143
Onion, bulb ..... do	10,000	500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10,500	875
Papaya ..... do												9,425	9,425	9,425
Pepper, bell ..... do	2,785	1,755	4,525	4,685	2,750	1,730	2,150	2,025	1,435	1,035	2,180	2,765	29,820	2,485
Potato, red ..... do	8,650	11,000	3,400	2,500	3,750	18,050	6,650	56,000	14,400	9,650	16,300	35,100	185,450	15,454
Potato, white ..... do	43,650	27,350	14,750	8,850	36,440	11,550	15,100	68,150	28,075	19,900	30,850	37,675	342,340	28,528
Pumpkin ..... do	13,300	20,400	18,550	22,375	36,500	33,920	32,600	6,300	5,325	2,850	2,950	6,030	201,100	16,758
Squash, summer ..... do	1,895	3,800	2,000	3,850	1,800	450	4,610	2,950	3,050	7,450	6,000	7,075	44,930	3,744
Sweetpotato (Nancy Hall) ..... do	8,800	7,200	5,950	2,750	3,420	.....	.....	.....	.....	.....	.....	500	28,620	2,385
Sweetpotato (all others including yams) ..... do						22,200	8,325	11,625	11,850	8,200	11,350	11,800	85,350	12,193
Taro, upland ..... do						34,000	48,300	54,100	54,500	54,600	54,700	53,300	353,500	50,500
Taro, wetland ..... do						133,920	126,060	117,000	90,800	92,300	83,400	114,500	757,980	108,283
Tomato ..... do	21,370	42,650	35,215	54,600	46,020	39,950	69,925	73,630	60,750	50,425	53,825	81,150	629,510	52,459
Tomato, egg ..... do	1,695	2,220	3,975	3,000	2,560	100	1,200	1,545	25	200	900	3,700	21,120	1,760
Watermelon ..... do	72,300	9,000	3,000	12,000	1,600	2,850	1,500	400	2,100	700	1,000	105,900	212,350	17,696
TOTAL	534,761	563,760	564,945	670,610	614,375	899,760	866,737	934,420	753,025	586,820	779,920	1,237,145	9,006,278	834,588

Table 18.—Estimated production—Maui, 1936-37

	July 1936	Aug. 1936	Sept. 1936	Oct. 1936	Nov. 1936	Dec. 1936	Jan. 1937	Feb. 1937	Mar. 1937	Apr. 1937	May 1937	June 1937	Total	Monthly Average
Asparagus ..... pounds	50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	50	4
Bean, string (green) ..... do	28,700	21,925	24,360	37,540	26,795	11,030	18,025	18,205	10,685	5,265	11,500	22,955	236,985	19,749
Beet ..... bunches	3,935	3,905	2,450	2,450	1,790	610	1,390	1,190	1,645	2,635	2,015	1,245	25,260	2,105
Beet, topped ..... pounds	600	300	1,000	800	.....	.....	.....	.....	500	1,100	1,000	2,900	8,200	683
Broccoli ..... do	2,350	1,425	2,925	4,305	3,165	2,905	3,980	1,800	3,725	3,815	2,830	7,215	40,440	3,370
Burdock ..... do	11,750	4,850	3,975	10,975	8,500	9,000	6,375	1,750	2,850	3,800	7,300	6,200	77,325	6,444
Cabbage, Chinese ..... do	3,700	7,550	23,400	20,020	11,205	7,590	112,325	89,400	64,000	32,500	42,000	62,500	476,190	39,682
Cabbage, head ..... do	597,300	329,200	322,300	474,906	397,300	380,815	434,800	385,150	388,550	505,200	458,400	596,600	5,270,515	439,210
Cantaloup ..... do	500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	500	125
Carrot ..... bunches	19,900	12,050	10,780	9,870	6,965	5,825	7,560	3,600	8,350	22,585	21,145	23,220	151,850	12,654
Carrot, topped ..... pounds	31,400	40,400	31,200	55,600	25,790	1,000	13,650	34,500	40,100	39,600	19,800	41,100	374,140	31,178
Corn, green ..... do						535	7,200	4,000	18,500	64,900	46,100	29,300	170,535	24,362
Cucumber ..... do	13,500	9,425	11,830	20,100	10,945	6,420	30,695	7,265	9,115	8,205	22,850	32,700	183,050	15,254
Eggplant, long ..... do	15,900	16,150	20,070	21,175	10,345	9,160	5,490	4,815	3,125	910	8,120	10,555	125,815	10,485
Eggplant, round ..... do	1,150	2,855	3,275	5,890	1,150	1,320	1,205	850	820	290	870	2,625	22,300	1,858
Lettuce, head (California type) ..... heads	700	500	1,650	75	810	1,845	1,500	2,100	4,200	2,525	6,700	6,100	28,705	2,392
Lotus root ..... pounds							650	200	.....	.....	.....	.....	4,150	593
Onion, bulb ..... do	118,100	44,000	8,500	10,000	300	3,450	1,900	500	5,300	.....	3,300	16,700	212,050	17,671
Papaya ..... do												5,500	5,500	5,500
Pepper, bell ..... do	25	1,850	600	1,000	635	210	500	145	25	.....	.....	50	5,040	420
Potato, red ..... do	.....	5,000	600	.....	.....	.....	.....	.....	97,600	.....	.....	.....	103,200	8,600
Potato, white ..... do	243,000	92,000	82,300	69,200	44,700	112,250	229,700	15,000	14,075	27,800	28,909	221,840	1,180,765	98,397
Pumpkin ..... do	67,100	40,200	18,100	46,200	16,010	11,500	29,100	35,400	46,600	32,800	47,300	118,000	508,310	42,359
Squash, summer ..... do	9,700	1,800	100	200	85	1,200	9,500	500	5,000	2,650	2,800	6,600	40,135	3,345
Sweetpotato (Nancy Hall) ..... do	.....	.....	.....	.....	.....	.....	.....	1,200	.....	.....	.....	1,000	2,200	183
Sweetpotato (all others including yams) ..... do						7,000	11,200	7,500	9,600	13,600	6,900	9,450	65,250	9,321
Taro, upland ..... do						3,000	32,000	3,000	4,000	5,000	2,000	.....	49,000	7,000
Taro, wetland ..... do						150,500	134,900	101,300	88,400	87,300	95,900	81,800	740,100	105,729
Tomato ..... do	186,150	225,050	170,370	181,805	275,085	122,925	122,675	72,850	32,900	15,750	50,300	146,050	1,602,110	133,509
Tomato, egg ..... do	.....	.....	.....	100	75	.....	.....	.....	.....	.....	.....	.....	175	15
Watermelon ..... do	206,400	65,400	36,800	1,500	1,000	.....	.....	.....	.....	.....	22,000	298,000	631,100	52,592
TOTAL	1,561,910	925,835	776,785	973,705	842,670	853,390	1,216,320	792,220	859,665	878,230	910,030	1,750,205	12,340,945	1,094,789

Table 19.—Estimated production—Oahu, 1936-37

	July 1936	Aug. 1936	Sept. 1936	Oct. 1936	Nov. 1936	Dec. 1936	Jan. 1937	Feb. 1937	Mar. 1937	Apr. 1937	May 1937	June 1937	Total	Monthly Average
Asparagus ..... pounds	9,450	6,000	4,600	3,750	4,730	12,300	17,500	28,000	10,500	500	7,000	3,500	107,830	8,986
Bean, string (green) ..... do	73,900	84,780	79,030	94,450	78,620	74,590	93,780	104,150	77,710	115,250	116,820	56,860	1,049,940	87,495
Beet ..... bunches	4,300	6,110	10,685	16,820	11,730	8,310	13,600	13,650	8,440	13,350	14,000	11,900	132,895	11,075
Beet, topped ..... pounds	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Broccoli ..... do	2,335	820	730	1,080	2,700	4,010	3,300	4,110	3,970	5,995	4,725	6,875	40,650	3,387
Burdock ..... do	4,510	3,630	1,890	930	1,060	720	240	480	550	700	200	950	15,860	1,322
Cabbage, Chinese ..... do	10,850	16,100	11,950	28,500	34,100	36,050	81,540	53,460	35,100	52,850	24,350	21,300	406,150	33,846
Cabbage, head ..... do	30,285	22,890	16,270	17,700	22,900	7,340	21,240	36,180	54,950	37,350	21,950	25,080	314,135	26,178
Cantaloup ..... do	18,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	18,000	4,500
Carrot ..... bunches	22,102	23,740	32,840	42,630	25,440	19,790	21,970	29,560	50,055	58,150	51,530	24,440	402,247	33,521
Carrot, topped ..... pounds	1,310	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,000	.....	2,310	192
Corn, green ..... do						13,550	58,820	16,060	5,000	2,100	3,600	150	99,280	14,183
Cucumber ..... do	28,050	31,100	22,000	30,800	50,950	38,000	70,200	36,500	63,500	98,700	71,350	16,700	557,850	46,488
Eggplant, long ..... do	20,110	19,510	14,625	19,885	15,250	4,995	8,095	10,370	3,465	7,895	13,070	16,925	154,195	12,850
Eggplant, round ..... do	13,195	18,465	16,305	27,255	23,065	11,660	17,220	15,075	9,190	15,200	22,290	13,800	202,720	16,893
Lettuce, head (California type) ..... heads	.....	.....	.....	.....	.....	.....	.....	720	200	.....	.....	.....	920	77
Lotus root ..... pounds						52,000	30,200	14,700	32,300	56,100	32,700	3,000	221,000	31,571
Onion, bulb ..... do	.....	.....	.....	.....	.....	.....	3,700	2,900	1,300	3,500	3,500	3,700	18,600	1,550
Papaya ..... do												386,000	386,000	386,000
Pepper, bell ..... do	3,890	1,630	1,865	3,900	3,520	5,375	6,850	6,410	3,980	9,000	3,750	2,500	52,670	4,389
Potato, red ..... do	.....	.....	.....	.....	.....	270,000	275,000	1,510,000	2,060,000	1,350,000	350,000	200,000	6,015,000	501,250
Potato, white ..... do	4,500	1,800	1,500	250	3,000	27,050	71,500	89,350	692,100	134,000	120,500	61,000	1,206,550	100,546
Pumpkin ..... do	8,100	600	.....	.....	.....	200	.....	12,250	12,700	4,000	7,000	4,500	49,350	4,113
Squash, summer ..... do	.....	.....	.....	600	.....	.....	.....	.....	.....	.....	200	200	1,000	83
Sweetpotato (Nancy Hall) ..... do	.....	.....	.....	.....	.....	.....	.....	25,000	600	25,600	.....	2,000	53,200	4,433
Sweetpotato (all others including yams) ..... do						185,250	144,500	142,400	81,250	90,500	106,000	83,500	833,400	119,057
Taro, upland ..... do						3,750	1,230	.....	.....	.....	.....	.....	4,980	711
Taro, wetland ..... do						1,549,500	1,266,100	1,264,200	1,244,000	1,108,000	1,212,500	1,053,500	8,697,800	1,242,543
Tomato ..... do	11,745	5,450	2,800	8,580	3,800	11,400	17,100	49,100	13,550	16,600	33,950	25,850	199,925	16,660
Tomato, egg ..... do	32,545	32,255	25,285	21,200	25,170	22,400	31,130	39,780	36,100	55,470	79,350	48,000	448,685	37,390
Watermelon ..... do	209,800	286,000	98,000	50,000	.....	.....	.....	8,000	2,500	500	40,100	305,200	1,000,100	83,342
TOTAL	508,977	560,880	340,375	368,330	306,035	2,358,240	2,254,815	3,512,405	4,503,010	3,261,310	2,341,435	2,377,430	22,693,242	2,834,631

Table 20.—Estimated production—Kauai, 1936-37

	July 1936	Aug. 1936	Sept. 1936	Oct. 1936	Nov. 1936	Dec. 1936	Jan. 1937	Feb. 1937	Mar. 1937	Apr. 1937	May 1937	June 1937	Total	Monthly Average
Asparagus ..... pounds	20	.....	30	.....	200	100	20	150	200	200	150	150	1,220	102
Bean, string (green) ..... do	1,795	8,000	11,680	8,940	9,540	10,160	13,630	11,740	10,210	8,070	11,590	5,900	111,255	9,271
Beet ..... bunches	40	350	180	830	640	240	1,060	850	1,240	595	630	840	7,495	625
Beet, topped ..... pounds	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Broccoli ..... do	200	100	.....	100	30	130	60	320	220	420	500	550	2,630	219
Burdock ..... do	2,215	4,520	4,030	4,270	4,120	4,460	3,580	1,180	1,590	4,650	3,600	4,100	42,315	3,526
Cabbage, Chinese ..... do	.....	10,150	9,200	9,740	4,370	5,190	8,470	5,450	5,480	10,695	9,760	2,195	80,700	6,725
Cabbage, head ..... do	14,750	10,370	10,920	12,000	30,510	6,200	11,630	12,610	22,540	19,200	15,840	12,680	179,250	14,938
Cantaloup ..... do	.....	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	100	25
Carrot ..... bunches	990	2,880	6,120	3,520	2,570	2,830	4,180	3,340	6,070	11,250	4,150	6,780	54,680	4,557
Carrot, topped ..... pounds	.....	.....	400	2,000	.....	300	.....	.....	.....	2,000	.....	.....	4,700	392
Corn, green ..... do						.....	7,000	12,650	2,080	990	1,225	1,050	24,995	3,571
Cucumber ..... do	6,730	28,900	5,430	5,910	19,420	19,700	30,050	12,300	17,550	470	9,560	7,560	163,580	13,632
Eggplant, long ..... do	6,435	12,100	10,040	15,020	11,320	5,830	4,000	3,900	3,290	3,895	6,285	1,440	83,555	6,963
Eggplant, round ..... do	5,280	5,940	5,310	2,660	900	1,020	620	150	120	670	350	150	23,170	1,931
Lettuce, head (California type) ..... heads	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lotus root ..... pounds						1,000	1,550	700	350	.....	.....	.....	3,600	514
Onion, bulb ..... do	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,000	.....	1,000	83
Pepper, bell ..... do	95	20	.....	30	.....	.....	.....	20	.....	.....	130	70	365	30
Potato, red ..... do	4,500	.....	.....	1,770	800	67,000	501,000	572,500	109,200	81,500	.....	200	1,338,470	111,539
Potato, white ..... do	4,025	450	150	500	600	150	1,400	165,350	510,000	190,150	18,950	.....	891,725	74,310
Pumpkin ..... do	1,545	3,150	5,900	3,030	1,780	1,280	1,320	510	290	.....	130	300	19,235	1,603
Squash, summer ..... do	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sweetpotato (Nancy Hall) ..... do	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sweetpotato (all others including yams) ..... do						21,900	32,320	27,400	20,800	21,950	30,800	21,800	176,970	25,281
Taro, upland ..... do						3,850	200	.....	.....	.....	.....	.....	4,050	579
Taro, wetland ..... do						142,800	141,600	140,850	134,550	159,600	111,700	128,100	959,200	137,029
Tomato ..... do	10,840	16,430	20,120	17,360	24,070	19,210	37,250	24,580	4,930	31,380	14,050	16,050	236,270	19,689
Tomato, egg ..... do	1,880	9,165	6,950	10,480	9,840	3,350	1,400	3,200	2,840	200	1,200	7,250	57,755	4,813
Watermelon ..... do	58,700	51,700	13,900	4,500	3,000	.....	.....	.....	.....	.....	18,500	25,150	175,450	14,621
TOTAL	120,040	164,325	110,360	102,660	123,710	316,700	802,340	999,750	853,550	547,885	260,100	242,315	4,643,735	456,568

Table 21.—Estimated production—Molokai, 1936-37

	July 1936	Aug. 1936	Sept. 1936	Oct. 1936	Nov. 1936	Dec. 1936	Jan. 1937	Feb. 1937	Mar. 1937	Apr. 1937	May 1937	June 1937	Total	Monthly Average
Asparagus ..... pounds	.....	.....	.....	.....	.....	80	25	50	.....	.....	.....	.....	155	13
Bean, string (green) ..... do	2,765	2,600	1,475	1,475	835	580	.....	500	670	845	1,860	2,800	16,405	1,367
Beet ..... bunches	.....	.....	50	50	.....	50	.....	90	.....	.....	.....	.....	240	20
Beet, topped ..... pounds	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Broccoli ..... do	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Burdock ..... do	350	150	100	100	175	.....	.....	100	100	100	70	100	1,345	112
Cabbage, Chinese ..... do	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cabbage, head ..... do	.....	.....	.....	150	100	530	100	90	2,280	6,120	725	.....	10,095	841
Cantaloup ..... do	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	100	25
Carrot ..... bunches	1,375	1,075	375	405	200	395	180	200	495	480	834	725	6,750	563
Carrot, topped ..... pounds	150	400	650	200	.....	.....	200	.....	.....	.....	.....	1,700	3,300	275
Corn, green ..... do						.....	.....	.....	2,000	2,000	7,500	10,000	21,500	3,071
Cucumber ..... do	175	1,000	3,100	5,400	1,200	220	100	2,200	400	50	2,580	1,200	17,625	1,469
Eggplant, long ..... do	25,475	28,300	33,550	23,400	26,485	11,410	6,325	6,200	1,395	3,340	7,440	8,590	181,910	15,159
Eggplant, round ..... do	20	50	.....	.....	.....	.....	.....	.....	.....	120	100	200	490	41
Lettuce, head (California type) ..... heads	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lotus root ..... pounds						.....	.....	.....	.....	.....	.....	.....	.....	.....
Onion, bulb ..... do	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	400	400	33
Papaya ..... do												17,650	17,650	17,650
Pepper, bell ..... do	2,640	2,200	3,350	2,050	230	525	735	950	200	370	625	.....	13,875	1,156
Potato, red ..... do	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Potato, white ..... do	200	.....	.....	.....	.....	.....	.....	.....	5,000	5,000	.....	.....	10,200	850
Pumpkin ..... do	400	500	.....	200	150	50	50	150	1,100	.....	700	3,100	6,400	533
Squash, summer ..... do	.....	.....	.....	.....	.....	.....	.....	.....	775	100	275	.....	1,150	96
Sweetpotato (Nancy Hall) ..... do	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	300	300	25
Sweetpotato (all others including yams) ..... do						5,000	1,200	6,000	2,800	1,100	2,200	4,200	22,500	3,214
Taro, upland ..... do						.....	.....	.....	.....	.....	.....	.....	.....	.....
Taro, wetland ..... do						19,000	7,810	7,810	5,910	6,900	8,600	8,700	64,730	9,247
Tomato ..... do	3,450	3,125	2,600	12,500	24,050	31,620	68,800	86,600	3,750	42,100	4,170	6,850	289,615	24,135
Tomato, egg ..... do	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Watermelon ..... do	2,000	.....	7,000	17,500	300	.....	2,500	9,000	400	.....	.....	1,500	40,200	3,350
TOTAL	39,100	39,400	52,250	63,430	53,725	69,460	88,025	119,940	27,275	68,625	37,690	68,015	726,935	83,245