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FLORIDA'S PRODUCTION
OF AGRICULTURAL PERISHABLES
IN RELATION TO THE
DEVELOPMENT OF AIR FREIGHT

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Florida's Production
of Agricultural Perishables
in Relation to the
Development of Air Freight

A Survey by the
Bureau of Agricultural Economics

UNITED STATES DEPARTMENT OF AGRICULTURE

and the

EDWARD S. EVANS TRANSPORTATION RESEARCH

WASHINGTON, D. C.

AUGUST 1945

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Acknowledgment is due Dr. C. V. Noble, Agricultural Economist and Head of the Department of Agricultural Economics, and Mr. A. H. Spurlock, Associate Agricultural Economist, Agricultural Experiment Stations, College of Agriculture, University of Florida, for their valued assistance in assembling the basic data and collaborating in the preparation of the manuscript.

FOREWORD

The development of Florida agriculture, particularly its citrus and winter vegetable crops, has followed the growth of effective and efficient methods of transportation to the large consuming centers. The Florida citrus industry development was slow when it was necessary to transport fruit to slow-moving, unrefrigerated boats at Florida ports by oxcart over sandy roads. Its gain in momentum has been closely correlated with the building of our railroads and our public highways and with the increase in speed by rail, boat, and motortruck, together with the greatly improved preservative methods used in transit, such as refrigeration, better packaging and handling. This has been equally true in the commercial development of winter vegetables and other highly perishable commodities.

A new transportation era is dawning. Air-borne freight is expected to be a practical reality after the war. To some extent, this type of transportation may compete directly with present methods. It is believed, however, that air-freight transportation will play a much greater role in the development of highly perishable subtropical and tropical crops, as well as of floricultural commodities, which do not now move in large volume by existing modes of transport. Such crops as the avocado, mango, papaya, lychee, loquat, sapodilla, white sapote, and carambola may lend themselves well to this method of transportation and may greatly increase in volume. The gladiolus, small succulent plants for potting, and many other floriculture and horticulture specialties are subject, also, to healthy development when this quicker method of transportation becomes available. Every encouragement should be given to pioneers in this field of freight transportation by everyone who is interested in the agricultural development of Florida.

The following report on the potential in Florida's agricultural perishables available for transportation has been prepared to encourage pioneering in quicker methods of transportation and thus stimulate the agricultural development of the State as well as better serve consumers of these products in the North.

 *L. G. W. Britton* Director

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FLORIDA'S PRODUCTION OF AGRICULTURAL PERISHABLES IN RELATION TO THE DEVELOPMENT OF AIR FREIGHT

Introduction

A very substantial part of the winter and spring supply of fruits and vegetables for the northeastern United States originates in Florida. Normally this is transported by rail, truck, and boat. Before the war affected transportation, about 3 days were required to transport fruits and vegetables by refrigerator car or truck from Miami to New York City.

If, in the future, air transportation is used, only about 8 hours would be needed for this transport. The commodities could be harvested in the morning, precooled and packed in the afternoon, transported to New York City overnight, and sold in retail stores the next day—only 24 hours after harvesting.

Important factors in the successful movement of agricultural perishables by air freight are the supply of products, their areas of production, and their seasonality of production. Other factors, such as relative net costs of air shipment and competing transportation, the price of the commodity relative to its weight and volume, and the extent of the increase in the demand for the products that will be caused by air transportation, also are important in determining the quantity of agricultural commodities which may move as air cargo.

Costs of transportation and consumer reaction evidently should be analyzed on a commodity basis. This has been done for strawberries and tomatoes transported from Florida to Detroit¹ and for lettuce from California to Detroit.²

¹Bureau of Agricultural Economics and Edward S. Evans Transportation Research, Postwar Air Transportation of Fresh Strawberries and Tomatoes from Florida to Detroit, Michigan, March 1944.

²Bureau of Agricultural Economics and Edward S. Evans Transportation Research, Post-War Air-Transport Costs and Markets for Lettuce, July 1944.

Research on strawberries, tomatoes, and lettuce has indicated that air transport offers shippers of many perishables certain economies partially or wholly offsetting the higher cost of transportation. Substantial savings could be made by the use of lighter containers, exclusion of ice, and the elimination of some packing costs. The estimated differential in transportation cost of air-borne strawberries and surface-borne strawberries from Florida to Detroit could be reduced by 1 cent per quart, or from $6\frac{1}{2}$ cents to $5\frac{1}{2}$ cents per quart, by using in the air-borne cargoes lighter containers than the standard wooden crates now in use. The estimated transportation cost differential between air-borne and surface-borne tomatoes of about 6 cents per pound could be practically offset by savings in ripening costs and packaging for vine-ripened tomatoes shipped by air. The estimated cost differential in transporting lettuce from California to Detroit which is $6\frac{1}{2}$ cents per pound could be reduced to about $3\frac{3}{4}$ cents per pound by savings which could be obtained by using lighter packages, less waste through quick transport, and by packaging the lettuce in the field instead of in packing sheds.

Conclusions drawn from these previous studies are that even with the lowest ton-mile costs which are likely to prevail for some time and with utmost economies in handling, most air-transported produce must be sold at premium prices. In order to compete successfully with surface-borne produce the air-borne produce must be of superior quality. Apparently substantial quantities of air-borne strawberries would sell readily for $5\frac{1}{2}$ cents per quart higher than surface-transported strawberries during the months when the retail price is 35 cents or more per quart. Almost all of or even substantially more than the tomatoes now moving by surface carriers probably would move by air if vine-ripened, air-borne tomatoes could be sold at retail at the same price as surface-borne green-packed tomatoes. Lettuce from California has been transported by plane and placed on sale in Detroit at a price differential of 5 cents per head in competition with surface-borne lettuce, with all factors in the sale of the lettuce held constant except the price. About an equal quantity of air-borne lettuce at the higher price as surface-borne lettuce at the lower price was sold.

The detailed analyses of the air transportation of strawberries, tomatoes, and lettuce suggest an effective approach to the study of the air transportation of most other agricultural perishables. These studies demonstrate that although air-transportation costs probably will be higher

than surface-transportation costs, there are often offsetting economies in shipping produce by air and an offsetting factor in the superior quality of the air-borne produce which makes it salable to consumers at a higher price.

This report presents statistics on the seasonal production of fruits and vegetables in Florida and shows how air operations might fit into the production pattern. It suggests potential supply of agricultural perishables from Florida if demand arises. Relatively little critical analysis has been made of the likelihood of any single commodity being transported by air. A study was not made of the changes in production and harvesting practices which might be necessary to produce perishables especially suitable for air transportation. For example, Florida tomato growers indicate that there would be considerable difficulty in producing vine-ripened fruit unless the plants were staked. At present this is not practiced in many of the commercial production areas.

The 1942-43 seasonal production of fruits, vegetables, and other perishables is shown for Florida by counties in table 9 (page 31). The tabulations shown for shipments are for only one season, 1942-43, and the variation in volume and in the month of shipment is considerable from season to season, dependent upon weather conditions and other circumstances. Frequently there is a variation of 2 to 4 weeks in the commercial shipping season of a particular commodity.

Vegetable Production

Florida shipped about 650,000 tons of 30 different kinds of vegetables during the 1942-43 season. The seasonal production of vegetables in Florida is shown in table 1. Small quantities of snap beans, cucumbers, squash, peppers, and lima beans are harvested as early as October. The harvesting season for vegetables extends from October through July.

Many vegetables that are grown and shipped by rail from Florida would not be suitable for air transportation. Commodities such as watermelons, field peas, squash, mustard, turnips, and onions probably will not move by air, except for first early shipments, unless air-freight rates are lowered to about the level of rail-freight rates. At present, first shipments usually move by rail-express and extend the product's marketing season by this early arrival on the markets. Air shipments may further advance the season by 2 or 3 days.

TABLE 1.—Seasonal production of vegetables, Florida, 1942-43¹

Item	YEAR BEGINNING AUGUST												Per cubic foot		
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July		Total	
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Lb.
Cabbage	55	4,512	12,489	14,122	32,173	16,652	3,818	329	...	84,150	26.1	
Celery	1,746	1,518	8,769	18,607	24,044	31,163	24,999	23,899	2,759	...	134,240	...	
Cucumbers	555	178	...	21	1,970	5,155	89	...	11,232	38.6	
Cantaloups	349	...	...	...	...	...	...	780	...	1,780	32.7	
Eggplant	82	...	311	593	955	751	1,433	1,685	2,099	207	8,465	26.5	
Irish potatoes	2,479	11,112	9,706	14,594	7,019	35,960	17,292	13	98,175	48.2	
English peas	194	777	250	114	26	4	...	...	1,365	...	
Peppers	85	1,520	2,644	2,873	2,598	1,697	2,629	4,675	2,031	173	20,925	20.1	
Strawberries	123	490	932	558	609	96	...	...	2,808	38.6	
Tomatoes	13	3,375	6,571	6,131	9,547	5,119	5,371	30,179	2,530	6,848	68,836	43.4	
Watermelons	138	3,478	38,546	...	49,010	...	
Lima beans	57	365	360	294	300	54	721	1,177	232	...	3,560	25.7	
Snap beans	2,597	17,773	19,761	16,236	10,569	3,445	22,067	25,303	2,085	...	119,836	24.1	
All lettuce	568	2,796	3,166	1,563	3,866	649	55	...	...	12,663	23.9	
Escarole	539	2,260	1,984	1,095	1,501	1,565	445	...	...	9,389	19.3	
Sweet corn	682	...	...	...	...	...	1,264	3,787	...	5,733	28.1	
Field peas	255	...	...	...	...	...	...	...	...	17	286	792	1,350	...
Okra	447	854	...	1,301	...	
Squash	312	344	101	397	495	1,012	1,285	431	...	...	4,377	23.9 (a)	
Beets	129	130	66	...	...	...	325	41.8 (b)	
Chinese cabbage	91	119	90	...	...	...	300	...	
Mustard	92	52	40	4	40	...	122	...	...	350	...	
Turnips	339	284	417	65	489	...	156	...	...	1,750	23.5 (a)	
Onions	24	62	64	50	50	...	...	250	43.4 (b)	
Broccoli	55	...	...	130	...	...	...	...	185	43.0 (c)	
Cauliflower	81	42	247	...	...	...	...	...	370	18.0 (d)	
Collards	64	130	162	64	...	...	...	420	...	
Radishes	376	500	500	624	500	...	...	...	...	2,500	...	
Spinach	29	106	107	60	...	...	...	...	302	14.5	
Carrots	1,453	71	405	71	...	2,000	25.6 (a)	
Total	255	...	4,892	27,895	52,437	76,520	77,635	99,215	87,474	138,821	73,770	8,033	646,947	...	

¹For the purpose of this tabulation cantaloups, strawberries, and watermelons are included.
(a) Bunched. (b) Without tops. (c) Dry. (d) Green, bunched.

Commodities such as tomatoes, strawberries, sweet corn, lima beans, spinach, lettuce, cauliflower, and English peas will probably prove to be among the most profitable vegetables which can be shipped by air freight. Research has shown that tomatoes, strawberries, and lettuce probably will be profitable when so shipped. Bulky fresh staple products that can be processed or concentrated in the producing area may move in relatively large quantities even at relatively high air-freight costs. Products in this category are peas and lima beans shelled before shipment and spinach and cauliflower cleaned, washed, and packed ready to cook. Sweet corn is highly perishable and can seldom be transported very far from the producing area under ordinary transport conditions. But it is a likely product for air transportation; in addition sweet corn is produced at the beginning and at the end of the Florida season for shipping perishables. Thus it would extend the time of air operations. All in all, a large tonnage of vegetables probably would be available for air shipment in the months of November to June, inclusive.

Citrus Fruits

Florida's production of citrus fruits is many times larger than its production of vegetables and other fruits. Some citrus fruits are harvested in Florida during all months of the year, the greatest quantities coming in December, January, February, March, and April. The seasonal production of citrus fruits in Florida is shown in table 2.

Citrus fruits are being transported successfully by rail and little benefit would be secured from the more rapid air transportation. It is possible that a relatively small proportion of the crop could be moved by air by the shipment of fresh juice extracted and concentrated in the producing area. Orange, tangerine, and lime juice is highly perishable

TABLE 2.—Seasonal production of citrus fruits, Florida, 1942-43

Item	YEAR BEGINNING AUGUST												Total
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Oranges.....	563	34	20,447	137,686	199,924	180,101	216,481	311,005	280,697	216,700	99,404	10,950	1,673,992
Grapefruit.....	57	2	31,144	67,090	140,568	261,143	190,494	167,801	126,259	82,106	23,942	1,396	1,092,002
Tangerines.....				11,035	57,829	48,407	37,684	12,088	838	117			167,998
Limes.....	1,059	706	280	149	316	281	230	142	56	474	1,174	1,538	6,405
Total.....	1,679	742	51,871	215,960	398,637	489,932	444,889	491,036	407,850	299,397	124,520	13,884	2,940,397

when not processed and would benefit by rapid transportation. By concentrating the fruit into the juice the economic significance of the difference between rail rates and air rates would be lessened. Members of the Texas Citrus and Vegetable Growers and Shippers are considering the installation, near airports, of processing and chilling plants to extract the juice from oranges and possibly from grapefruit for shipment by air transport. The juice in paper containers might move overnight to northern metropolitan centers for doorstep delivery, possibly in conjunction with milk deliveries.

Fruits, Gladiolus, and Succulents Production

The total tonnage of gladiolus, succulents, and fruits (other than citrus and strawberries) has been relatively small. However, much of this tonnage is harvested during the months when the vegetable crops are not being harvested. Seasonal production of fruits, gladiolus, and succulents is shown in table 3. Most of the products listed probably will move successfully by air. At present, one of the limiting factors in the production of these products for marketing is the lack of rapid transportation. Production of many of them will presumably be increased when shipment by plane is available.

Many other flowers are produced and shipped from Florida but the statistics are not available. If air-freight service at relatively low

TABLE 3.—Seasonal production of fruits, gladiolus, and succulents, Florida, 1942-43 ¹

Item	YEAR BEGINNING AUGUST													Per cubic foot
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total	
Avocados.....	Tons 111	Tons 123	Tons 192	Tons 262	Tons 302	Tons 190	Tons 93	Tons 44	.....	.....	.....	Tons 56	Tons 1,373	Lb. 24.0
Blueberries.....	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	54	82	150	.....
Figs.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	39	61	100	31.4
Grapes.....	93	.....	.....	.....	.....	.....	.....	.....	.....	.....	43	314	450	38.6
Guavas.....	81	42	17	.....	.....	.....	.....	.....	.....	.....	.....	23	163	.....
Mangoes.....	50	8	.....	.....	.....	.....	.....	.....	.....	.....	42	100	200	.....
Papayas.....	17	15	14	11	7	7	7	7	8	13	22	22	150	.....
Peaches.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	475	790	319	1,584	38.6
Pears.....	1,730	246	.....	.....	.....	.....	.....	.....	.....	.....	.....	499	2,475	39.4
Persimmons.....	5	22	38	10	.....	.....	.....	.....	.....	.....	.....	.....	75	.....
Pineapples.....	5	.....	.....	.....	2	2	6	9	11	15	34	21	105	29.1
Gladiolus.....	.....	.....	104	424	1,430	1,557	1,370	1,386	963	93	.....	.....	7,327	.....
Succulents.....	99	97	116	78	56	74	66	90	85	74	85	64	984	.....
Total.....	2,205	553	481	785	1,797	1,830	1,542	1,536	1,067	670	1,109	1,561	15,136	.....

¹For the purpose of this tabulation cantaloups, strawberries and melons are not included.

rates is established in the postwar period, a tremendous increase in the flower business of Florida may materialize. Some expensive flowers, such as orchids, carnations, and lilies, have moved at the present high air-express rates.

Some of the flowers which may be among the first to move in quantity by air are chrysanthemums, asters, gladioli, camellias, orchids, roses, carnations, and gardenias. Many of these flowers can be grown in the open in Florida whereas in the northern competitive regions most of them must be grown under glass. The lower production costs and generally superior quality of the flowers may put Florida growers in a favorable competitive position in relation to northern and eastern greenhouses. Flowers are bulky and relatively light, but with a cargo of flowers it is possible to reach the weight limit of a DC-3 plane before the cubic space available for loading is used entirely. This indicates that density is not a very important factor in connection with the air transport of such products.

The eastern flower market, compared with existing Florida and California markets, is very much undersupplied. Flower purchases per capita in the Northeast are substantially below per capita purchases in the Florida and California areas, due at least partly to differences in prices. The northern market probably can be expanded greatly with supplies originating in Florida and California, although this probably would have to be induced by a reduction in prices.

The so-called succulents in table 3 include a variety of small green plants and ferns. These are usually shipped in very small size to retail stores throughout the United States. Most of them are potted before being retailed. The list of plants included in the succulents classification is:

Aloe—agave (century plant)	Cacti
Chinese evergreen	Crown of thorns (<i>Euphorbia splendens</i>)
Dieffenbachia	Pothos
Dracena	Crotons
Nephtytis	Rubber plants (<i>Ficus elastica</i>)
Philodendron	Air plant leaves
Cryptanthus	Ferns
Syngonium	Azaleas in bloom
Peperomia	Fancy leaf caladiums
Pandanus	Saint paulia (<i>African violet</i>)
Sansevieria	Phoenix roebelenii
Ardesia	Aspidistra
Crassula	Self branching and miniature ivy

One of the leading producers in Florida of succulent plants believes many shipments of this type will move by air. He states that most shipments of succulents go to wholesale growers, although Florida growers have started supplying retail florists, and they receive frequent requests for rush shipments as retailers have no facilities for carrying a stock. He further says that the production of plants is increasing in Florida so that a larger variety can be supplied to northern markets at times when stock is in demand.

Miscellaneous Subtropical Fruit Production

In addition to the subtropical fruits shown in table 3, other fruits which are potential air cargo and which many think probably will increase considerably in importance as fruit crops for Florida are:

Lychee	—Season, June 15 to July 15
Loquat	—Season, January to April
Sapodilla	—Season, April to August
White sapote	—Season, May to September
Carambola	—Season, practically all year

No quantitative data are available for these fruits. With the exception of loquats, they have been shipped to northern markets in limited quantities. Plantings are being increased and these fruits may be more plentiful in future years. The loquat probably cannot be shipped successfully in volume to northern markets except by airplane and this is one reason why it has not been planted in commercial quantities. It can be grown readily and will undoubtedly be grown more extensively if markets can be reached.

The crops mentioned in this section and in table 3 are in the category of commodities which, although not produced in great tonnage, probably will lend themselves better to air transportation than the bulk of the staple vegetables and citrus fruits. If air-freight rates continue at current levels, these may be the only products that can be moved profitably by air. Tonnage of these commodities is relatively small but in many instances if they can be successfully moved to market, substantial increases in production may occur.

Total Fruit and Vegetable Production

The total tonnage of fruits and vegetables harvested in Florida in 1942-43 is shown in table 4. About 15 percent of the total production is produced in each of the months of January, February, March, and

April. Only a relatively small quantity of fruits and vegetables is harvested during July, August, September, and October. The greatest seasonality occurs in the harvesting of citrus fruits, the least in the harvesting of other fruits and miscellaneous plants. Fortunately, some of the products which will probably be the first to move by air have the least seasonality in their production. The seasonal production information contained in table 4 is shown graphically in figures 1, 2, and 3.

TABLE 4.—Seasonal production of fruits and vegetables, Florida, 1942-43

Item	YEAR BEGINNING AUGUST												Total
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	
Vegetables.....	<i>Tons</i> 255	<i>Tons</i>	<i>Tons</i> 4,892	<i>Tons</i> 27,895	<i>Tons</i> 52,437	<i>Tons</i> 76,520	<i>Tons</i> 77,635	<i>Tons</i> 99,215	<i>Tons</i> 87,474	<i>Tons</i> 138,821	<i>Tons</i> 73,770	<i>Tons</i> 8,033	<i>Tons</i> 646,947
Citrus.....	1,680	742	51,871	215,959	398,636	489,931	444,889	491,036	407,850	299,398	124,520	13,884	2,940,396
Other fruits and miscellaneous.....	2,205	553	481	785	1,797	1,830	1,542	1,536	1,067	670	1,109	1,561	15,136
Total.....	4,140	1,295	57,244	244,639	452,870	568,281	524,066	591,787	496,391	438,889	199,399	23,478	3,602,479
Percentage of total....	.1	(1)	1.6	6.8	12.6	15.8	14.5	16.4	13.8	12.2	5.5	.7	100.0

¹Less than 0.05 percent.

Pattern for Air-Freight Operations

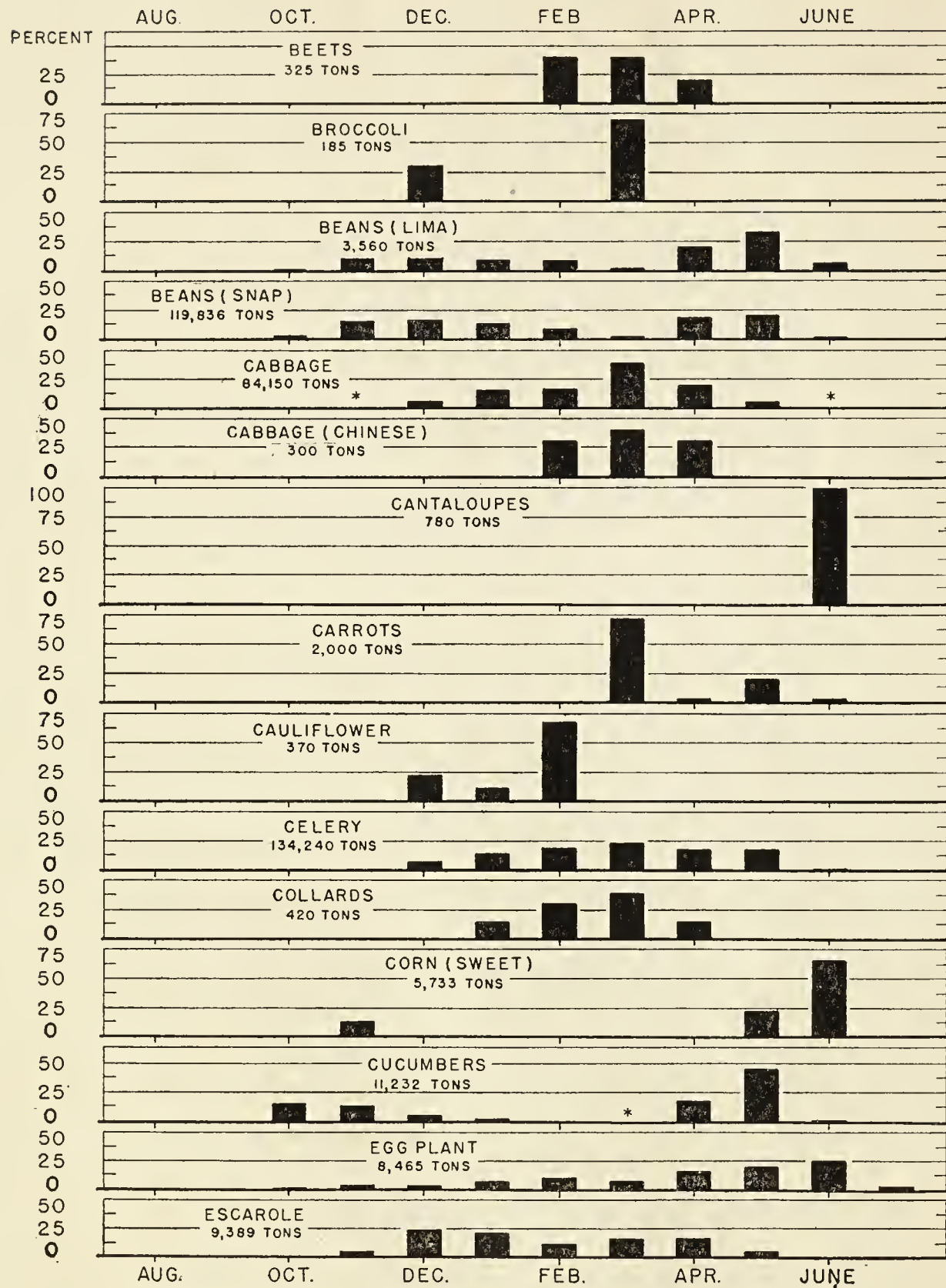
Fruits and vegetables are produced in all counties in Florida in various degrees of intensity. In the initial stages of air transportation it probably will be necessary that the fruits and vegetables to be shipped by air be concentrated near large existing air fields. For the most economical operation it is highly desirable that the concentration points be located in the center of intensive producing areas and in areas where the seasonal production of the commodities allows the maximum amount of tonnage. The proper location of the air-freight concentration centers would minimize the expense of truck transportation and would make possible the most expeditious handling of the product from the field to the plane.

An analysis of Florida's agricultural production shows that among the best locations for concentration points would be Miami and Plant City. These are not necessarily the only desirable air-freight concentration points but they are used in this analysis as examples of desirable ones.

Within a radius of 75 miles of Miami and of Plant City, nearly all kinds of the fruits and vegetables produced in Florida are harvested in quantity. Seasonal production of all fruits and vegetables in these two

SEASONAL PRODUCTION OF VEGETABLES, FLORIDA, 1942-43 (BY MONTHS IN PERCENT OF YEAR'S TOTAL)

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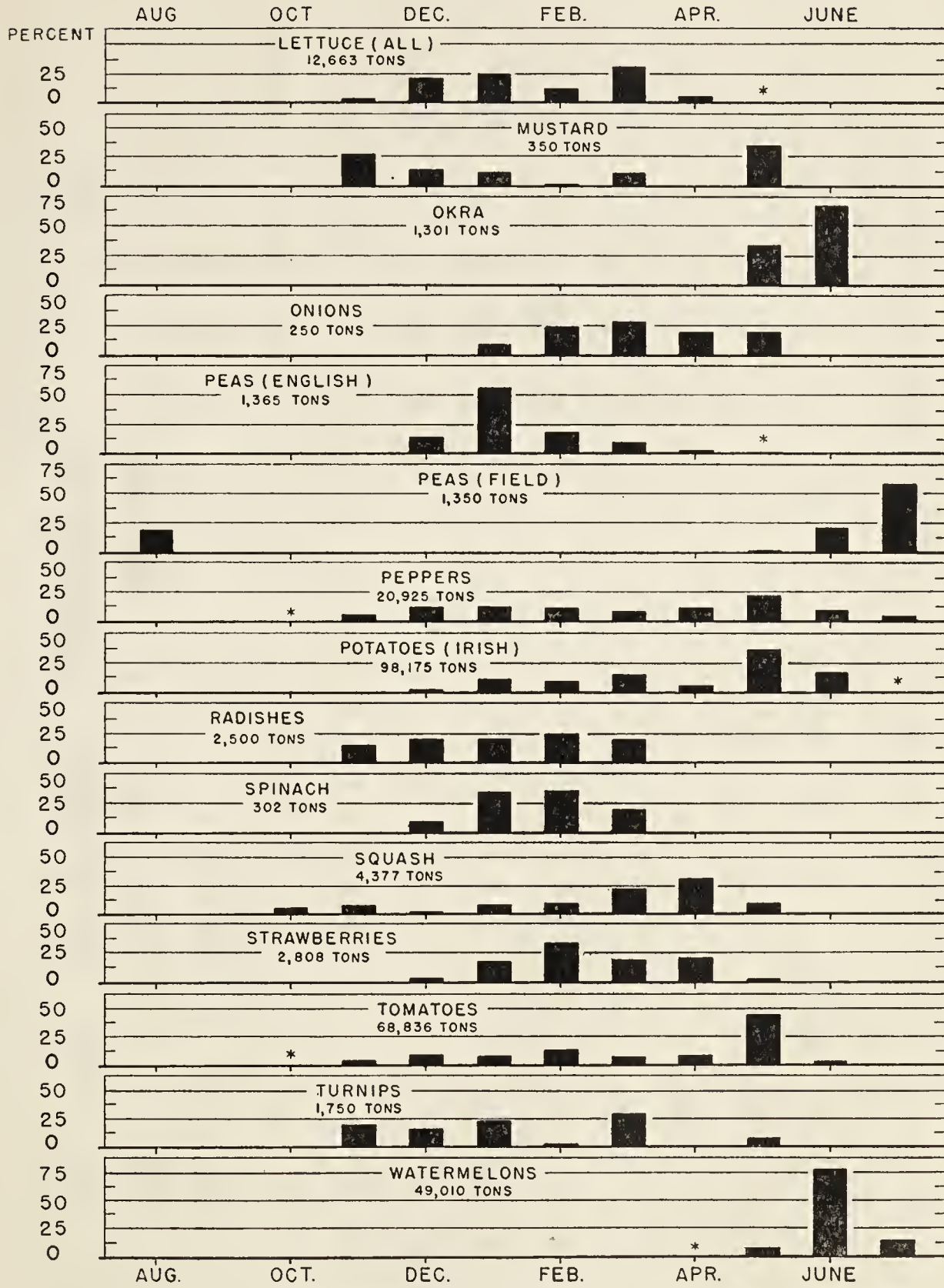


*LESS THAN 0.5 OF ONE PERCENT

FIGURE I

SEASONAL PRODUCTION OF VEGETABLES, FLORIDA, 1942-43 (BY MONTHS IN PERCENT OF YEAR'S TOTAL)

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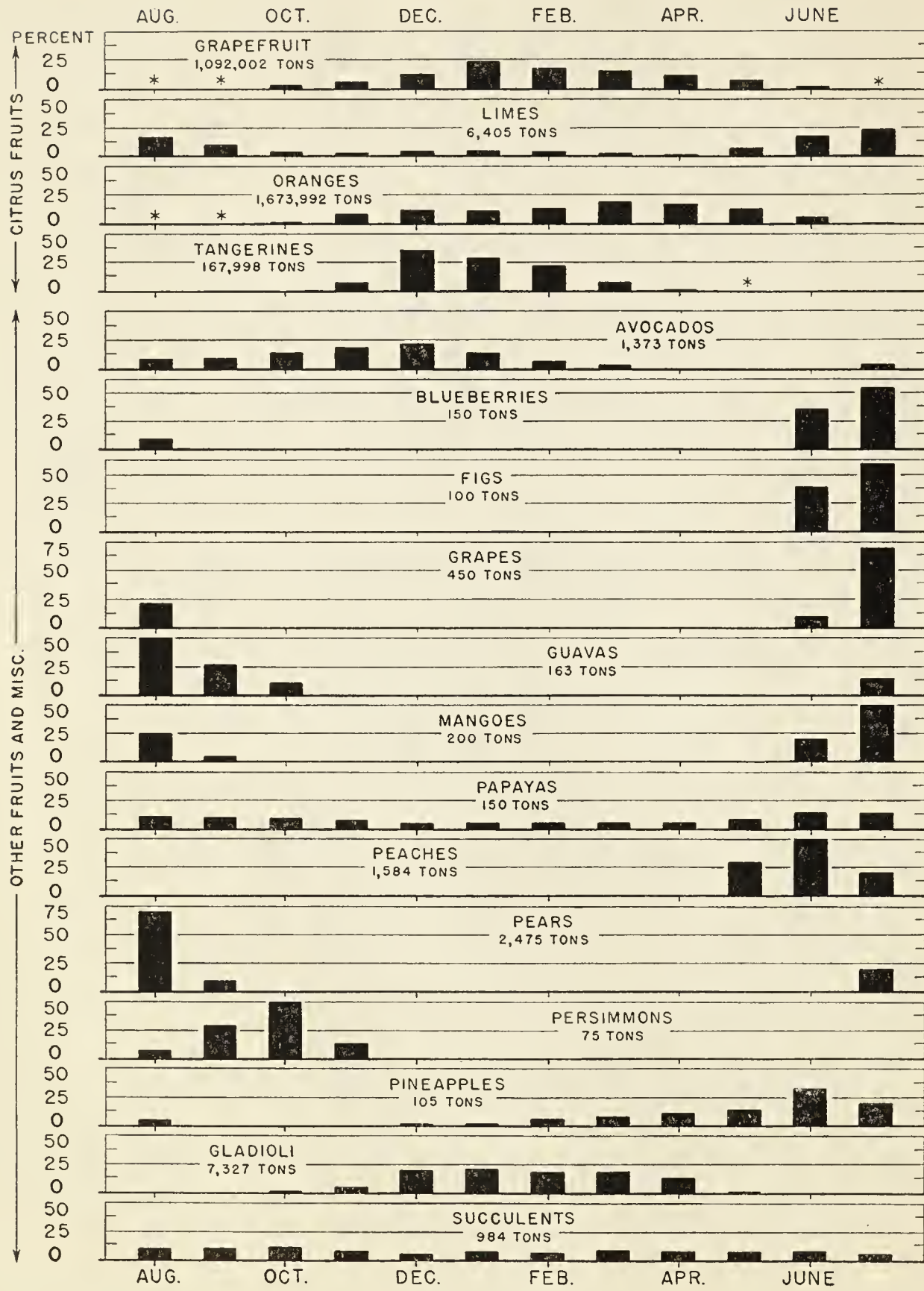


*LESS THAN 0.5 OF ONE PERCENT

FIGURE 2

SEASONAL PRODUCTION OF FRUITS, GLADIOLI, AND
SUCCULENTS, FLORIDA, 1942-43
(BY MONTHS, IN PERCENT OF YEAR'S TOTAL)

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*LESS THAN 0.5 OF ONE PERCENT

FIGURE 3

areas is at a minimum. However, the production of many individual crops is as seasonal as in other parts of Florida. The estimated tonnages harvested during the 1942-43 season within a 50-mile radius of Miami and Plant City are shown in tables 5 and 7. The possibilities of larger volumes by drawing on production within a 75-mile radius are shown in tables 6 and 8. The areas are shown graphically in figure 4.

Some perishables are harvested in the Miami and Plant City areas during the entire year but the quantity probably will not be sufficient to furnish as much pay load as desirable from June to November, inclusive. During a part of these months an additional tonnage of perishables might be secured by stopping at least once on each flight at some concentration point located farther north. For example, planes operating from Miami could stop at Fort Myers and load semitropical products grown on Pine Island. Planes operating from Plant City could stop either at Jacksonville or Atlanta, Ga., and pick up additional tonnage. A stop at either of these cities may be especially advantageous during the months of May and June when quantities of sweet corn, tomatoes, peaches, and lima beans may be available within a 50-mile radius of Jacksonville or Atlanta.

Conclusions

Production of fruits and vegetables in Florida is seasonal. In the 1942-43 season about 85 percent of the total tonnage was harvested during December to May, inclusive. However, the tonnage of perishables harvested during the remaining 6 months is of such a character that a substantial portion of it might be moved by air.

Production of perishable agricultural products in Florida is particularly small during July, August, September, and October when less than 3 percent of the total tonnage is harvested. The lowest operating costs for an air-freight line probably would be obtained through adjusting operations during the period of a seasonal low supply of agricultural perishables by:

- (1) Haul northward other perishable commodities such as sea food from Florida or the Caribbean Sea area.
- (2) Reduce the number of flights so that as nearly as possible a full load may be hauled northward; this reduction would be governed partly by trade demands and partly by the quantity and nature of the south-bound load.
- (3) Encourage production of perishables that are harvested and sold during the season of usual short supply.

TABLE 5.—Seasonal production of fruits and vegetables, vicinity Miami, Fla., (estimated production within 50-mile radius of Miami), 1942-43

Item	YEAR BEGINNING AUGUST												
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Beans, lima.....					4	117	189	11	3				324
Beans, snap.....				1,029	6,418	9,339	6,448	1,779	354	36			25,403
Beets.....							35	63	18				88
Broccoli.....					101	379	405	1,139	101				63
Cabbage.....							11	14	11				2,125
Cabbage, Chinese.....								174	11	44	11		36
Carrots.....					3	2	10						240
Cauliflower.....													15
Celery.....						6	13	6					25
Collards.....					102	49			122	86			408
Cucumbers.....				49						45	91		136
Sweet corn.....						16	419	402	692	419	32		1,980
Egg plant.....						19	56	187					262
Escarole.....													
All lettuce.....													
Mustard.....													
Okra.....										35	23		58
Onions, green.....					691	1,884	1,607	864	2,160	1,072	17		8,312
Peppers.....				17			7,790	13,421	209				21,420
Irish potatoes.....													
Field peas.....				11		15	19	15					75
Radishes.....						6	20	11					57
Spinach.....						221	277	387	221				1,106
Squash.....						16	30	11	17	3			81
Strawberries.....					623	5,035	8,639	4,139	1,758	953			21,147
Tomatoes.....				263									263
Turnips.....													
English peas.....													
Total.....				1,369	7,967	17,118	25,968	22,658	5,677	2,693	174		83,624
Citrus fruit:													
Grapefruit.....			671	458	394	576	482	483	389	240	146	1	3,840
Limes.....	838	601	242	137	305	210	202	109	34	468	786	746	4,678
Oranges.....	563		156	340	716	879	1,179	1,551	1,643	1,593	1,505	476	10,601
Tangerines.....				20	96	141	98	62	31				448
Total.....	1,401	601	1,069	955	1,511	1,806	1,961	2,205	2,097	2,301	2,437	1,223	19,567
Miscellaneous:													
Avocados.....	111	111	166	222	222	111	67	44				56	1,110
Guavas.....	7	4	2									2	15
Mangoes.....	17	4									14	35	70
Papayas.....	8	8	8	6	4	4	4	4	5	8	10	10	79
Pineapples.....										1	2	1	7
Gladiolus.....													
Succulents.....													
Total.....	143	127	176	228	226	115	72	49	6	9	26	104	1,281
Grand total.....	1,544	728	1,245	2,552	9,704	19,039	28,001	24,912	7,780	5,003	2,637	1,327	104,472

TABLE 6.—Seasonal production of fruits and vegetables, vicinity Miami, Fla., (estimated production within 75-mile radius of Miami), 1942-43

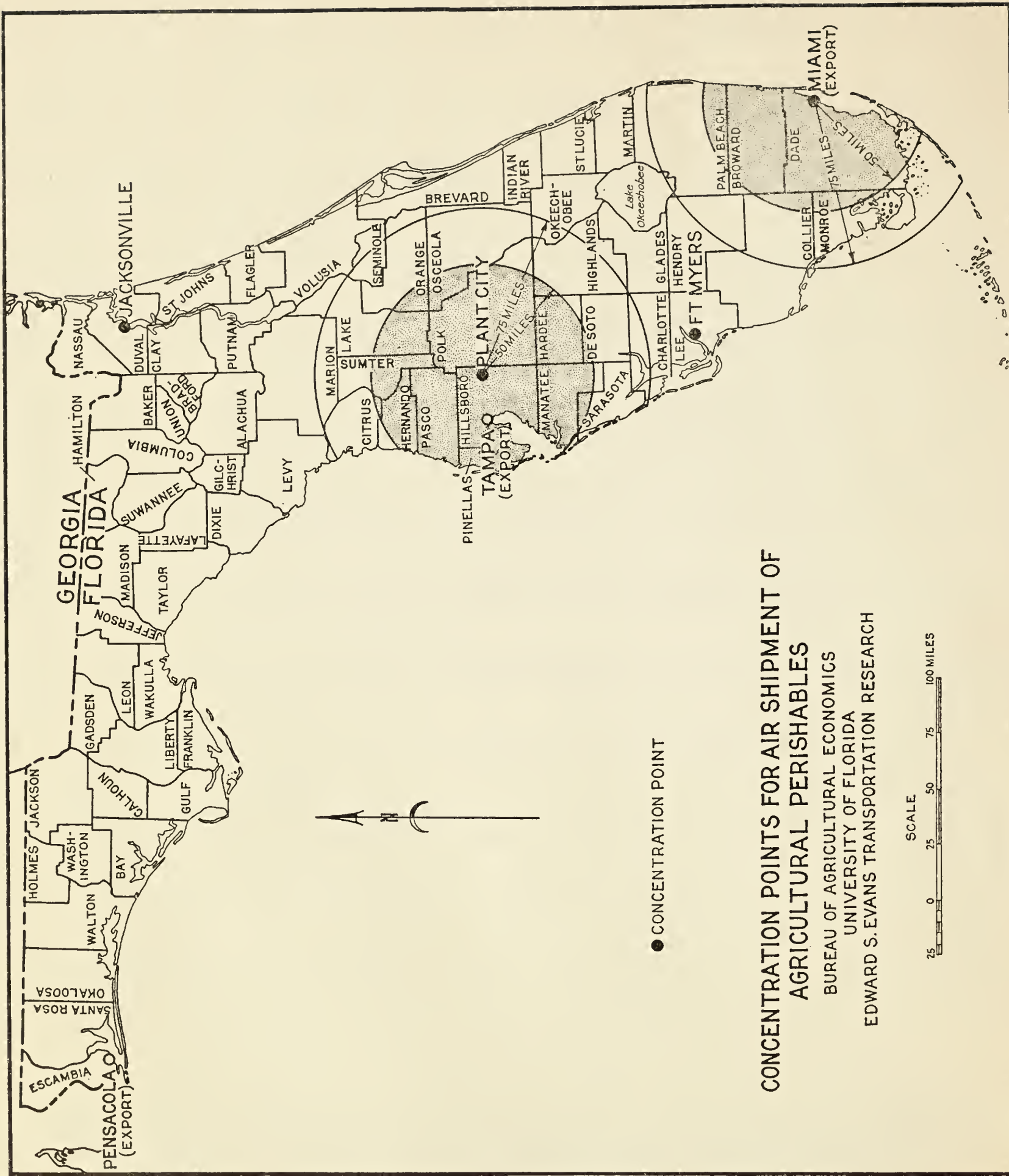
Item	YEAR BEGINNING AUGUST												
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Beans, lima.....			57	365	294	274	280	50	448	448	4		2,220
Beans, snap.....			2,315	15,901	18,234	15,729	10,145	3,384	18,467	18,257	147		102,579
Beets.....							41	42	21				104
Broccoli.....					634	2,454	4,817	119	8,144	1,485			119
Cabbage.....							35	45	34				29,325
Cabbage, Chinese.....								494	11	44	11		114
Carrots.....							10						560
Cauliflower.....					3	2							15
Celery.....					2,065	7,142	6,629	9,705	6,607	4,723			36,871
Collards.....						23	46	23					92
Cucumbers.....				127	233	73			228	155			816
Sweet corn.....				682						386			1,842
Eggplant.....					72	304	707	570	1,028	875	774		4,381
Escarole.....					41	49	82	425	711	311	825		1,619
All lettuce.....						153	459	1,531					2,143
Mustard.....					1	19	4	25					49
Okra.....										44	29		73
Onions, green.....						5	12	13	10	10			50
Peppers.....				85	1,133	2,360	2,458	1,647	2,568	1,991	51		12,293
Irish potatoes.....					2,386	7,476	7,930	13,667	209	2,211	141		34,020
Field peas.....										17	27		67
Radishes.....				199	265	265	331	265					1,325
Spinach.....					9	31	31	17					88
Squash.....						369	461	645	368				1,843
Strawberries.....					4	16	30	11	17	3			81
Tomatoes.....					623	5,282	8,850	4,421	1,828	988			21,992
Turnips.....				263	22	305	65	413					1,068
English peas.....					186	746	217	21					1,170
Total.....			2,372	17,622	26,205	43,077	43,640	49,324	40,699	31,948	2,009	23	256,919
Citrus fruit:													
Grapefruit.....			676	524	748	1,136	1,113	871	606	424	335	1	6,434
Limes.....	838	601	242	137	304	210	202	108	34	468	786	747	4,677
Oranges.....	563		159	435	1,131	1,284	1,541	2,030	2,103	2,021	1,967	477	13,711
Tangerines.....				122	455	420	303	124	39				1,463
Total.....	1,401	601	1,077	1,218	2,638	3,050	3,159	3,133	2,782	2,913	3,088	1,225	26,285
Miscellaneous:													
Avocados.....	111	111	166	222	222	111	67	44				56	1,110
Guavas.....	9	5	3									3	20
Mangoes.....	19	4									15	38	76
Papayas.....	9	9	8	6	4	4	4	4	5	8	11	11	83
Pineapples.....	4				2	2	5	8	9	13	29	18	90
Gladiolus.....			57	117	192	250	243	343	246				1,448
Succulents.....	39	48	58	29	17	27	26	31	32	41	39	31	418
Total.....	191	177	292	374	437	394	345	430	292	62	94	157	3,245
Grand total.....	1,592	778	3,741	19,214	29,280	46,521	47,144	52,887	43,773	34,923	5,191	1,405	286,449

TABLE 7.—Seasonal production of fruits and vegetables, Florida, vicinity Plant City, Fla., (estimated production within 50-mile radius of Plant City), 1942-43

Item	YEAR BEGINNING AUGUST												Total
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Beans, lima.....									56	56			112
Beans, snap.....									1,222	1,501	85		3,496
Beets.....							30	30	15				75
Broccoli.....									834	157			55
Cabbage.....						4,069	1,977	1,713	16	62			11,050
Carrots.....						29	170	246			16		340
Cauliflower.....						26	52	27					255
Collards.....													105
Corn, sweet.....										565	1,415		1,980
Cucumbers.....			1,272	454					356	798			2,880
Eggplant.....			82	82	101	40	55	79	118	172	853	76	1,658
Escarole.....				165	874	616	243	379	616	21			2,914
Lettuce, all.....				72	1,353	2,637	285	285	356				4,988
Mustard.....				7	26	11		8					52
Okra.....										79	67		146
Onions, green.....						7	17	18	14	14			70
Peppers.....				598	465	160	20	8	51	1,691	738		3,740
Potatoes, Irish.....									723	2,427			3,150
Peas, field.....	126										128		634
Radishes.....				19	25	25	31	25					125
Spinach.....					5	20	20	11					56
Squash.....				83	55			236	456				830
Strawberries.....					104	415	762	278	451	69			2,079
Tomatoes.....			13	1,173	1,672	266			2,146	14,382	137		19,789
Turnips.....				20	70	30		20					140
Watermelons.....										313	1,589		1,902
Celery.....					775	879	966	1,215	931	280			5,046
Total.....	126		1,376	2,841	8,276	9,320	4,718	4,578	8,361	22,587	5,028	456	67,667
Citrus fruit:													
Grapefruit.....	57	2	24,775	51,621	108,476	201,294	144,286	111,026	84,504	52,959	14,576	1,131	794,707
Limes.....	86	81	34	10	10	1	10	29	21	3	197	553	1,035
Oranges.....		34	10,338	60,337	81,780	76,955	97,709	155,943	145,955	120,909	62,706	5,892	818,558
Tangerines.....				4,075	20,196	18,357	17,963	6,240	1,019	77			67,927
Total.....	143	117	35,147	116,043	210,462	296,607	259,968	273,238	231,499	173,948	77,479	7,576	1,682,227
Miscellaneous:													
Avocados.....		1	3	5	9	9	3						30
Guavas.....	19	10	4									6	39
Grapes.....	4										2	12	18
Mangoes.....	2										2	4	8
Papayas.....	4	3		3	2	2	2	2	2	3	6	6	38
Persimmons.....	1	4	7	2									14
Gladiolus.....			25	165	373	312	325	370	317	15			1,902
Succulents.....	11	6	8	3	3	11	4	2	6	13	10	9	86
Total.....	41	24	50	178	387	334	334	374	325	31	20	37	2,135
Grand total.....	310	141	36,573	119,062	219,125	306,261	265,020	278,190	240,185	196,566	82,527	8,069	1,752,029

TABLE 8.—Seasonal production of fruits and vegetables, Florida, vicinity Plant City, Fla., (estimated production within 75-mile radius of Plant City, 1942-43)

Item	YEAR BEGINNING AUGUST												
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Cabbage, Chinese..													36
Beans, lima.....													190
Beans, snap.....		5		369	844	190	190		2,267	3,734	323		7,922
Beets.....							59	60	30				149
Broccoli.....					55					11			66
Cabbage.....				55	3,375	6,574	3,909	5,855	2,919	1,634	329		24,650
Carrots.....								959	60	241	60		1,320
Cauliflower.....					74	38	224						336
Collards.....						31	63	32					126
Corn, sweet.....										819	2,049		2,868
Cucumbers.....			1,376	482					636	2,378			4,872
Eggplant.....			82	82	101	40	55	79	118	172	883	135	1,747
Escarole.....				539	2,110	1,823	963	1,026	851	134			7,446
All lettuce.....				568	2,796	2,863	418	463	446	22			7,576
Mustard.....				14	51	21		15					101
Okra.....										79	67		146
Onions.....						9	22	23	18	18			90
Peppers.....			62	1,043	934	337	71	23	54	1,884	943	14	5,365
Potatoes, Irish.....					93			51	1,581	5,605	427	13	7,770
Peas, field.....	126										128	380	634
Radishes.....				169		225	281	225					1,125
Spinach.....					16	58	59	34					167
Squash.....				111	73			250	488				922
Strawberries.....					109	436	802	293	474	73			2,187
Tomatoes.....			13	1,173	1,672	350			2,242	16,341	799		22,590
Turnips.....				38	131	56		38					263
Watermelons.....										2,172	9,103	239	11,514
Celery.....					6,704	11,465	17,415	21,458	16,930	17,348	2,393		93,713
Cantaloups.....											98		98
Total.....	126		1,538	4,643	19,363	24,516	24,542	30,898	29,207	52,765	17,610	781	205,989
Citrus fruit:													
Grapefruit.....	57	2	27,909	58,575	123,836	231,031	66,311	37,290	102,550	17,133	6,092	350	671,136
Limes.....	180	85	36	11	11	71	28	33	22	6	388	785	1,656
Oranges.....		34	19,060	118,697	161,395	141,359	174,649	260,942	235,330	178,949	82,593	10,280	1,383,288
Tangerines.....				9,240	47,221	39,675	31,857	10,370	1,274	114			139,751
Total.....	237	121	47,005	186,523	332,463	412,136	272,845	308,635	339,176	196,202	89,073	11,415	2,195,831
Miscellaneous:													
Avocados.....		5	12	19	36	36	12						120
Guavas.....	23	12	5									7	47
Grapes.....	43										21	152	216
Mangoes.....	2										2	4	8
Papayas.....	5	3	3	3	2	2	2	2	2	3	7	7	41
Persimmons.....	1	7	11	2									21
Gladiolus.....			25	165	373	312	325	370	317	15			1,902
Succulents.....		6	8	3	3	11	4	2	6	13	10	9	86
Pears.....	35	5										10	50
Total.....	120	38	64	192	414	361	343	374	325	31	40	189	2,491
Grand total.....	483	159	48,607	191,358	352,240	437,013	297,730	339,907	368,708	248,998	106,723	12,385	2,404,311



**CONCENTRATION POINTS FOR AIR SHIPMENT OF
AGRICULTURAL PERISHABLES**

BUREAU OF AGRICULTURAL ECONOMICS
UNIVERSITY OF FLORIDA
EDWARD S. EVANS TRANSPORTATION RESEARCH

SCALE
0 25 50 75 100 MILES

FIGURE 4

In the initial development of air transportation of perishables, it is highly desirable that the air-freight concentration points be located in intensive fruit and vegetable producing areas as well as in areas where the seasonal variation in production is at a minimum. An analysis of Florida's agricultural production indicates Miami and Plant City as examples of desirable air-freight concentration points. Practically all of the fruits and vegetables produced in Florida are harvested in quantity in the areas adjacent to these two concentration points. Some commodities are harvested in the Miami and Plant City areas during all months of the year. The production in northern Florida and southern Georgia complements the production in southern Florida, seasonal production being lowest during the months of high production in the other areas, and some tonnage is produced when production in southern Florida is extremely low. Planes operating from points in southern Florida probably could stop at Fort Myers or other points farther north while planes operating from Plant City probably could stop at Jacksonville or Atlanta during May, June, and July and add to their north-bound loads of perishables.

APPENDIX

TABLE 9.—Seasonal production of fruits and vegetables in Florida, 1942-43

ALACHUA COUNTY

Item	YEAR BEGINNING AUGUST												Total Tons
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	
Cabbage.....					24	267	243	304	12				850
Celery.....										995	468		1,463
Cucumbers.....										1,704	24		1,728
Eggplant.....			52								183		470
Irish potatoes.....										2,943	2,157	183	5,100
English peas.....							16	62	17	2			97
Peppers.....										29	405	116	550
Tomatoes.....										112	323		435
Watermelons.....											3,708	95	3,803
Lima beans.....									49	921	598		1,568
Snap beans.....									61	1,149	746		1,956
All lettuce.....						10	51	163	82				306
Sweet corn, green.....										312	780		1,092
Okra.....										48	113		161
Squash.....			60	37					51	83			231
Spinach.....					1	4	5	3					13
Oranges.....			3	208	638	667	549	215	176	175	49	1	2,681
Tangerines.....				13	68	68	56	67	1				273
Figs.....												1	1
Peaches.....										14	24	10	48
Pears.....	87	12										25	124
Persimmons.....		1											2

BAKER COUNTY

Irish potatoes.....													300
Watermelons.....										173	127	3	106

BRADFORD COUNTY

Cabbage.....					12	134	121	152	6				425
Cucumbers.....										379	5		384
Irish potatoes.....										433	317		750
Strawberries.....							29	211	71	13			324
Tomatoes.....										70	202		272
Watermelons.....											206	5	211
Lima beans.....									10	198	128		336
Sweet corn, green.....											546		546
Field peas, green.....	24										25	73	122
Beets.....							9	9	5				23
Snap beans.....			24	119					24	214	95		476
Pears.....	35	5										10	50
Persimmons.....	1	1	2	1									5

TABLE 9.—Seasonal production of fruits and vegetables in Florida, 1942-43—Continued

BREVARD COUNTY

Item	YEAR BEGINNING AUGUST												Total Tons
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Tomatoes.....	..	..	14	55	90	4	..	..	23	102	..	..	274
Oranges.....	..	..	8	1,493	6,046	7,011	6,577	6,465	6,686	4,754	282	5	39,333
Grapefruit.....	..	..	..	892	1,807	3,620	2,956	4,119	2,066	569	12	1	16,050
Tangerines.....	..	..	..	114	767	442	225	96	5	..	..	7	1,649
Limes.....	7	4	2	1	..	..	..	..	..	..	..	..	21
Avocados.....	..	1	2	3	7	6	2	..	..	..	..	..	21
Guavas.....	12	6	2	..	..	..	..	..	..	..	..	3	23
Mangoes.....	1	..	..	..	..	..	..	..	..	..	1	2	4

BROWARD COUNTY

Cabbage.....	..	..	..	..	20	76	81	228	20	..	..	..	425
Cucumbers.....	..	..	..	49	102	49	..	402	122	86	..	..	408
Eggplant.....	..	..	..	..	..	16	48	..	692	419	32	..	1,609
Irish potatoes.....	..	..	..	..	..	..	..	1,680	..	..	..	..	1,680
Peppers.....	..	..	..	17	691	1,884	1,607	864	1,954	1,072	17	..	8,106
Tomatoes.....	..	..	..	..	188	437	1,016	1,125	1,734	906	..	..	5,406
Lima beans.....	..	..	..	..	3	78	126	7	2	..	..	..	216
Squash.....	..	..	..	..	..	101	127	178	101	..	..	..	507
Beets.....	..	..	..	..	..	..	8	8	4	..	..	..	20
Turnips.....	..	..	..	175	..	..	..	..	..	..	..	..	175
Broccoli.....	..	..	..	..	..	..	..	41	..	..	..	..	41
Cauliflower.....	..	..	..	..	..	2	10	..	..	..	..	..	15
Snap beans.....	..	..	..	1,029	6,357	7,477	3,453	1,617	294	36	..	..	20,263
Oranges.....	563	..	18	63	181	437	481	709	972	1,113	1,252	476	6,265
Grapefruit.....	..	..	3	10	57	78	92	116	110	124	81	..	671
Tangerines.....	..	..	..	6	41	61	28	11	..	..	..	..	147
Papayas.....	1	1	1	..	..	..	1	..	..	1	1	1	6
Pineapples.....	..	..	..	..	..	..	..	1	1	..	2	1	7

CALHOUN COUNTY

Watermelons.....	..	..	..	..	..	..	..	..	..	..	977	291	1,268
Figs.....	..	..	..	..	..	..	..	..	..	..	2	2	4
Peaches.....	..	..	..	..	..	..	..	..	..	29	47	19	95
Pears.....	35	5	..	..	..	..	..	..	..	..	..	10	50

CHARLOTTE COUNTY

Peppers.....	..	1	60	94	22	9	6	2	.....	.....	.....	194
Tomatoes.....	..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	307
Watermelons.....	..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	211
Mangoes.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8

CITRUS COUNTY

Watermelons.....	..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	422
Oranges.....	..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	423
Grapefruit.....	..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30
Tangerines.....	..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	136
Grapes.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4

CLAY COUNTY

Irish potatoes.....	..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	375
Mustard.....	..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	53
Watermelons.....	..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	106
Pears.....	69	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	99
Persimmons.....	..	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4

COLLIER COUNTY

Cucumbers.....	..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	468
Eggplant.....	..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	134
Peppers.....	..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	138
Tomatoes.....	..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,214
Snap beans.....	..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	62
Watermelons.....	..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	211
Guavas.....	7	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	15
Mangoes.....	7	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	28
Papayas.....	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20

COLUMBIA COUNTY

Watermelons.....	..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	211
Sweet corn, green.....	..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	136
Grapes.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9
Peaches.....	..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	48
Pears.....	52	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	74

TABLE 9.—Seasonal production of fruits and vegetables in Florida, 1942-43—Continued

GLADES COUNTY

Item	YEAR BEGINNING AUGUST												Total Tons
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Cabbage.....	174	325	455	239	759	173	..	..	2,125
Tomatoes.....	633	..	..	633
Lima beans.....	1	2	2	2	5	15	8	..	35
Snap beans.....	15	99	78	42	25	11	120	121	1	..	512
All lettuce.....	116	347	1,156	..	..	..	..	1,619
Guavas.....	5	3	1	..	..	..	..	..	..	..	..	2	11

HAMILTON COUNTY

Cucumbers.....	..	..	..	..	..	..	..	..	..	39	38	..	77
Cantaloups.....	..	..	..	..	..	..	..	..	..	..	488	..	488
Watermelons.....	..	..	..	..	..	..	..	..	..	..	223	199	422
Squash.....	2	..	24	15	..	..	..	..	20	33	..	..	92
Grapes.....	..	..	..	..	..	..	..	..	..	..	1	6	9
Peaches.....	..	..	..	..	..	..	..	..	..	19	31	13	63

HARDEE COUNTY

Cabbage.....	..	..	1,194	434	182	333	145	142	42	6	..	..	850
Cucumbers.....	..	..	82	82	..	..	..	..	326	434	..	..	2,388
Eggplant.....	..	..	..	..	85	..	..	..	7	81	30	4	371
Irish potatoes.....	..	..	9	259	207	87	..	..	315	315	..	..	630
Peppers.....	..	..	..	..	22	86	158	58	..	..	..	..	562
Strawberries.....	..	..	..	..	..	..	..	..	94	14	..	..	432
Tomatoes.....	..	..	..	..	..	..	..	..	244	4,268	..	..	4,512
Watermelons.....	..	..	..	..	..	..	..	..	..	106	105	..	211
Sweet corn, green.....	..	..	..	..	..	..	..	..	..	78	195	..	273
Snap beans.....	..	..	..	48	..	..	..	..	95	333	..	..	476
Oranges.....	..	..	7	517	1,018	1,118	859	1,778	1,248	1,054	159	2	7,760
Grapefruit.....	..	..	22	164	503	958	671	430	306	145	32	3	3,234
Tangerines.....	..	..	..	120	688	386	239	82	9	..	..	..	1,524

HENDRY COUNTY

Cabbage.....	..	..	..	68	81	303	324	911	81	..	..	..	1,700
Cucumbers.....	..	..	..	..	115	22	..	..	94	61	..	..	360
English peas.....	..	..	16	..	8	31	9	1	..	..	..	..	49
Peppers.....	..	..	..	16	31	31	..	..	..	..	..	..	94
Tomatoes.....	..	..	..	..	..	..	..	..	67	1,164	..	..	1,231
Watermelons.....	..	..	..	..	1	2	2	2	46	367	9	..	422
Lima beans.....	..	..	..	..	..	..	..	..	5	15	8	..	35
Onions.....	..	..	..	..	..	1	4	4	3	3	..	..	15
Snap beans.....	..	..	23	147	116	63	36	16	178	179	2	..	760
All lettuce.....	..	..	..	..	..	18	54	180	..	..	..	..	252
Guavas.....	11	5	2	..	..	..	..	..	..	..	..	3	21
Mangoes.....	1	..	..	..	..	..	..	..	..	..	1	2	4

TABLE 9.—Seasonal production of fruits and vegetables in Florida, 1942-43—Continued
HOLMES COUNTY

Item	YEAR BEGINNING AUGUST												Total Tons
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Irish potatoes.....	..	..	..	..	..	..	..	..	..	300	75	..	375
Watermelons.....	..	..	..	..	..	..	..	..	..	..	341	82	423
Blueberries.....	1	..	..	..	..	..	..	..	..	..	2	3	6
Figs.....	..	..	..	..	..	..	..	..	..	..	4	7	11
Grapes.....	2	..	..	..	..	..	..	..	..	..	1	6	9
Peaches.....	..	..	..	..	..	..	..	..	..	43	71	29	143
Pears.....	69	10	..	..	..	..	..	..	..	..	..	20	99
INDIAN RIVER COUNTY													
Cucumbers.....	..	..	54	90	18	28	..	..	..	..	..	..	162
Peppers.....	..	..	..	..	41	..	..	..	..	..	..	..	97
Tomatoes.....	..	..	..	170	340	..	..	..	..	851	57	..	1,418
Squash.....	..	..	..	..	..	..	48	..	..	..	..	..	138
Snap beans.....	..	..	..	..	..	..	..	..	90	..	..	..	176
Oranges.....	..	..	6	197	1,274	1,286	2,631	2,650	78	2,785	1,843	2	14,914
Grapefruit.....	..	..	260	1,849	3,547	5,887	6,214	5,724	804	3,344	804	3	31,548
Tangerines.....	..	..	..	114	769	768	188	16	8	..	..	..	2,499
JACKSON COUNTY													
Watermelons.....	..	..	..	..	..	..	..	..	..	..	5,115	1,223	6,338
Cucumbers.....	..	..	..	..	..	..	..	..	..	12	46	..	58
Blueberries.....	1	..	..	..	..	..	..	..	..	..	3	5	9
Figs.....	..	..	..	..	..	..	..	..	..	..	6	8	14
Grapes.....	3	..	..	..	..	..	..	..	..	..	1	9	13
Peaches.....	..	..	..	..	..	..	..	..	..	138	229	92	459
Pears.....	103	15	..	..	..	..	..	..	..	..	..	30	148
JEFFERSON COUNTY													
Watermelons.....	..	..	..	..	..	..	..	..	..	..	567	278	845
Figs.....	..	..	..	..	..	..	..	..	..	..	2	3	5
Pears.....	69	10	..	..	..	..	..	..	..	..	..	20	99

TABLE 9.—Seasonal production of fruits and vegetables in Florida, 1942-43—Continued

LEVY COUNTY

Item	YEAR BEGINNING AUGUST												Total Tons
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Cabbage.....							85	255	85				425
Watermelons.....										845			845
Field peas, green.....	54									54	162		270
Okra.....			24	15					20	70	164		234
Squash.....										33			92
Cucumbers.....			15	75					15	57			57
Snap beans.....						4			15	135			300
All lettuce.....							21	67	34				126

LIBERTY COUNTY

Figs.....	34	5										1	1
Pears.....												10	49

MADISON COUNTY

Watermelons.....											1,439	673	2,112
Figs.....											3	4	7
Grapes.....	3										1	9	13
Pears.....	35	5										10	50

MANATEE COUNTY

Cabbage.....					1,093	1,997	868	856	250	36			5,100
Celery.....					775	879	966	1,215	931	280			5,046
Cucumbers.....			39	10					15	182			246
Eggplant.....					16	40	55	79	111	79	412		792
Irish potatoes.....									198	642			840
Escarole.....				165	874	616	243	379	616	21			2,914
Peppers.....				246	165	73	20	8	23	4			512
Strawberries.....					5	22	40	14	1,281	6,973	39		108
Tomatoes.....				758	1,270	266			78	391	85		10,587
Snap beans.....				65	33				262	97			652
All lettuce.....				53	997	1,943	210	210	97	244			3,675
Sweet corn, green.....				83	55			42	97				341
Squash.....					18								277
Broccoli.....					49	25	148						18
Cauliflower.....					732	787	1,092	2,352	1,477	525	409	86	222
Oranges.....			124	836	1,111	5,607	3,891	3,277	2,608	1,800	616	374	8,695
Grapefruit.....					2,758	5	14	2					23,175
Tangerines.....				16		11							48
Guavas.....	10	5	2									3	20
Mangoes.....	2	3	3								2	4	8
Papayas.....	4	3									3	5	36
Persimmons.....	1	1	2										5
Gladiolus.....			25	165	373	312	325	370	317	15			1,902

TABLE 9.—Seasonal production of fruits and vegetables in Florida, 1942-43—Continued

OKEECHOBEE COUNTY

Item	YEAR BEGINNING AUGUST												Total
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Squash.....	..	..	15	41	28	..	..	21	48	..	..	..	138
Snap beans.....	..	..	..	99	78	..	..	11	120	..	1	..	512
Tomatoes.....	..	..	..	71	96	..	..	..	20	..	..	..	246
Guavas.....	12	6	2	..	..	..	..	..	..	..	..	3	23

ORANGE COUNTY

Cabbage.....	..	..	..	..	466	977	932	1,080	466	250	79	..	4,250
Celery.....	..	..	..	..	119	314	569	695	538	720	111	..	3,066
Cucumbers.....	..	..	..	..	..	..	..	..	240	1,200	..	..	1,440
Irish potatoes.....	..	..	..	..	..	..	..	51	..	13	343	13	420
Escarole.....	..	..	..	..	327	337	148	149	10	..	..	..	971
Peppers.....	..	..	49	288	255	120	34	4	..	..	..	..	750
Strawberries.....	..	..	..	..	4	16	30	11	17	3	..	..	81
Tomatoes.....	..	..	..	..	..	..	..	..	..	140	403	..	543
Watermelons.....	..	..	..	..	..	..	..	..	..	125	493	16	634
Lima beans.....	..	..	..	..	..	..	..	..	1	13	8	..	22
Sweet corn, green.....	..	..	..	..	..	..	6	7	3	59	146	..	205
Beets.....	..	..	..	7	25	10	..	7	..	..	..	..	16
Mustard.....	..	..	..	..	..	2	5	5	4	..	..	..	49
Onions.....	..	..	..	..	..	5	11	5	..	..	..	..	20
Collards.....	..	..	..	..	..	200	250	200	..	..	..	..	21
Radishes.....	..	..	..	150	200	27	28	16	..	..	..	..	1,000
Spinach.....	..	..	..	..	8	..	..	582	36	146	36	..	79
Carrots.....	..	..	..	..	329	52	..	..	10	..	..	..	800
All lettuce.....	..	..	..	113	..	..	..	..	261	913	..	..	504
Snap beans.....	..	..	..	130	42,244	32,968	41,660	57,505	47,433	34,723	11,158	396	1,304
Oranges.....	..	..	4,201	33,574	8,252	16,360	11,414	11,215	9,242	7,381	3,498	191	305,862
Grapefruit.....	..	..	767	3,278	16,308	13,220	8,030	1,929	100	33	..	..	71,598
Tangerines.....	..	..	..	2,917	..	..	..	..	..	..	3	..	42,537
Grapes.....	6	..	..	..	..	..	..	..	..	..	..	23	32
Persimmons.....	..	..	1	..	..	..	..	..	..	..	..	..	1

OSCEOLA COUNTY

Cucumbers.....	..	..	5	27	..	..	..	..	8	40	..	..	48
Snap beans.....	..	..	838	1,677	2,143	1,119	1,534	2,646	1,926	48	21	..	106
Oranges.....	..	..	296	1,175	188	292	188	211	186	1,932	185	1	14,001
Grapefruit.....	..	..	..	191	496	288	164	114	5	66	4	..	1,606
Tangerines.....	..	..	..	..	..	..	..	..	..	..	..	..	1,258
Guavas.....	2	1	1	..	..	..	..	..	..	..	..	1	5

ST. JOHNS COUNTY

Cabbage.....					1,516	5,314	1,041	73	.....	9,350
Cucumbers.....					.....	.....	.....	192	.....	192
Irish potatoes.....					.....	30	.....	14,657	.....	27,375
Peppers.....					.....	11	.....	7	29	137
Collards.....					21	.....	.....	.....	.....	42
Snap beans.....					.....	67	6	103	.....	176
All lettuce.....					21	.....	34	.....	.....	126
Oranges.....				2	355	402	230	273	1	2,249
Figs.....				.....	.....	.....	.....	.....	1	1
Pears.....	18			2	.....	.....	.....	.....	5	25
Persimmons.....	..			2	.....	.....	.....	.....	.....	3

ST. LUCIE COUNTY

Cabbage.....					102	377	311	60	.....	850
Cucumbers.....					.....	.....	61	305	.....	366
English peas.....					8	31	9	1	.....	49
Peppers.....				1	15	.....	.....	.....	.....	94
Tomatoes.....				.....	122	.....	748	3,346	13	8,989
Watermelons.....				.....	16	.....	96	70	141	211
Lima beans.....				.....	26	18	.....	48	.....	240
Turnips.....				.....	63	.....	380	190	.....	123
Snap beans.....				.....	3,246	4,385	5,114	4,007	3,704	949
Oranges.....				20	8,919	7,651	6,195	4,176	30	26,980
Grapefruit.....				187	1,931	300	20	.....	778	42,312
Tangerines.....				.....	.....	.....	.....	.....	8	5,048
Mangoes.....	9			2	.....	1	.....	.....	19	38
Pineapples.....	1			.....	232	136	2	.....	5	15
Gladiolus.....	..			.....	231	.....	157	.....	.....	987

SANTA ROSA COUNTY

Irish potatoes.....					.....	.....	.....	450	112	.....	562
Blueberries.....					.....	.....	.....	.....	1	2	3
Figs.....	3			.....	.....	.....	.....	.....	2	10	4
Grapes.....	..			.....	.....	.....	.....	62	103	41	14
Peaches.....	..			.....	.....	.....	.....	.....	.....	10	206
Pears.....	34			5	.....	.....	.....	.....	.....	.....	49

TABLE 9.—Seasonal production of fruits and vegetables in Florida, 1942-43—Continued

SARASOTA COUNTY

Item	YEAR BEGINNING AUGUST												Total
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Cabbage.....	137	683	57	239	159	..	..	..	1,275
Celery.....	3,377	3,834	4,211	5,295	4,061	1,221	..	..	21,999
Cucumbers.....	104	28	..	..	..	..	..	180	..	..	312
Irish potatoes.....	18	..	..	27	..	..	1,285	..	..	1,680
Escarole.....	114	97	69	42	..	..	2	..	..	324
Peppers.....	3	..	179	42	11	..	3	..	..	..	369
Tomatoes.....	65	..	9	..	435
Strawberries.....	1	5	..	4	6	..	..	..	27
Oranges.....	2	253	1,040	1,101	567	272	905	935	297	1	5,694
Grapefruit.....	2	13	38	72	182	..	233	11	2	..	825

SEMINOLE COUNTY

Cabbage.....	..	..	..	..	527	721	610	1,801	1,053	361	27	..	5,100
Celery.....	..	..	..	..	2,433	6,438	11,669	14,253	11,034	14,762	2,282	..	62,871
Eggplant.....	..	..	..	..	93	..	..	..	..	747	30	59	89
Irish potatoes.....	..	..	..	356	812	801	545	456	156	111	..	..	840
Peppers.....	..	..	..	..	..	..	..	..	..	56	205	14	3,237
Snap beans.....	..	..	..	99	49	..	..	..	119	593	128	..	275
All lettuce.....	..	..	..	383	1,114	174	..	..	35	..	..	..	988
Sweet corn, green.....	..	..	..	..	..	..	..	..	..	195	488	..	1,706
Squash.....	..	..	..	28	18	..	..	14	32	..	..	..	683
Beets.....	..	..	..	..	..	..	23	23	12	..	..	..	92
Chinese cabbage.....	..	..	..	..	..	..	11	14	11	..	..	..	58
Turnips.....	..	..	..	18	61	26	..	18	..	..	..	..	36
Broccoli.....	..	..	..	..	..	..	..	11	..	..	..	..	123
Cauliflower.....	..	..	..	..	18	9	54	..	..	..	..	..	11
Spinach.....	..	..	..	..	3	11	11	7	..	..	..	..	81
Carrots.....	..	..	..	..	..	..	..	131	8	33	8	..	32
Oranges.....	..	..	412	5,203	7,575	6,166	7,006	8,189	6,033	2,118	242	3	180
Grapefruit.....	..	..	78	203	382	788	1,109	2,929	1,270	188	169	..	42,947
Tangerines.....	..	..	..	573	2,393	1,927	1,314	435	18	..	..	..	7,116
Persimmons.....	..	1	1	..	..	..	..	..	..	..	..	..	6,660
	..	..	..	..	..	..	..	..	..	..	..	..	2

SUMTER COUNTY

Cabbage.....	..	..	..	..	..	58	174	985	58	298	..	..	1,275
Cucumbers.....	..	..	..	..	..	..	..	21	833	3	103	18	1,152
Eggplant.....	..	..	..	..	..	..	..	..	..	..	97	..	124
Cantaloups.....	..	..	..	..	..	..	8	31	9	1	..	..	97
English peas.....	..	..	..	..	..	..	..	..	..	437	388	..	49
Peppers.....	..	..	..	..	10	..	69	25	41	6	..	..	825
Strawberries.....	..	..	..	..	..	38	..	..	..	3,694	652	..	189
Tomatoes.....	..	..	..	..	..	..	..	..	..	25	2,062	25	4,346
Watermelons.....	..	..	..	..	..	..	..	..	..	412	183	..	2,112
Snap beans.....	..	..	46	229	19	168	183	147	46	40	11	..	916
Oranges.....	..	..	1	16	..	..	..	38	177	..	..	..	762
Grapefruit.....	..	..	..	..	11	29	7	2	1	..	..	..	39
Tangerines.....	..	..	..	2	..	..	..	..	..	..	..	..	51
Persimmons.....	..	1	2	..	..	..	..	..	..	..	..	..	3

