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A Geographical Analysis of the Production and Marketing of Fresh Fruits and Vegetables in Florida, Georgia, and South Carolina

Sidney Roberts Jumper
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To the Graduate Council:

I am submitting herewith a dissertation written by Sidney Roberts Jumper entitled "A Geographical Analysis of the Production and Marketing of Fresh Fruits and Vegetables in Florida, Georgia, and South Carolina." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Geography.

Loyal Durand, Major Professor

We have read this dissertation and recommend its acceptance:

Lillian Stimson, Robert G. Long, E. H. Martin, E. G. Hill

Accepted for the Council:

Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

December 6, 1960

To the Graduate Council:

I am submitting herewith a thesis written by Sidney Roberts Jumper entitled "A Geographical Analysis of the Production and Marketing of Fresh Fruits and Vegetables in Florida, Georgia, and South Carolina." I recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Geography.

Loyal Durand Jr.
Major Professor

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Acting Dean of the Graduate School

**A GEOGRAPHICAL ANALYSIS OF THE PRODUCTION AND MARKETING
OF FRESH FRUITS AND VEGETABLES IN FLORIDA,
GEORGIA, AND SOUTH CAROLINA**

**A Dissertation
Presented to
the Graduate Council of
The University of Tennessee**

**In Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy**

**by
Sidney Roberts Jumper**

December 1960

PREFACE

During the collection of data and compilation of this study the author received valuable assistance from many persons. He is especially indebted to Dr. Loyal Durand, Jr., Chairman of his Faculty Committee, and to Dr. Robert G. Long and Dr. Lillian W. Stimson for critically reading the manuscript and offering helpful suggestions for its improvement. Appreciation is also expressed to the many market managers, county, state, and federal officials who contributed much of the information and data on which this study was based. Most deeply, the author is indebted to his wife, Mary Joanne, whose forbearance made the completion of this study possible.

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CHAPTER I

INTRODUCTION

One of the more recent developments in the field of geography has been an interest in the marketing of agricultural and industrial products. A few geographers have made studies of a general nature in the realm of marketing and many business and economic experts have made careful inquiries into the costs of marketing various products. There have been few studies, however, of detailed investigations of the geographic aspects of the marketing of specific commodities.

It is true that there are certain loosely defined geographic principles pertaining to the producing and consuming areas for most products, and that a general type of knowledge exists as to the patterns of distribution of most commodities. It is widely known, for example, that Florida supplies large quantities of fresh vegetables to northern markets during the winter months and that there is a sequence of areas coming into vegetable production--largely for northern markets--beginning in the spring. Just where these markets are, however, whether all vegetables produced in Florida move to the same markets or if the market area for various vegetables differs, are not matters of current geographic knowledge. In addition, methods and conditions of marketing are seldom included in geographic studies.

Many geographers have, in the past, concerned themselves with the producing areas of various agricultural commodities. Seldom, however, have they examined or explained the interrelationships between produc-

tion, and the marketing and consumption of these commodities. Examples of these interrelationships are as follows:

1. Vegetable farmers must produce the type of vegetables desired by consumers; or, they must in some way influence the preferences of consumers toward the type of vegetables they intend to produce. As all types of vegetables cannot be produced in all areas at all times, the particular area of production at any one time may be determined by consumer preference.
2. Vegetable crops requiring heavy investments in machinery for cultivation and harvesting are usually produced by farmers with large acreages, while farmers with smaller acreages are more limited in the types of vegetables they can produce. Therefore, if consumers prefer vegetables that require large mechanical investments, they may effect the elimination of many small farms.
3. The size of the vegetable farm, as well as the type of crops grown, influences the method by which products are marketed; and various types of marketing facilities have different distribution areas.
4. At times, a farmer may decide to produce or not to produce vegetables or other crops on the basis of the marketing facilities that are available to him.
5. The marketing facilities available to the farmer may depend upon the importance of the area in the production of cer-

tain commodities, which in turn would depend upon conditions of climate, soil, and location.

Thus, in order to understand the geographic significance of production, marketing or consumption, one must have a knowledge of the significance of all three.

The following study is intended primarily to shed some light on the marketing of fresh fruits and vegetables that are produced in Florida, Georgia, and South Carolina. In order to make the results of the study more understandable the producing areas and facilities for marketing are given considerable attention.

Delimiting the area to be included in the study was not a simple matter. After considerable study of climatic conditions and areas of concentrated fruit and vegetable production in the Eastern United States, however, Florida, Georgia, and South Carolina were selected for the study area.

Regions of concentrated fruit and vegetable production exist in all three states, although Florida is by far the leading producer (Figure 1). Georgia and South Carolina production offers many market contrasts with Florida, but contributes to a more informative picture of the overall fruit and vegetable industry. North Carolina was not included in the study as it represents, for the most part, a transition zone between the vegetable producing areas of South Carolina and those of southern Virginia and the Delmarva Peninsula. The beginning of the frost-free season, even in southeastern North Carolina, is seldom earlier than that of the southern portion of the Delmarva Peninsula,

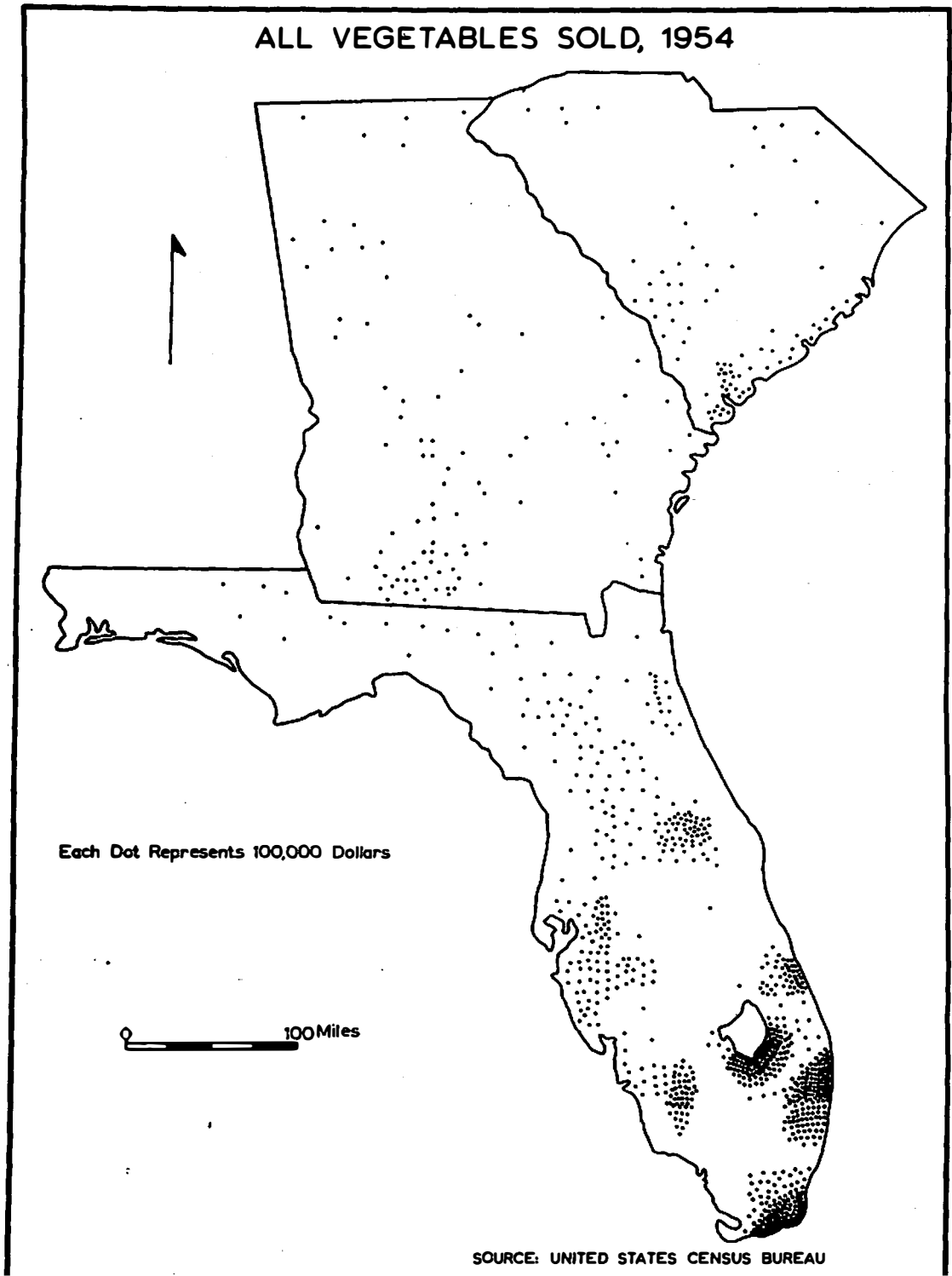


FIGURE 1

with the result that even the earliest North Carolina vegetables compete with producing areas further north and are at a transportation disadvantage in supplying northern markets (Figure 2). Furthermore, the coastal portion of North Carolina engages heavily in the production of cotton and tobacco, both of which require a large labor force. An additional crop with a considerable labor requirement, such as vegetables, may too heavily burden the labor supply.

North Carolina also represents a transition zone in the matter of transportation, with the vegetable areas further south being definitely in the zone of long distance trucking, whereas the Delmarva Peninsula is a region of medium and short distance trucking.

Alabama, to the west of the study area, was eliminated primarily because of the paucity of vegetable production in that state. As a result of the long distance between the areas of concentrated fruit and vegetable production in Georgia and those further west, Alabama takes on a transitional role similar to that of North Carolina.

The distribution of fruit production also played an important part in the selection of the study area. Citrus and peaches are the two outstanding types of fruit crops produced in the southern United States, and Florida, Georgia, and South Carolina are the states in which concentrated production occurs. North Carolina again plays the part of a transition zone between South Carolina peaches and Virginia apples, and Alabama is insignificant in any type of commercial fruit production.

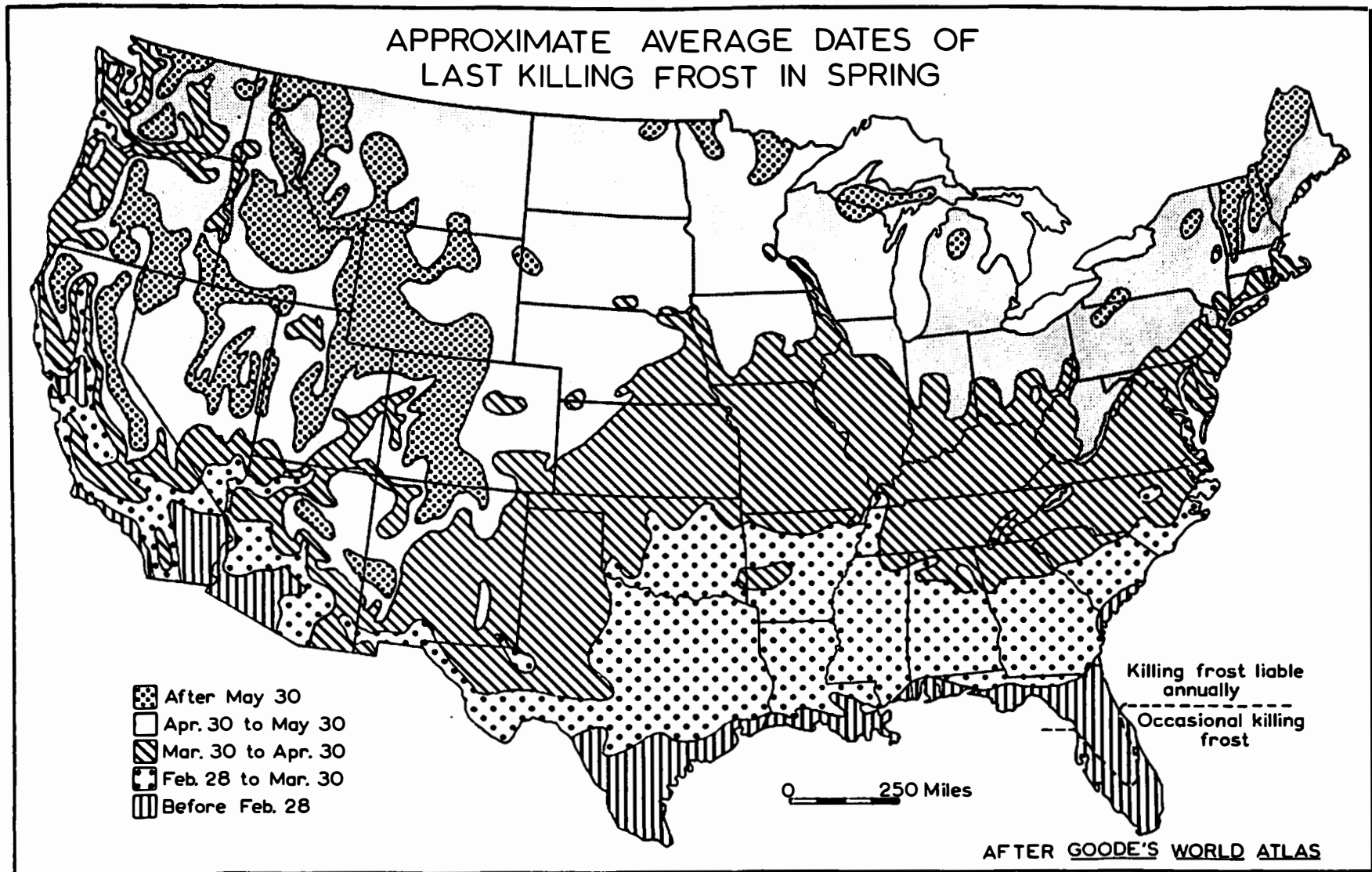


FIGURE 2

Reference materials used in the study were obtained from many sources, including the United States Department of Agriculture, Marketing Research Division; the Federal and State Market News Services for Fruits and Vegetables; and state departments of agriculture, agricultural experiment stations, and state marketing commissions in Florida, Georgia, and South Carolina. Questionnaires were sent to managers of all state and some private markets in the area under consideration, and to county agents in counties having large vegetable acreages. Personal interviews were held with state officials and market managers in each of the three states. In addition, much valuable information was obtained from observation in the field.

Several problems developed during the course of the study for which no satisfactory solutions could be found. One of the major problems occurred in the use of statistical information. Statistics are published annually of the agricultural production of the state of Florida, but South Carolina and Georgia production statistics are available only from the most recent national census of agriculture, that taken in 1954. Florida and Georgia publish an annual itemized report of the volumes of all fruits and vegetables sold on the state-owned markets, but South Carolina reports volumes for only a few items handled on several of its markets. Furthermore, statistics for the distribution of certain Georgia and South Carolina commodities to a number of United States and Canadian cities were available for 1958, but few production figures could be secured for that year. As a result, it is difficult to correlate statistics for the three states if the most current information is to be used.

Another problem was encountered in obtaining volume reports for the various markets in the three states. State officials and managers of state markets were highly cooperative in furnishing any information, statistical or otherwise, that was available to them or a matter of their general knowledge. Managers of private market facilities, however, were reluctant to grant any sort of information that would have contributed to this study. As a result, information contained herein concerning market facilities and the volumes and values of the products handled, is limited almost entirely to state-owned markets.

Problems of terminology arose as some words, such as "market," may have more than one correct meaning. In some instances the word "market" may refer to a facility for handling and transacting sales between growers and buyers, while in other instances it refers to the final consuming area. Furthermore, for a particular type of market facility two different terms may be used correctly. In such instances the same term is used throughout the study for the description of the same type of facility.

CHAPTER II

DEVELOPMENT OF THE FRUIT AND VEGETABLE INDUSTRY IN THE UNITED STATES

Most of the developments which made possible the growth of the fruit and vegetable industries in the United States occurred between 1825 and 1925. Prior to the beginning of the nineteenth century most agricultural developments in the United States were limited to areas east of the Appalachian Mountains. Farmers were largely self-sufficient and produced crops needed only in the immediate locality. After 1800, however, settlement began to expand into areas west of the mountains and by 1820 western farmers were producing surplus quantities of the major grains to supply growing urban markets in the East. After the opening of the Erie Canal in 1825, shipments not only of grains, but of pork, beef, and wool poured into eastern markets in such increasingly large quantities and at such low prices that eastern producers found it difficult to compete. The South, with its Negro slaves and expansion of cotton culture was little affected, but farmers in New England and some of the Middle Atlantic States found that they either had to abandon their farms or change to crops of a perishable nature that could not yet be shipped in from the West. Even the production of perishable commodities for urban consumption was not wholly satisfactory and much of the land, especially in New England, was withdrawn from agricultural use. City people produced chickens, cows, pigs, and

horses at or near their homes and cultivated fruit trees and vegetables in their gardens. Persons of wealth, and those whose occupations demanded all their time obtained supplies of these commodities through public markets from small farmers adjacent to the towns.¹

As manufacturing and urban populations continued to increase, markets for locally produced fruits and vegetables grew also. By 1860 there were 141 cities in the United States with populations of over 8,000, containing 16.1 per cent of the nation's population.² With the employment of women and children in manufacturing more people became dependent on rural sources of supply and some cities began to adopt ordinances against livestock on city property. It was at this point that the commercial dairy industry got its start. A dependable supply of manure for fertilizer was essential to the fruit and vegetable farmer, and dairying during the winter was largely integrated with trucking during the summer.³ Summer months saw housewives buying large quantities of such items as cabbage, potatoes, apples, turnips, carrots, and onions for cold season storage in home cellars, and fruits and berries were purchased and converted into jams and preserves.

The Civil War brought about the development of canning on a relatively large scale and canned products from distant producing areas began to compete with those of local origin. The housewife no longer

¹Edward A. Duddy and David A. Revzan, "The Physical Distribution of Fresh Fruits and Vegetables," Journal of Business Studies in Business Administration, Vol. VII, Part II (1936-37), 2.

²Ibid.

³Ibid., p. 3.

felt it necessary to store large quantities of fruits and vegetables for the winter season.

Immediately after the Civil War, incomes had increased to the point that people began to demand out-of-season vegetables. Market gardeners tried to fill these demands by producing vegetables under glass, but costs were so great that fresh winter vegetables remained a luxury which could be afforded only by the wealthy few.⁴

By 1890, 36.1 per cent of the population lived in cities of 2,500 or more, and by 1889 over 4,250,000 people were employed in manufacturing.⁵ Railroads had become numerous and products could be more easily brought from distant points in less time. The initiation of long distance transportation of fresh fruits and vegetables was still forthcoming, however. The market was ready to receive them, but the means of getting them to market in fresh condition was not yet available.

In the latter 1870's and in the 1880's several developments occurred that forecast long distance shipments of fresh fruits and vegetables. In 1878 mechanical refrigeration was first applied to the storage of fruits and vegetables by a firm in Chicago.⁶ Other early attempts at refrigeration were so successful that its spread was inevitable. Then, during the 1880's plants were developed to produce ice artificially. By 1889 some 200 artificial ice plants had been estab-

⁴Ibid., p. 5.

⁵Ibid.

⁶Ibid., p. 12.

lished in Florida and other southern states.⁷ "The ice plant brought the whole South within reach of northern markets at once."⁸

Cheap, abundant land along the southern coastal plain, together with cheap Negro labor, made it possible for the South to produce vegetables at low cost. Commercial fertilizer (guano) was becoming available and the sandy coastal plain soils could be made productive. In addition, single family residences in larger cities were disappearing by 1890 and apartments were being constructed without space for winter storage. Furthermore, the widespread use of furnace heat made cellars too warm for winter storage of fruits and vegetables.

At first, long distance shipments of fresh fruits and vegetables did not compete with local products. They were usually earlier and their unit prices were much higher. As home-grown products came in season, those from distant areas disappeared. Gradually, however, because of the much higher profits that could be obtained from produce shipped long distances, agents lost interest in local products. As a result, the marketing season of the local grower was steadily shortened.⁹ More products began to be produced where there were definite natural advantages. More often than not the grower never saw the market and the seller never saw the producer. In many instances this

⁷Ibid., p. 13.

⁸Wells A. Sherman, Merchandising Fruits and Vegetables, A New Billion Dollar Industry (New York: McGraw-Hill Book Company, Inc., 1928), p. 35.

⁹Ibid., p. 37.

situation led to unscrupulous practices whereby shippers would ship inferior merchandise and buyers quoted unfair market prices to the shippers. These abusive actions have been largely eliminated at present, but some degree of distrust is still found among buyers and sellers of produce.

Due to southern competition local growers around northern cities began producing a much smaller variety of crops, and growers in all parts of the country attempted to get their products on the market while quality was best and while other areas were not quite ready to market the same crop.¹⁰ The local grower was often left with just a few days during which he had any decided advantage even in his own market.

With increasing urbanization and increased employment in manufacturing during and after World War I, there was less demand for heavy, high caloric "fatty" foods and more demand for lighter fruit and vegetable products. This was brought about largely through mechanization and less vigorous demands on the energy of the individual worker. Increases in real wages were steady from 1890 to 1925 and the added purchasing power meant that more people could enjoy the luxury of out-of-season fruits and vegetables.¹¹ During World War I, food vitamins were discovered and health propaganda advertised the presence of these substances in fresh fruits and vegetables. Schools, magazines, medical

¹⁰Ibid., p. 41.

¹¹Duddy and Revzan, op. cit., p. 23.

organizations, and federal publications all extolled fresh fruits and vegetables as health foods.¹² At the same time the slim figure came in style, replacing the plump appearance of earlier times.

After World War I, fruit producers began a major advertising program, markets for handling fruits and vegetables were improved, new plant varieties were developed that could better stand long distance shipping, and the motor truck brought more flexibility to product distribution. Citrus fruits and vegetables enjoyed a marked rise in per capita consumption. From 1922 to 1932 per capita consumption of vegetables, except potatoes, increased 20 per cent and from 1927 to 1932 annual per capita consumption of citrus fruits increased from 10 to 32 pounds.¹³ Use of potatoes and beef declined.

In recent years, higher incomes, greater farm product specialization, better methods of transportation and refrigeration, developments in rapid communication of market news and prices, greater urbanization and industrialization, high pressure advertising programs, discovery of new plant varieties and the improvement of marketing facilities have all contributed to the continued growth of the fruit and vegetable industry.

¹²Ibid.

¹³Ibid., p. 25.

CHAPTER III

HISTORY OF THE DEVELOPMENT OF PRODUCE MARKETS IN THE UNITED STATES¹

As the fruit and vegetable industries evolved in the United States, needs arose for proper facilities for marketing. The modern markets of today are the results of cumulative advances made in the trade of commodities, beginning with the earliest period of American history. Usually, authorities in Colonial America established retail markets in towns as a convenience for local residents.² They were located close to the center of all lines of commerce and became the nuclei for other industries as the cities grew. Saturdays were proclaimed market days in New York in 1566 by the Dutch Governor Peter Stuyvesant. The market grew in importance and in 1676 Governor Andres declared that a house capable of accomodating the market was being built.³ On March 4, 1634 Governor John Winthrop of the Massachusetts Bay Colony ordered a market to be kept open every Thursday in Boston. A market place was designated in Charleston, South Carolina,

¹Sidney R. Jumper, "A Geographical Analysis of the Columbia, South Carolina, Wholesale Produce Market" (unpublished Master's thesis, The University of South Carolina, Columbia, 1953).

Much of the material for this chapter was taken from the above reference.

²Vernon A. Mund, Open Markets (New York: Harper and Brothers, 1948), p. 111.

³Ibid., p. 112.

by an act of the Colonial Legislature in 1692.⁴ Another act passed in 1710 provided for the appointment and erection of a market in Charleston and enacted laws to regulate the operation of the market.⁵ The governor of Philadelphia ordered, on October 17, 1693, that a single retail market be established, and summoned twice weekly by the ringing of a bell. From early colonial times until it was allowed to disappear in 1787, a three-day fair was held during September and November in Philadelphia.

By 1700 markets were becoming relatively widespread, with 10 in New England, 10 collectively in New York, New Jersey, and Pennsylvania, and one in the South. All of them followed more or less the same line of development. The coming of railroads brought about great prosperity and territorial expansion and as the rails moved west after 1830, so did the establishment of markets. Large concentrations of grain and livestock were characteristic of early western markets, the most important ones being at Chicago, Minneapolis, Duluth, St. Louis, Milwaukee, and Kansas City. The opening of the Erie Canal in 1825 made New York City the leading United States market center and set off a boom of competition between rival eastern cities for the valuable western trade.

Most towns that developed these early markets enacted laws encouraging their growth. Laws against forestalling (buyers inter-

⁴Thomas Cooper, The Statutes at Large of South Carolina (Vol. II. Columbia: A. S. Johnston, 1837), p. 73.

⁵Ibid., p. 351.

cepting farmers on their way to the market and purchasing their supplies) were enacted, but seldom enforced, and in several cases were allowed to lapse. Hucksters selling produce from door to door caused marketing authorities much difficulty at first, for many townspeople preferred buying at their doors instead of having to go to the market place. The practice of some cities of laying off stalls in a street section for farmers to display their products is still followed to some extent, while buildings were constructed for that purpose in other cities. Slow transportation and poor roads limited the operating time of the market to one or two days per week. Most of the products were produced within five or ten miles of the city and packaging, grading, refrigeration and sanitation were unknown.

As markets grew in size and importance two fundamental changes developed. At first gradual, these changes became especially rapid following World War I. The first change was in types of products sold. Perhaps the greatest reason for this change is that the American diet has become better balanced; from one that was predominantly meat and cereals, one with more vegetables and fruits has evolved. Many items such as flour, corn meal, and meat have almost disappeared from farmers' markets because of this change in diet. Before the advent of modern methods of transportation and refrigeration fresh fruits and vegetables appeared on the market only during certain seasons. With the disappearance of self-sufficing economies and the development of areas of specialized production railroads using refrigerated cars began

shipping out-of-season fruits and vegetables from southern producing areas to northern markets throughout the year.

The second change has been in the development of new methods of selling. Farmers' markets in the United States were, at first, all retail, and farmers sold only what they produced locally. As specialization and long distance shipments in carlot quantities developed, however, the farmer found himself faced with several practical difficulties that prevented him from selling directly to the consumer. It became more profitable for him to spend his time growing crops, while disposing of them wholesale. Marketing specialists evolved, to purchase and distribute the products of the farmer through wholesale marketing centers. As settlement of the United States progressed from east to west, as distances between producers and markets grew, as manufacturing and trade increased, and as urban populations expanded, wholesaling grew accordingly. Retail markets still far outnumber wholesale markets, but the latter handle a greater volume of business. ". . . markets selling local produce only, unless they are wholesale as well as retail, have usually failed."⁶

It is difficult to ascertain which factor or factors have played the more vital part in the trend to sell larger portions of goods wholesale. Population growth has been enormous in the United States in the past century, increasing from 23,200,000 in 1850 to 105,700,000 in

⁶Day Monroe and Lenore M. Stratton, Food Buying and Our Markets (Boston: M. Barrows and Company, 1926), p. 24.

1920 and approximately 179,500,000 by 1960. The rural-urban population ratio has been changing also, with rural populations declining in actual numbers while the urban percentage of the population has advanced steadily. Real incomes have increased markedly resulting in families purchasing more and a greater variety of food.⁷ Railroads now extend to all portions of the country and trucks are becoming increasingly important as a result of the thousands of miles of excellent motor highways that have been constructed in recent years. Railroads are still primarily responsible for products being shipped long distances, but motor trucks are invading many aspects of transportation formerly not available to them. A study by Frank L. Barton, published in 1941, indicated that the average rail haul for all agricultural products was 513 miles, but fresh fruits were hauled an average of 1,754 miles and fresh vegetables 2,063 miles.⁸

The truck is essential for local movements and is generally the dominant mode of transportation for distances up to 200 miles. Competition between trucks and railroads is keen between intervals of 200 and 800 miles, but rails generally have the advantage in longer shipments.⁹ Long distance trucking seems to be increasing in importance, however, and tends to give marketing greater flexibility.

⁷Adlowe L. Larson, Agricultural Marketing (New York: Prentice-Hall, Inc., 1951), p. 10.

⁸Frank L. Barton, "Length of Haul and Farm Commodity Prices," Journal of Farm Economics, XXIII (May, 1941), p. 114.

⁹Paul Work and John Carew, Vegetable Production and Marketing

With all of these improvements and changes in the economy of the United States, there has been a substantial increase in business volume for both wholesale and retail markets. That wholesale markets have increased in volume of produce handled more than retail markets is evidence of the greater specialization in all aspects of our economy and of the increasing quantity of goods needed for a balanced supply of commodities to all portions of the country.

Development of terminal markets. Terminal, or wholesale produce markets, are usually designed to serve a city and its tributary or market area. Products handled on the market are distributed to retail stores, jobbers, or other wholesale dealers. Some, because of a particularly strategic location have been further developed as wholesale truck-interchange markets. The truck-interchange markets serve very large areas, often extending several hundred miles from the market itself. Terminal markets are indispensable for the task of concentrating, packaging, grading and the dispersion of fruits and vegetables. Most terminal markets are located in towns of from 50,000 to 200,000 population. Cities with fewer than 50,000 inhabitants seldom seem able to support terminal markets.

Terminal fruit and vegetable markets in many cities are very old, the oldest of presently existing wholesale fruit and vegetable markets being the Faneuil Hall Market in Boston. Other old markets

(second edition; New York: John Wiley & Sons, Inc., 1955), p. 64.

are: The Marsh Market in Baltimore, established in 1773; the Nashville Wholesale Market, founded in 1790; the New Orleans French Market which began operations in 1791; the Wilkes-Barre Wholesale Market which originated in 1810; and the Norfolk Wholesale Market established in 1811.¹⁰

Of the approximately 110 terminal markets presently doing business as wholesale fruit and vegetable facilities in the United States today, only 27 were in operation in 1900 (Table I). Twenty markets currently operating were established between 1900 and 1920, but the most rapid period of market formation was in the two decades from 1920 until 1940 when 49 markets were founded (Table I).¹¹ Nearly one-half of the terminal markets are municipally controlled; about one-fourth are privately owned, one-fifth are cooperative ventures, and the remainder are maintained by growers stock or are state owned and regulated. All types seem to have been successful. The greatest concentration of these markets is in southern New England, southern New York, and New Jersey. Otherwise, terminal markets are fairly evenly distributed in the area east of the 100th meridian (Figure 3).

Development of concentration markets. The most recent result of the effect of specialization in market activities is the development of

¹⁰John L. Wann et al., Farmers' Produce Markets in the United States (Washington, D. C.: U. S. Department of Agriculture, 1948), pp. 84, 85, 104, 108, and 110.

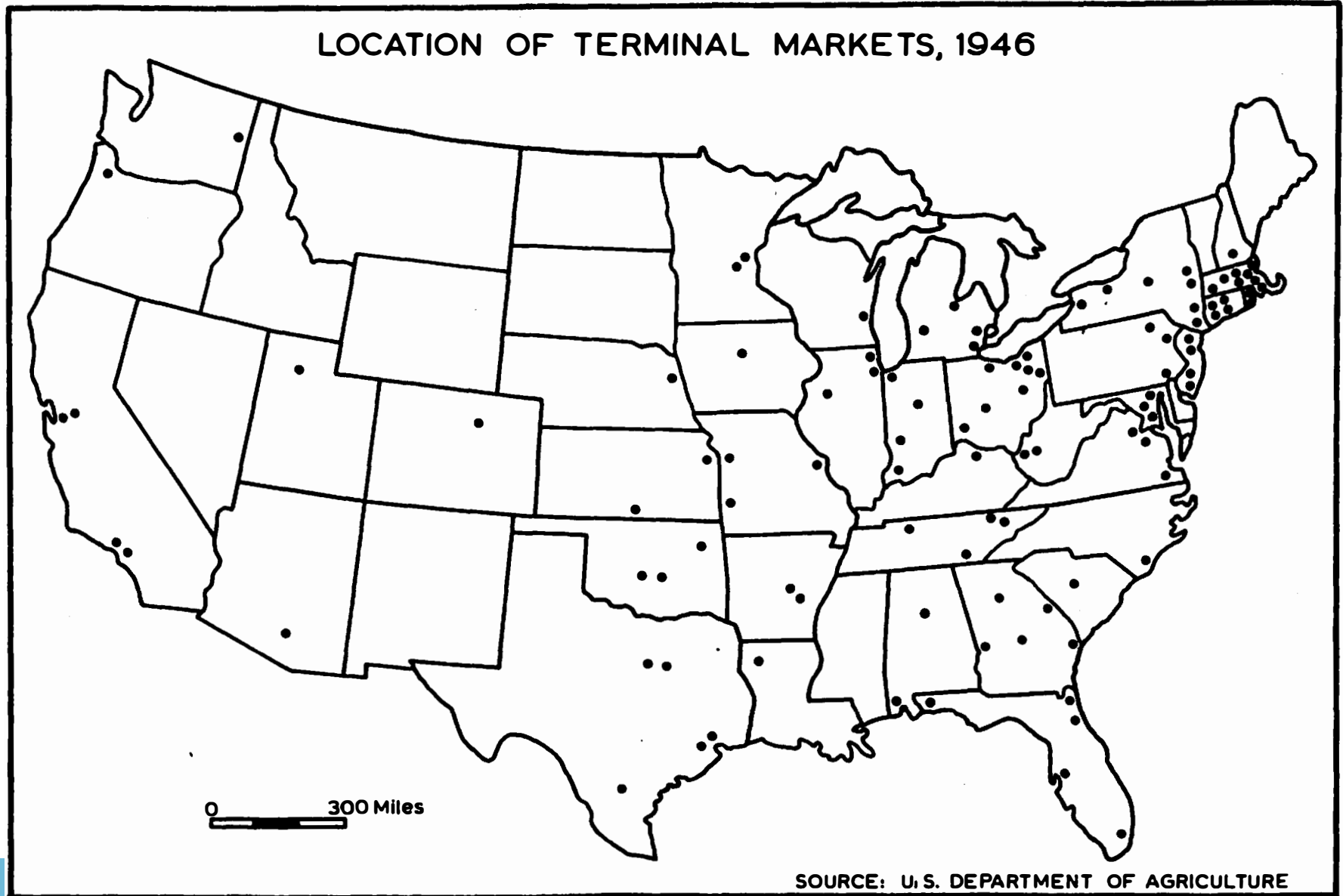
¹¹Ibid., Table 4, p. 34.

TABLE I
YEARS OF ORIGIN OF WHOLESALE TERMINAL MARKETS
OPERATING IN THE UNITED STATES IN 1946*

PERIOD	NUMBER OF MARKETS FOUNDED
Before 1800	4
1800 - 1809	-
1810 - 1819	3
1820 - 1829	-
1830 - 1839	3
1840 - 1849	-
1850 - 1859	-
1860 - 1869	1
1870 - 1879	5
1880 - 1889	3
1890 - 1899	8
1900 - 1909	11
1910 - 1919	9
1920 - 1929	21
1930 - 1939	28
1940 - 1946	8
Years of origin not known	6
Total	110

*Source: John L. Wann et al., Farmers' Produce Markets in the United States (Washington, D. C.: U. S. Department of Agriculture, 1948), p. 34.

LOCATION OF TERMINAL MARKETS, 1946



SOURCE: U.S. DEPARTMENT OF AGRICULTURE

FIGURE 3

concentration or shipping point markets. At these markets local products are concentrated into carload or truckload quantities and dispatched to large terminal markets where they are sold to retailers and other distributors in one or several cities.¹² In other instances the products are sold to large chain store operations or other buyers who are able to dispose of large volumes of fruits and vegetables.

Concentration markets have resulted from changes in fruit and vegetable production and from dissatisfaction of farmers in consignment selling. Before the development of concentration markets, growers in areas distant from consuming regions were forced to load their products on refrigerated freight cars and consign them to commission merchants at the terminal markets. This often left the grower at the complete mercy of unstable market prices. At the concentration markets wholesale buyers must usually make commitments on prices to the producer before the products can be shipped. When these markets are located in relatively large cities they sometimes double as a point of local supply and thus become secondary terminal markets.

Probably the first market development of this type was the one at Benton Harbor, Michigan, established in the 1890's.¹³ Unorganized

¹²Fred E. Clark and L. D. H. Weld, Marketing Agricultural Products in the United States (New York: The Macmillan Co., 1932), p. 87.

¹³Roger F. Burdette, et al., Farmers' Produce Markets in the United States - Part III - Shipping Point Markets, United States Department of Agriculture Marketing Research Report No. 17 (Washington: Government Printing Office, May, 1952), p. 5.

concentration auction markets were in operation in Ohio in 1902 or 1903, and in North Carolina in 1909.¹⁴ By 1925, 23 concentration markets were in operation and by 1950 there were 99 markets of this type in all parts of the United States (Figure 4).¹⁵

In 1935, the Florida State Department of Agriculture realized the need for organizing better marketing facilities for farmers and established its first concentration market at Sanford. Other markets were soon established where farmers could sell their products for cash. These markets immediately ". . . began to solve some of the problems of growers to whom currency had become almost an abstraction."¹⁶ By 1950 there were 19 fruit and vegetable markets in Florida, most of them concentration markets (Figure 4).

The 1935 general assembly of the state of Georgia authorized the commissioner of agriculture to procure sites on which to conduct farmers' markets and in 1936, ". . . with the aid of public spirited citizens . . . ," markets were established in Macon, Thomasville, and Valdosta.¹⁷ By 1950 there were 17 concentration markets in Georgia (Figure 4).

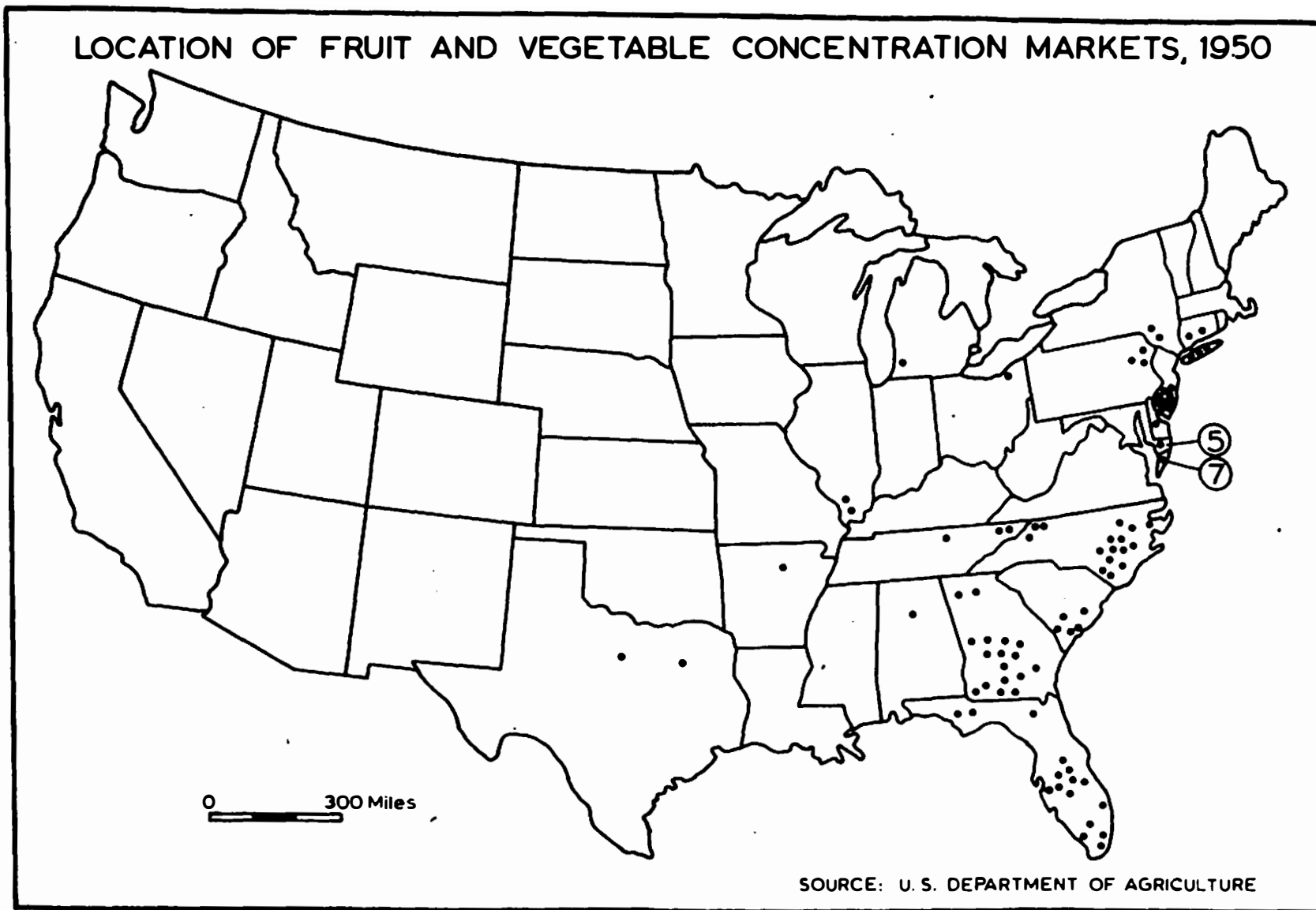
¹⁴E. W. Cake, Operation of Small-lot Country Fruit and Vegetable Auctions, United States Department of Agriculture, Farm Credit Administration, Circular C-118 (Washington: Government Printing Office, 1940), pp. 1 ff.

¹⁵Burdette, op. cit., p. 6.

¹⁶Federal Writers' Project, Florida, A Guide to the Southermost State (in American Guide Series. New York: Oxford University Press, 1939), p. 83.

¹⁷George C. Leckie, Georgia (in American Guide Series. Atlanta:

LOCATION OF FRUIT AND VEGETABLE CONCENTRATION MARKETS, 1950



SOURCE: U. S. DEPARTMENT OF AGRICULTURE

FIGURE 4

Except for two markets in Texas and one in Arkansas, all concentration markets are located east of the Mississippi River, and all except 21 of the 99 in operation in 1950, were located on the Atlantic and Gulf Coastal Plains. Fifty-seven of the markets are found in Florida, Georgia, South Carolina, and North Carolina, with most of the remainder on the Delmarva Peninsula and in New Jersey, New York, Pennsylvania, Connecticut, and Rhode Island (Figure 4).¹⁸

Development of other market types. Although not an integral part of this study, a brief summary of retail, roadside, and womens' markets, as further agencies for the distribution of fruits and vegetables, is thought to be of sufficient value for inclusion at this point.

Farmers' retail markets are more numerous than any market type handling fruits and vegetables in the United States, with the probable exception of roadside markets. Approximately 300 of these markets are currently operating, most of them located north of Virginia and east of the Mississippi River. Pennsylvania alone is responsible for nearly one-third of all retail markets, while Michigan, New York, and Ohio together account for almost one-fourth. Facilities on these markets usually consist of sheds or enclosed buildings with stalls in which farmers display their products.

Tupper and Love, 1954), p. 61.

¹⁸Burdette, op. cit., p. 10.

Of all the retail markets now operating, only 90 were in existence in 1900, with the most rapid period of growth beginning about 1910. From 1910 to 1930, 101 markets were established, and between 1930 and 1940 an additional 53 retail markets were founded.

Most of the farmers' retail markets are found in cities of less than 50,000 inhabitants, but sometimes several retail markets will be found in one large city. Baltimore, Maryland, for example, has a total of 10 municipal retail markets and one privately owned. The development of the modern super-market with its attractive displays of fresh fruit and vegetables throughout the year has rapidly encroached upon retail marketing in recent years and may bring an end to most presently existing facilities. The 105 year-old Farmers' Market in Knoxville, Tennessee, for example, was demolished in 1960 to make room for parking lots and expansion of the central business district.

Farm womens' markets are usually located in small towns and farmers' wives do most of the selling. The market usually consists of a small building with rows of tables inside, on which the farm women display their wares. Over 200 farm womens' markets are currently operating in the United States, most of them in southern states, and over one-half having a date of origin since 1930 (Figure 5).

Roadside markets are probably the least permanent, most diverse in character, and the most numerous of all market types considered in this study. Many of them consist of little more than a bench or table placed at some spot along a highway on which the farmer can exhibit his goods. At times, permanent buildings are erected and filled with

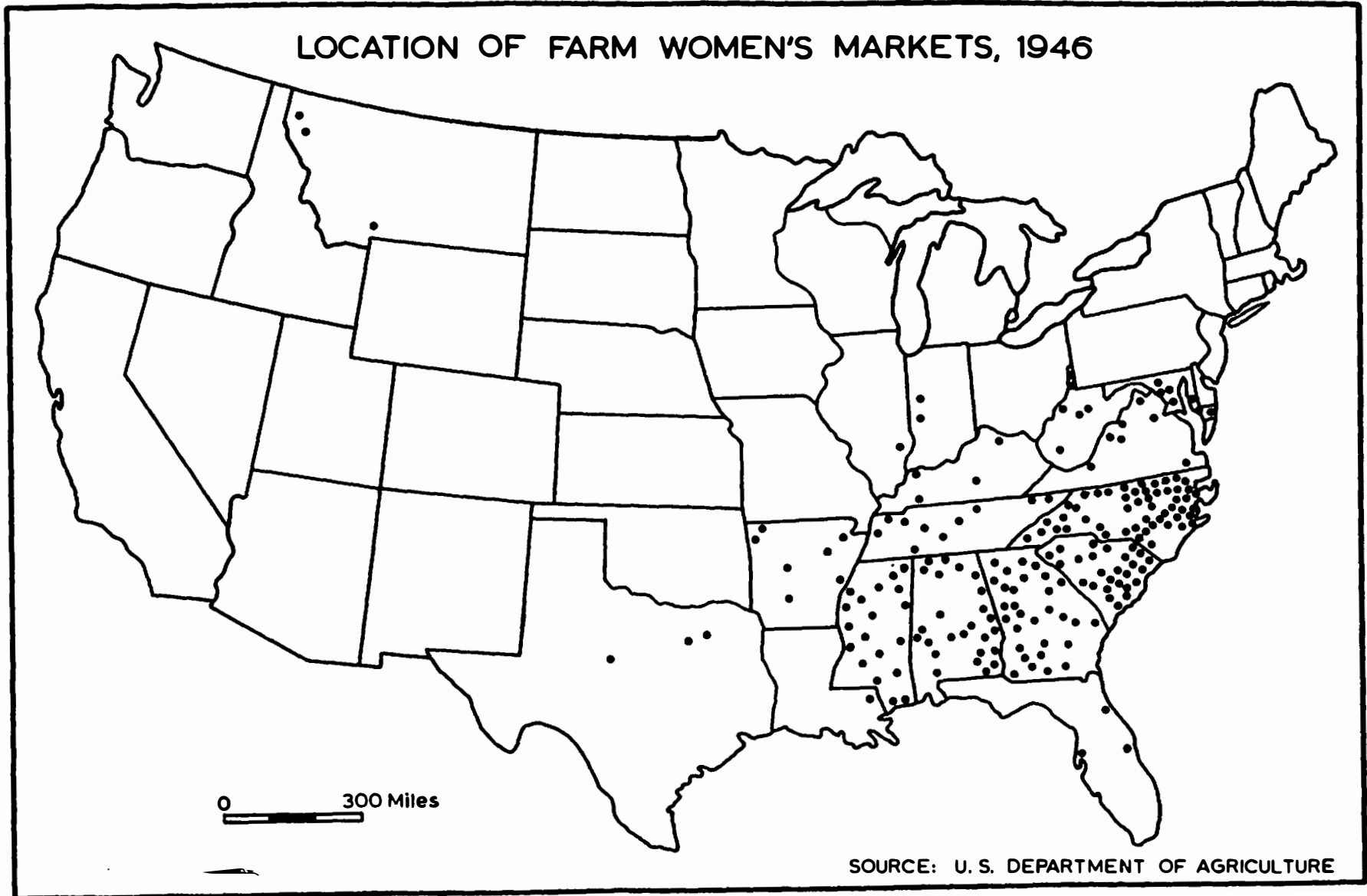


FIGURE 5

numerous products available for sale. "Much of the buying at these markets is done incidentally in connection with pleasure motoring. But, except for this incidental buying it would be an economic waste for fifty housewives to make special trips to a roadside market, where one truck could bring the products to the city."¹⁹ At times, several farmers will cooperate in setting up a roadside market so that most of them can spend their time farming, while a minority is actually engaged in selling. This market type seems to have expanded in numbers in recent years as highways have improved, automobiles have become more plentiful, and travel has increased.

¹⁹Monroe and Stratton, op. cit., p. 23.

CHAPTER IV

PRODUCTION AND MARKETING OF FLORIDA

FRUITS AND VEGETABLES

The importance of Florida as a producer of fresh fruits and vegetables for consumption during the winter months is perhaps best reflected on the vegetable counters of stores in most of the eastern United States. During winter months housewives purchase fresh fruits and vegetables valued at millions of dollars, without realizing the complicated system of production and marketing that enables them to have these products on their tables.

Florida ranks second only to California as a producer of vegetables in the United States, and first in the production of citrus fruits except lemons. A larger percentage of the Florida vegetable crop is sold fresh, but most of the citrus production is processed. California, on the other hand, markets most of its citrus in fresh form. During the period 1953-57, only 27 per cent of the Florida citrus crop was sold fresh, while in the same period California marketed 71 per cent of its citrus as fresh fruit.¹ In the 1958-59 season, 80 per cent of all Florida oranges and 53 per cent of the grapefruit produced were processed.

¹H. F. Willson, Marketing Florida Citrus - Summary of 1957-58 Season (Lakeland: United States Department of Agriculture Market News Service on Fruits and Vegetables, October 15, 1958), pp. 12-13.

Growth of the Florida vegetable industry has been most rapid since 1920, when the total value of vegetables sold was \$13,695,225 from 60,250 acres.² By 1930, 138,947 acres were being planted in vegetables, in 1950, 267,152 acres, and in 1958-59 vegetables valued at almost \$160,000,000 were sold from 406,950 acres. Acreage in nearly all types of vegetables expanded during this period with some of the more spectacular increases occurring in plantings of sweet corn, radishes, squash, snap beans, tomatoes, peppers, and watermelons. Increases in acreage of cantaloupes, lettuce, romaine, and carrots have been relatively small, while there was a decline in plantings of green peas.

There are two primary reasons for Florida's importance in fruit and vegetable production. First in order of importance is the almost total absence of frost in southern Florida, while the remainder of the peninsula suffers only occasional frosts of short duration (Figures 2, 6, and 7). This enables much of the state to produce out-of-season, winter and early spring vegetables. The second advantage is the relative proximity of Florida to the major eastern markets, especially when compared with other areas that are capable of production during the winter and early spring. During years when cold waves of great intensity penetrate into southernmost Florida, however, growers suffer heavy losses and fresh winter vegetables for northern markets are in short supply with correspondingly high prices.

²United States Bureau of the Census, United States Census of Agriculture: 1954. Vol I, Part 16 (Washington: Government Printing Office, 1956), p. 51.

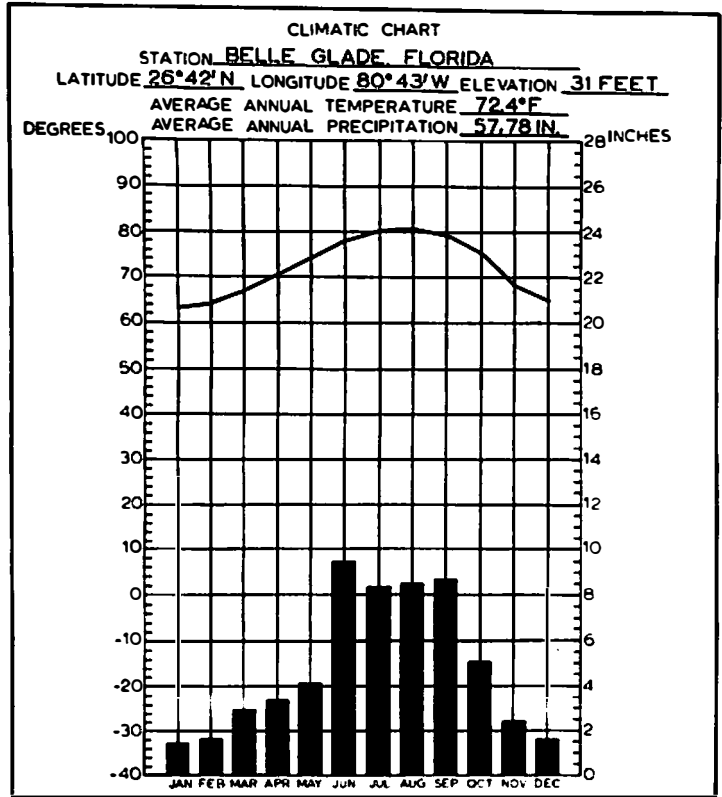


FIGURE 6

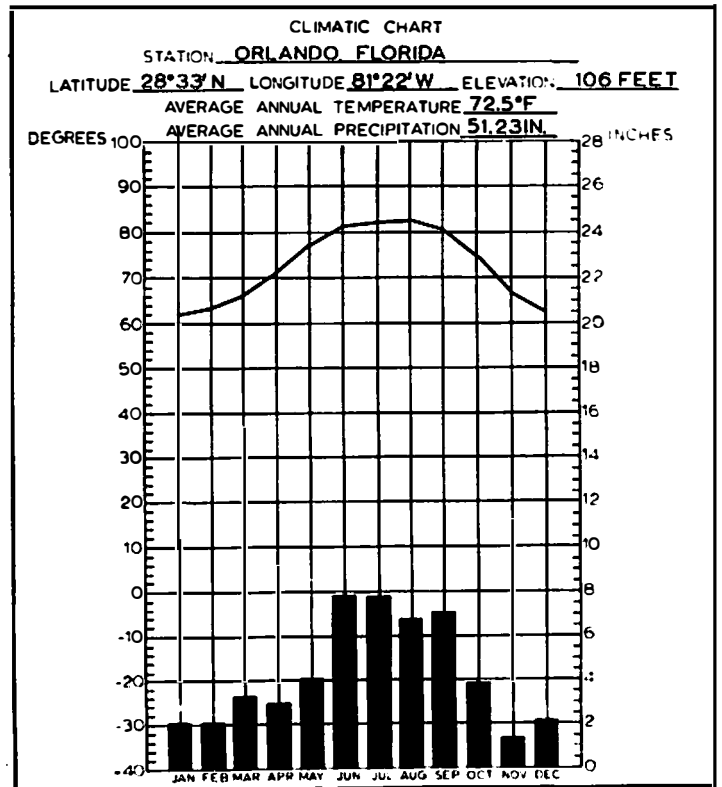


FIGURE 7

Florida's major winter vegetable production comes from counties adjacent to Lake Okeechobee and those along the east coast, south of the lake. Production began on a large scale in south Florida after research had proved the feasibility of producing vegetables on the muck soils of that region and after much of the land had been drained. Prior to this time, vegetables had been confined to the central and northern portions of the state.

Interest in the agricultural settlement of south Florida began after the close of the Seminole Indian War in 1842. Even prior to the admission of Florida as a state in 1845 various people had acquired the idea of draining the vast area of the Everglades and suggested that a dense population in that region would enhance the security of the United States and would enable this country to free itself from dependence upon foreign areas for certain tropical crops. Efforts to drain the Everglades were beset by failure until the decade after 1900, however, when some progress was made. During this period and in succeeding years land offices all over the country were extolling the virtues of south Florida as an ideal place for agricultural settlement. By 1911 there were some fifty real-estate agencies in Chicago disposing of Everglades land.³ Promises of wonderful productivity with no application of fertilizers encouraged many persons to purchase small parcels of ten acres or less and the rank dishonesty of sales personnel often

³Alfred J. and Kathryn A. Hanna, Lake Okeechobee: Wellspring of the Everglades (New York: The Bobbs-Merrill Co., 1948), p. 140.

led to scandal and legal actions on the part of purchasers to recover their investments. Drainage had not progressed at the promised rate and much of the land sold was still under water.

Development of the Okeechobee Region was greatly encouraged by completion of the Conners Highway from Okeechobee City to Palm Beach in 1924. This set off a land boom that resulted in sales of millions of dollars of land and claims that Okeechobee City was destined to be another Chicago. Transportation continued to be a problem and serious handicap to the region until after 1928, however, for railroad connections were available only with the west coast and the Conners Highway was the only good outlet to the east. Perishable goods were marketed only with greatest difficulty and often at considerable loss.

Beginning in 1920 a series of disasters struck the Okeechobee region. Excessive rainfall followed by drought, muck fires, economic depression, and finally the hurricane of 1926 brought to an end the pioneer stage of the Everglade's development. The 1928 hurricane destroyed what had emerged as a vegetable region around Belle Glade and over 2,400 persons lost their lives when Lake Okeechobee overflowed the adjacent areas.⁴

After this great disaster Florida obtained financial and planning aid from the Federal Government for control of the waters of Lake Okeechobee. An eighty-five mile long levee was constructed around the southern shore of the lake and along low places further north. The

⁴Ibid., p. 262.

levee varied in height from 34 to 38 feet and was at least five feet above the highest known point that the lake has ever reached. Two canals that had been constructed for drainage purposes during an earlier period were enlarged and improved.

As confidence grew in the control of the lake waters investments poured in, and by 1930 parts of the region, especially Belle Glade and Pahokee, were making a rapid comeback. In 1928 the Tamiami Trail opened, connecting the lake with Miami, and by 1930 the entire east and south sides of the lake were being served by railroads.

The spectacular wealth of vegetable production around Lake Okeechobee emerged after the 1928 hurricane. In place of the small ten acre plots that had characterized the region prior to that time, large-scale operations or company farms became more prevalent. It had been discovered that in the Everglades the cultivation of land had to reach large proportions if any degree of security was to be found.

Pioneer farmers had discovered that crops did not produce well in newly reclaimed mud and that types of fertilizer in common use were little help. A chemical combination was discovered in 1927, however, that caused crop yields to be multiplied. Since the mud land of the Everglades is endowed with an abundance of chemicals such as nitrogen, phosphorous, and lime, the only mineral found in common commercial fertilizers that is beneficial to the soil of this region is potash. The most serious deficiency is in copper, and copper sulfates are added regularly, plus sulfates of zinc and magnesium and small amounts of

boron and iron when chemical analysis indicates that these minerals are needed.⁵ Even with the addition of chemicals, however, there remains the problem of alternately draining and irrigating the land during wet and dry seasons. During dry seasons the muck shrinks from lack of water and if left without cover will blow away. Muck fires, sometimes burning underground for considerable distances prior to breaking onto the surface, and at times covering large areas, may seriously damage the soil and hinder cultivation.

Many farm operators begin preparing their fields by a system known as mole drainage. The mole drains are underground tunnels approximately six inches in diameter, placed about fifteen feet apart and three feet below the surface. They are constructed by attaching an iron plug to a thin blade and then pulling the plug through the fields below the surface. These drains last from one to five years. Drainage ditches surround each field, emptying into lateral canals which in turn carry water into arterial channels constructed between Lake Okeechobee and the coast.

Agriculture is almost entirely mechanized, as mules and horses sink deeply into the muck. The fields are first plowed with a rotary plow in order to aerate the soils; chemicals are added, and then conventional methods of plowing, planting, and cultivating follow.

Even today in south Florida an air of speculation is brought about by the risks taken in agriculture due to the possibility of crops

⁵Robert N. Ford, A Resource Use Analysis and Evaluation of the

being destroyed by frost, too much or too little rain, or even too much heat. The chance of crops being destroyed by frost is clearly reflected in that the major vegetable producing district is found on the southeastern shore of Lake Okeechobee, which is partially protected from cold northwesterly winds by the lake waters. During cold waves temperatures immediately adjacent to the lake are usually two to five degrees warmer than at the same latitude closer to the east coast and, as a result, land values decline as distance from the lake increases.

During good years enormous yields are obtained for huge profits, while poor years may bring devastating financial ruin. In 1958-59 a large tomato growing concern declared bankruptcy as a result of its inability to pay an \$800,000 fertilizer bill after freezes and excess moisture had destroyed three successive plantings. In the past, producers often staked all their money on a single planting, auctioned the harvest in the fields, and moved on. Growers sometimes cultivated the land without owning or even paying rent for it, since much of the land was held by persons who lived elsewhere. A similar practice is still carried on in some areas near Lake Okeechobee, where cattle farmers will allow vegetable growers to use their land free of charge for one or two years in order to get the land cleared and in better shape for pasture.

Today most of the land adjacent to Lake Okeechobee and throughout south Florida is high in value and carefully controlled. Every-

Everglades Agricultural Area (Chicago: University of Chicago Press, 1956), p. 13.

where farming is big business with vegetable farms seldom falling below 100 acres in size and many totaling over 1,000 acres. Fields of tomatoes, beans, and other crops stretch as far as the eye can see. One farmer in the Okeechobee area operates his farm with the aid of over 30 field radio units.⁶ From his office, where there is a map of his farm area, he can direct operations anywhere on his 2,000 acres. Plantings are staggered so that at the same time, on most large farms, crops are being planted, cultivated, and harvested. Small farmers are finding themselves unable to compete with the large growers since they cannot afford the necessary equipment for most efficient production. This, plus the larger farmers' ability to absorb the losses that result during bad years, means that the tendency toward fewer small and more large farms will probably continue. Not only is this true in south Florida, but in other portions of the state as well. There is a good possibility that in a few more years almost all of Florida's vegetables will be produced by two or three dozen large growers.

Citrus is king in central Florida, especially in the Lake District, although vegetables are grown in several counties. Migratory labor is used in harvesting both fruits and vegetables, with whites being employed primarily in the fruit orchards, while Negroes work on the vegetable farms. The growing season in central Florida is somewhat later than in the south, but the central area enjoys a transpor-

⁶Statement by Mr. Lee Brannen, Salesman, Pioneer Growers' Cooperative, Belle Glade, Florida.

tation advantage over south Florida when its vegetables begin to mature. Most of the vegetables and fruits are produced by relatively large growers, with the citrus concentrate plants often owning thousands of acres of citrus groves.

North Florida is of little importance either as a vegetable or fruit producer. Agriculture is less specialized and more closely related to the local economy than in other parts of the state. Potatoes are a relatively important crop in Flagler, Putnam, and St. Johns counties, but most other vegetables are confined to areas further south.

The first Florida vegetable harvests are shipped in October, reach a peak in March, and end in June or the first part of July. During August and September Florida becomes a market for, rather than an exporter of, vegetables.

The major Florida winter vegetables are: tomatoes, snap beans, peppers, celery, cabbage, potatoes, escarole, sweet corn, squash, lettuce, eggplant, and cucumbers (Table II). Of these products cabbage, escarole, and lettuce are produced almost entirely as winter crops. Smaller quantities of cauliflower and spinach are also produced during the winter season. Fall crops include mostly tomatoes, snap beans, cucumbers, sweet corn, peppers, squash, and eggplant, with large quantities of tomatoes, watermelons, sweet corn, potatoes, cucumbers, peppers, snap beans, celery, squash, and eggplant being harvested in the spring. Watermelons and cucumbers are harvested only in the spring,

TABLE II

VALUE OF LEADING FLORIDA TRUCK CROPS - 1957-58 AND 1958-59
(IN THOUSANDS OF DOLLARS)*

CROP	FALL	WINTER	SPRING	TOTAL VALUE 1958-59	PER CENT PROCESSED	TOTAL VALUE 1957-58
Snap Beans	\$4,896	\$ 6,277	\$ 4,175	\$ 15,348	21	\$14,017
Cabbage		5,566		5,566		6,246
Cantaloupes			446	446		353
Cauliflower		220		220		153
Celery		6,186	3,212	9,398		17,255
Corn (Sweet)	1,962	2,418	9,591	13,971		11,064
Cucumbers	2,907	542	6,111	9,560		7,637
Eggplant	479	672	719	1,870		1,535
Escarole & Chicory		2,760		2,760		3,630
Lettuce & Romaine		1,206		1,206		1,512
Peppers	1,749	6,263	5,146	13,158		11,432
Potatoes		4,382	9,142	13,524		14,792
Squash	959	1,566	1,284	3,809		2,605
Spinach		132		132	100	NA
Strawberries		906		906		675
Tomatoes	9,393	17,906	16,950	44,249	2	30,063
Watermelons			12,431	12,431		7,744
Greens (All types except processed spinach)				2,660		4,354

TABLE II (continued)

CROP	FALL	WINTER	SPRING	TOTAL VALUE 1958-59	PER CENT PROCESSED	TOTAL VALUE 1957-58
Radishes				\$ 2,586		\$ 3,515
Field Peas				1,225		845
Chinese Cabbage				354		446
Misc. Vegetables				2,100		3,430
GRAND TOTAL				\$158,110		

*Source: Elmo F. Scarborough, Annual Agricultural Statistical Summary, 1958-59 Season (Jacksonville: Florida State Marketing Bureau, 1959), p. 70.

NA - Not available.

together with heaviest harvests of corn, potatoes, cucumbers, and eggplant.

The tables indicating the distribution of Florida vegetables to selected cities are in some instances incomplete, since receipts of certain products in some cities were not obtainable. Furthermore, some of the cities, such as Atlanta and Columbia, act as redistribution points for Florida vegetables, and, as a result, the amount of those products actually consumed in the redistribution points may have been somewhat less than the statistics indicate. There is also the possibility that some items may have been counted twice; for example, watermelons shipped to Atlanta may be redistributed to Baltimore or New York.

Complete records of fruit and vegetable shipments to the various states were not available, but the distribution of Florida vegetables by truck is found in Table III. Rail distribution was not available by states, but will be found for selected cities listed in the foregoing table for each major product considered in the study.

For most Florida vegetables Palm Beach County is the leading producer, New York State is the major consuming state, and New York City the principal urban market. In general, distribution is heaviest to states and cities to the east of the Appalachians, the Middle West occupies a secondary role, and only a very small percentage moves to states west of the 100th meridian (Figure 8). There is, however, enough difference in the producing and marketing areas of the leading vegetables to warrant a separate description of each.

TABLE III

DISTRIBUTION OF FLORIDA VEGETABLES BY TRUCK (RAIL CARLOT EQUIVALENT),
AUGUST 1, 1958 - JULY 31, 1959*

State	Beans	Cab- bage	Cel- ery	Gr. Corn	Cucum- bers	Egg- plant	Pep- pers	Pota- toes	Rad- ish	Squ- ash	Tom- atoes	W- mel.
Alabama	268	357	270	274	51	32	66	507	37	68	818	351
Arizona	2	-	1	12	11	1	5	5	-	2	5	-
Arkansas	59	8	73	45	16	6	11	136	16	9	150	249
California	18	1	4	214	172	10	47	40	1	6	70	-
Canada	87	73	170	79	162	20	56	57	40	8	134	323
Colorado	4	1	23	35	42	5	11	28	9	8	40	-
Connecticut	26	24	21	18	45	11	33	11	3	16	45	201
Delaware	1	9	2	3	9	-	5	21	-	-	-	18
Dist. Columbia	27	138	73	74	21	8	18	39	23	9	189	332
Florida	32	35	29	39	11	3	10	25	2	11	115	102
Georgia	793	813	741	608	68	40	100	918	44	129	1,001	525
Illinois	195	112	308	387	579	58	168	428	59	39	495	673
Indiana	63	88	166	147	59	12	40	442	39	10	273	989
Iowa	2	11	18	28	14	1	4	28	21	1	23	162
Kansas	4	-	42	29	15	2	8	36	22	3	52	35
Kentucky	100	61	55	83	32	10	22	192	15	10	126	435
Louisiana	107	10	282	180	53	74	96	204	19	38	352	276
Maine	2	18	6	8	17	1	3	19	2	1	3	23
Maryland	320	521	186	283	193	49	129	134	64	66	253	448
Massachusetts	192	105	120	80	361	65	186	187	51	86	554	179
Michigan	60	68	228	90	142	18	52	178	57	18	174	588
Minnesota	9	6	78	87	74	4	14	29	75	6	36	146
Mississippi	15	16	33	10	4	9	12	30	2	6	170	95
Missouri	104	17	213	299	136	34	90	195	107	20	333	293

TABLE III (continued)

State	Beans	Cab- bage	Cel- ery	Gr. Corn	Cucom- bers	Egg- plant	Pep- pers	Pota- toes	Rad- ish	Squ- ash	Tom- atoes	W- mel.
Montana	2	-	-	2	3	-	-	-	-	-	-	-
Mexico	-	-	-	-	1	-	-	-	-	-	-	-
Nebraska	2	1	10	19	17	1	6	38	11	2	37	30
New Hampshire	-	-	-	-	-	-	-	1	-	-	-	8
New Jersey	82	193	219	169	104	35	88	75	25	23	215	922
New Mexico	1	1	-	1	1	-	1	1	-	1	-	-
New York	706	875	393	550	1,143	454	1,024	410	178	229	2,806	1,856
North Carolina	375	910	362	548	111	17	72	533	35	69	916	525
North Dakota	-	2	6	3	7	-	1	1	11	-	1	39
Ohio	126	125	190	134	233	36	108	611	192	25	428	986
Oklahoma	23	2	108	72	17	4	14	23	13	17	201	14
Oregon	-	-	-	-	1	-	-	-	-	-	-	-
Pennsylvania	462	803	418	656	615	148	435	1,140	114	73	980	1,228
Rhode Island	23	28	5	6	46	10	35	82	1	10	10	100
South Carolina	386	666	248	686	86	20	78	293	29	66	832	750
South Dakota	-	1	1	3	5	-	1	1	1	-	2	11
Tennessee	257	272	306	262	47	21	65	472	60	48	1,035	540
Texas	239	7	378	431	153	53	152	166	42	151	890	141
Utah	-	-	-	6	16	-	-	9	-	-	18	-
Vermont	-	-	-	-	-	-	-	-	-	-	-	5
Virginia	191	455	254	194	76	13	58	365	27	23	585	372
Washington	1	-	-	8	21	1	1	1	3	2	2	1

TABLE III (continued)

State	Beans	Cab- bage	Cel- ery	Gr. Corn	Cuoum- bers	Egg- plant	Pep- pers	Pota- toes	Rad- ish	Squ- ash	Tom- atoes	W- mel.
West Virginia	27	53	35	32	18	2	8	48	8	2	146	149
Wisconsin	11	29	67	44	78	5	22	69	23	5	21	216
Wyoming	-	-	-	-	-	-	-	-	-	-	1	-
Unknown	50	88	41	31	45	6	22	43	10	8	79	3,643
Totals	5,454	7,003	6,183	6,969	5,131	1,299	3,377	8,271	1,491	1,324	14,616	17,979

*Source: Elmo F. Scarborough, Annual Agricultural Statistical Summary, 1958-59 Season (Jacksonville: Florida State Marketing Bureau, 1959), pp. 120-21.

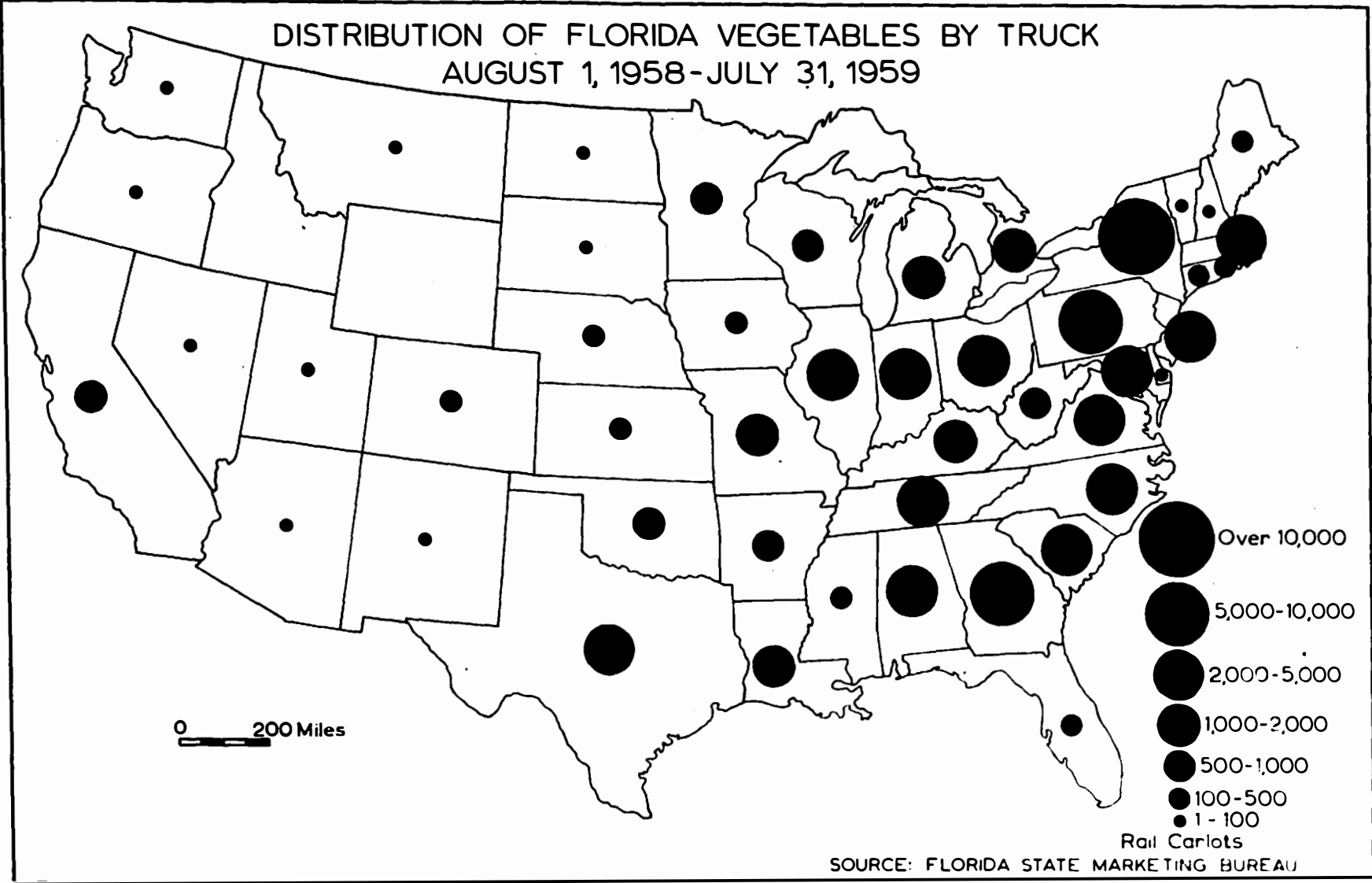


FIGURE 8



An attempt has been made to indicate facilities through which the various vegetables are placed on the market. Reliable statistics are available only for the state farmers' markets, however, and these markets sometimes handle only a very small percentage of the total production of certain commodities (Figure 9 and Table IV). Altogether, the state markets are responsible for sales of approximately one-third of the vegetables produced in the state.

Most sales that do not occur through the state market system are made privately by the growers to buyers for terminal market dealers, chain stores, or other consumers of large quantities of vegetables. Privately owned and operated markets and packing houses market significant quantities of some commodities, and cooperative marketing associations are important selling agencies, especially in the Belle Glade area near Lake Okeechobee. Statistics from private and cooperative marketing agencies were generally not obtainable, for fear of damaging their competitive positions.

Generally the relatively small farmer uses the state markets, and some indication of the size of growers producing each of Florida's major vegetable crops may be gained by examining the proportion of each crop sold through the state facilities. For some of the less perishable and more bulky products that do not require expensive grading and packing, however, even a small farmer may be able to bring together carload or truckload quantities and market the product privately. Furthermore, some small farmers market their crops through private

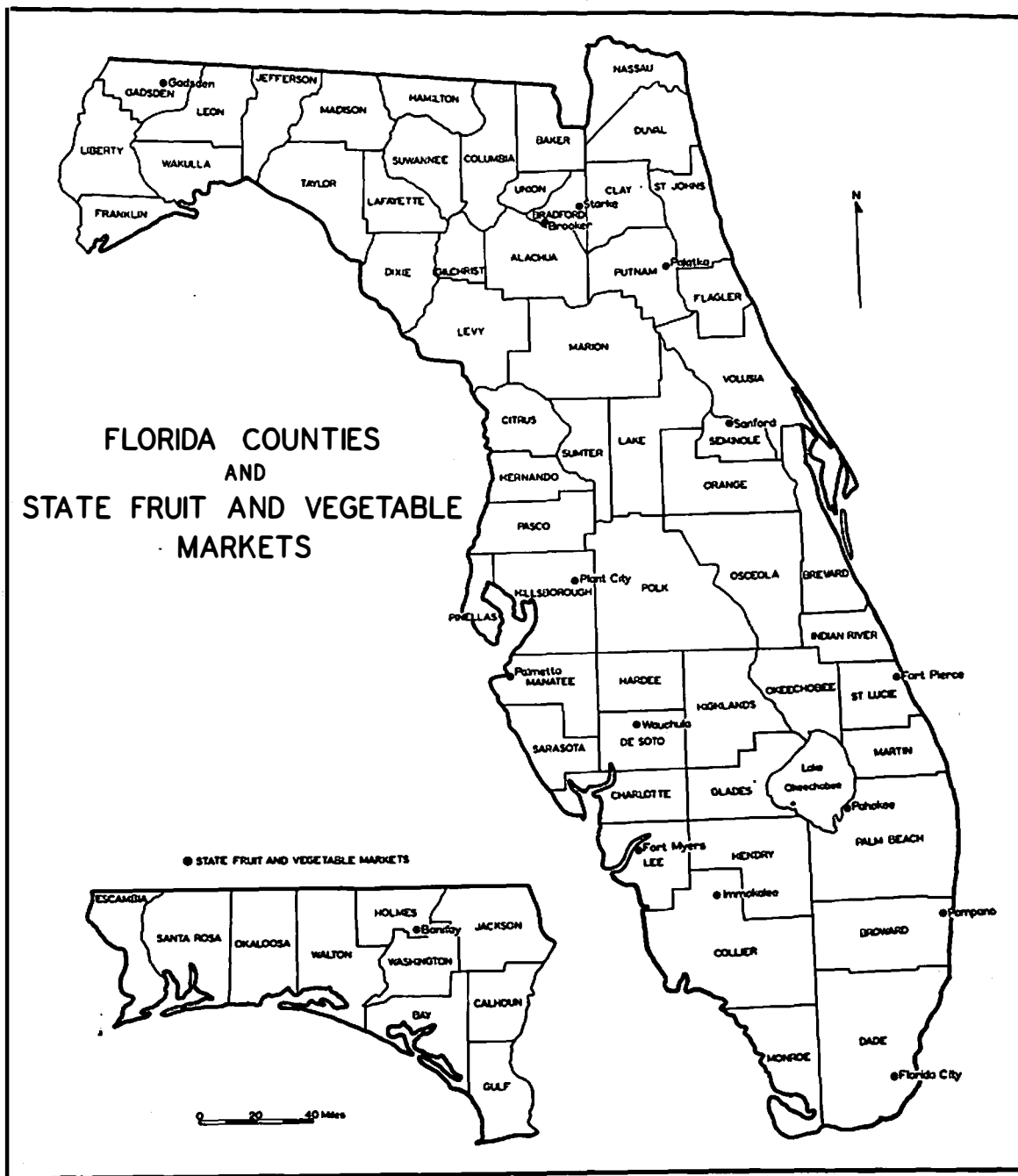


FIGURE 9

TABLE IV

SALES OF SELECTED VEGETABLES ON FLORIDA STATE FARMERS' MARKETS, 1958-1959*

Vegetable	<u>Value of Sales</u>						
	Bonifay	Brooker	Florida City	Fort Myers	Fort Pierce	Gadsden County	Immokalee
Beans (All kinds)	\$1,962	\$9,875	\$ 15,511	\$ --	\$ --	\$161,150	\$ --
Cabbage	--	--	--	--	--	52,889	--
Cantaloupes	350	--	--	--	--	--	1,581
Celery	--	--	--	--	--	--	--
Corn, Green	--	4,148	--	--	--	--	--
Cucumbers	232	5,861	69,622	1,429,454	--	10,471	473,859
Eggplant	--	32	--	28,634	--	--	172
Lettuce	--	--	--	--	--	--	--
Peppers	40	2,576	--	1,108,937	655	--	26,399
Potatoes (Irish)	57	89	--	193,434	--	--	--
Radishes	--	--	--	--	--	--	--
Squash	9	1,231	19,832	274,171	--	243	25,853
Tomatoes	1,515	--	3,461,047	251,821	5,000,818	--	862,032
Watermelons	6,563	--	--	3,053	--	--	--

TABLE IV (continued)

Vegetable	Value of Sales								
	Pahokee	Palatka	Palmetto	Plant City	Pompano	Sanford	Starke	Wauohula	
Beans (All kinds)	\$ --	\$ --	\$ 1,725	\$501,976	\$4,137,085	\$281,140	\$ 370	\$ --	
Cabbage	--	208,793	18,130	--	253	651,540	--	--	
Cantaloupes	--	--	1,500	271	--	--	--	--	
Celery	408,452	--	7,500	--	--	328,712	--	--	
Corn, Green	2,449,647	--	338	239	400,836	418,945	5,036	--	
Cucumbers	171,725	--	3,188	190	2,922,833	178,487	9,654	718,982	
Eggplant	--	--	263	61,815	1,106,459	41,058	1,133	832	
Lettuce	201	--	3,900	--	--	44,971	--	--	
Peppers	--	--	1,900	486,735	5,258,851	255,848	8,145	51,698	
Potatoes (Irish)	64,939	308,354	34,260	20,050	13,412	116,017	--	--	
Radishes	--	--	--	--	--	79,957	--	--	
Squash	10,450	--	1,050	403,738	1,032,801	54,295	270	132	
Tomatoes	--	--	129,375	635	1,193,984	109,605	--	147,600	
Watermelons	--	29,893	4,650	--	--	18,908	--	--	

*Source: Florida State Farmers' Markets, Twenty-Fifth Annual Report, 1958-59, A Report Prepared by the Director of State Markets (Winter Haven: State Agricultural Marketing Board, October, 1959), pp. 15-58.

markets, packing houses, and cooperatives, and some large growers sell at least a portion of their crops through the state facilities.

One of the most outstanding vegetable crops produced for the fresh market in Florida is snap beans, with an average of 67,340 acres planted for harvest annually from 1948 through 1958.⁷ Bean averages declined steadily during this period resulting in a drop from 78,000 acres planted for harvest in the 1948-49 season to 53,500 acres in 1958-59. All major producing areas are found south of Lake Okeechobee, with Palm Beach County planting nearly 60 per cent of the total acreage and Broward and Dade counties 27 per cent (Figure 16).

Harvest time begins the last week in October and continues until the latter part of May. Heaviest shipments occur during March and April, and lightest movements are in October and May. In addition, there is usually a decline in shipments during January and February from November and December averages. Competition with beans from other states is greatest in the early fall and late spring.

Approximately one-third of the total bean crop harvested for sale is sold through the state farmers' markets, with Pompano, Plant City, Sanford, and the Gadsden County markets together handling a volume of over \$5,100,000 in 1958-59 (Table IV).

⁷George D. Cammeyer, Marketing Florida Vegetables - Selected Commodities - 1959 Season, A Report Prepared by the United States Agricultural Marketing Service in Cooperation with the Florida State Marketing Bureau (Washington: Fruit and Vegetable Division, United States Department of Agriculture, June, 1959), p. 4.

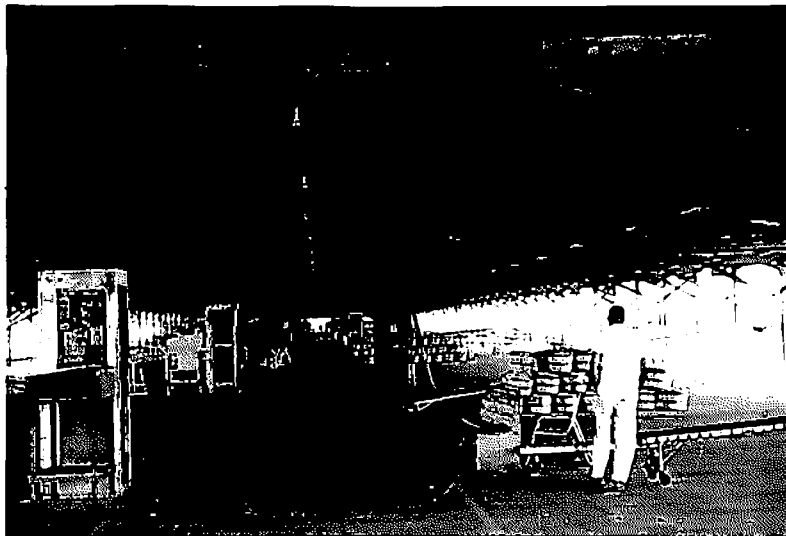


FIGURE 10

SALES PLATFORM OF POMPANO STATE FARMERS'
MARKET, POMPANO, FLORIDA

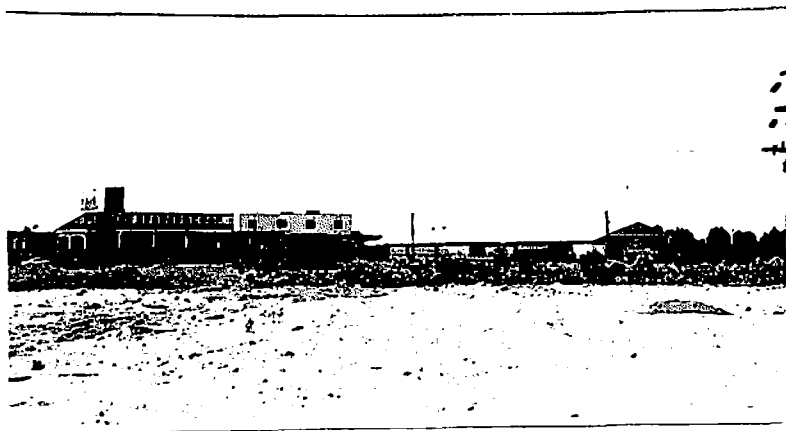


FIGURE 11

THE PIONEER GROWERS' COOPERATIVE
BELLE GLADE, FLORIDA



FIGURE 12

BEAN FIELD NEAR HOMESTEAD, FLORIDA

Truck shipments accounted for over 75 per cent of all beans leaving Florida during both the 1957-58 and the 1958-59 seasons (Figure 14 and Table III). Southern and Middle Atlantic states were the leading destinations, with Georgia and New York taking over 27 per cent of all truck shipments. The Middle Atlantic states of Maryland and Pennsylvania and the southern states of South Carolina and North Carolina obtained an additional 28 per cent. Most remaining beans were shipped to southern New England and the Middle West.

Florida was the source of approximately 30 per cent of all beans sold in the thirty-seven cities listed in Table V, and these cities, in turn, accounted for 60 per cent of total Florida bean shipments. New York and Atlanta were the leading city destinations, with New York receiving approximately twice the quantity obtained by Atlanta (Figure 15). In addition, Philadelphia, Chicago, Boston, Birmingham, and Columbia obtained large bean shipments. Trucks accounted for most shipments to the cities considered, with rail receipts exceeding those by truck only in Cincinnati and Detroit.

The major cabbage producing counties in 1958-59 in order of their importance were: Palm Beach, St. Johns, Seminole, Putnam, and Flagler (Figure 17).⁸ These five counties produce approximately 85 per cent of the state cabbage crop. Acreage fluctuates considerably from year to

⁸Elmo F. Scarborough, Annual Agricultural Statistical Summary, 1958-59 Season, Florida Marketing Bureau, Forty-Second Annual Report (Jacksonville; Florida State Department of Agriculture, 1959), p. 92.

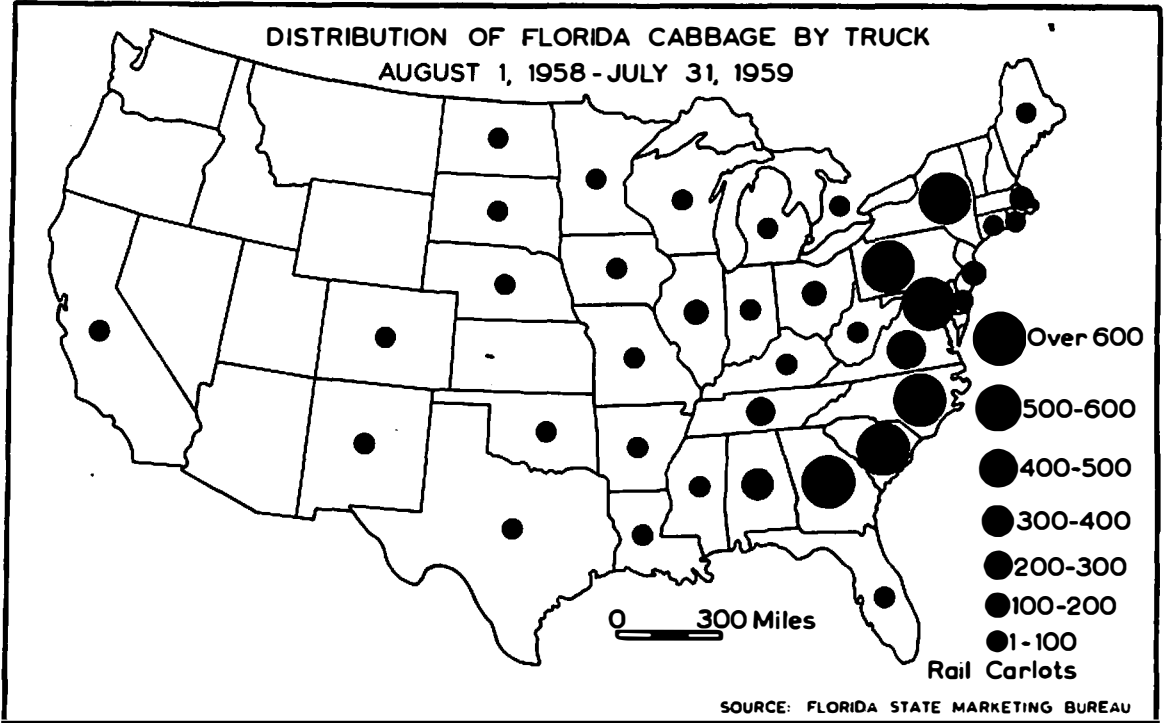


FIGURE 13

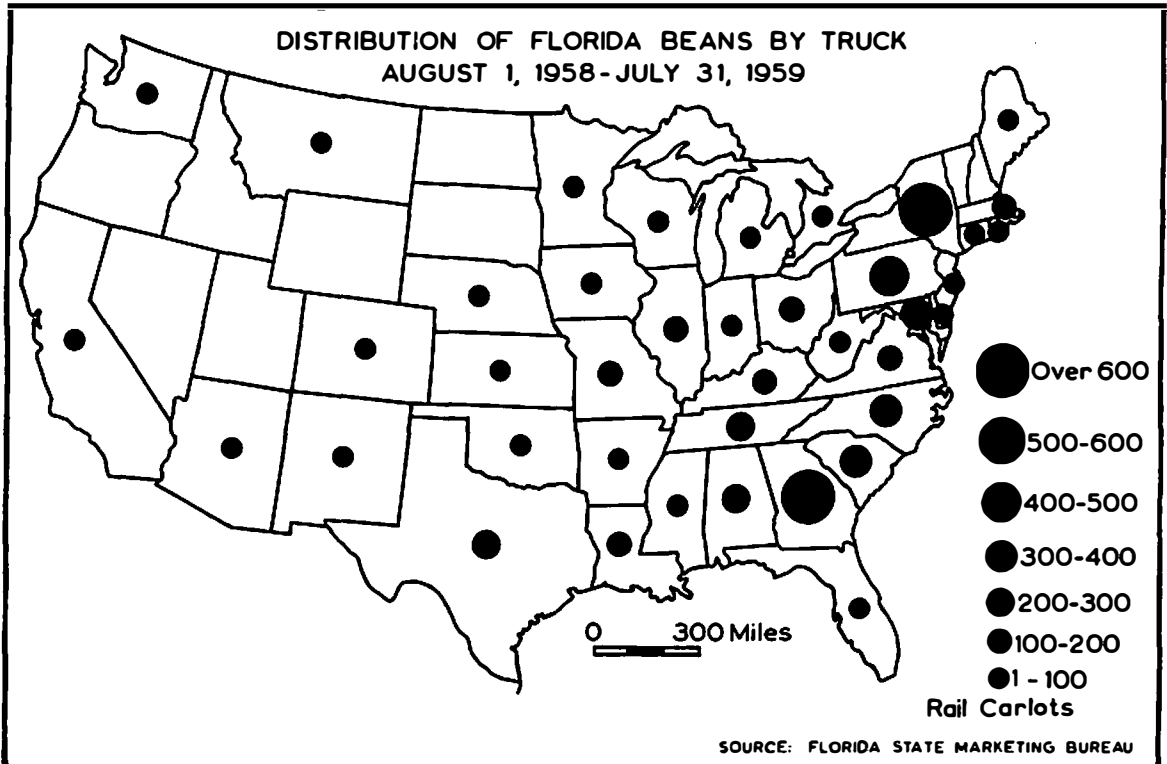


FIGURE 14

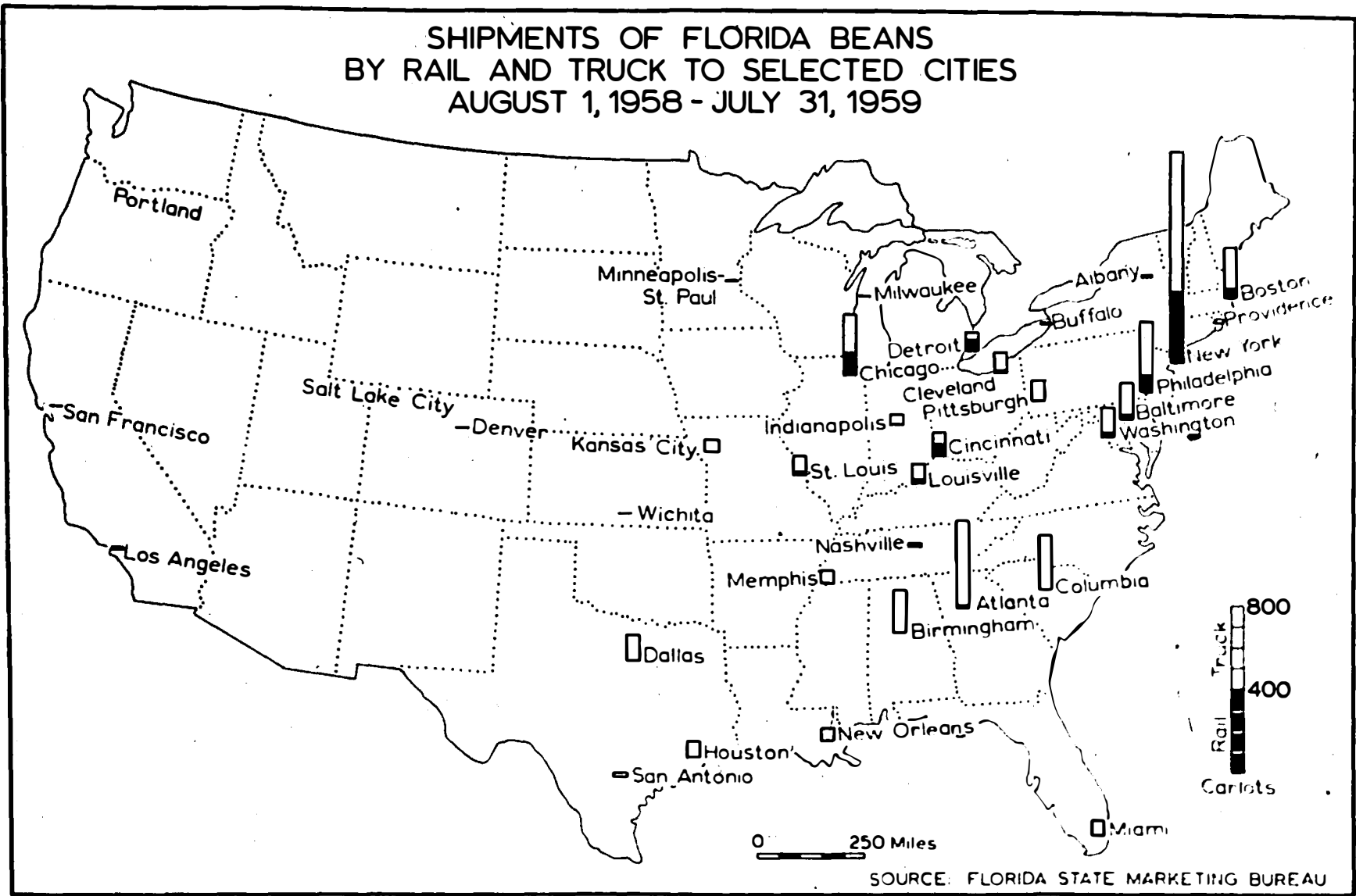
TABLE V

CARLOT SHIPMENTS OF BEANS FROM FLORIDA AND OTHER SOURCES TO
SELECTED CITIES - AUGUST 1, 1958 THROUGH JULY 31, 1959*

CITIES	FLORIDA		OTHERS	
	Rail	Truck	Rail	Truck
Albany	-	14	-	29
Atlanta	14	403	1	476
Baltimore	20	149	-	360
Birmingham	-	201	-	357
Boston	46	187	4	425
Buffalo	6	1	7	60
Chicago	110	177	66	445
Cincinnati	60	53	14	290
Cleveland	16	84	26	269
Columbia	1	260	-	286
Dallas	-	125	-	206
Denver	-	7	-	96
Detroit	47	41	48	129
Houston	1	72	3	102
Indianapolis	1	46	1	95
Kansas City	2	57	2	80
Los Angeles	3	12	-	1,796
Louisville	17	79	-	99
Memphis	2	60	-	84
Miami	-	70	-	66
Milwaukee	-	2	-	16
Minn.-St. Paul	-	7	-	9
Nashville	1	20	2	57
New Orleans	-	64	-	83
New York City	332	666	31	1,685
Philadelphia	76	256	1	603
Pittsburgh	3	91	3	183
Portland, Ore.	-	-	-	24
Providence, R. I.	-	25	-	118
St. Louis	16	80	4	153
Salt Lake City	-	-	-	20
San Antonio	-	21	1	103
San Francisco	2	7	-	644
Washington, D. C.	17	118	-	206
Wichita, Kans.	-	2	-	17
TOTALS	793	3,457	214	9,671

*Source: Elmo F. Scarborough, Annual Agricultural Statistical Summary, 1958-59 Season (Jacksonville: Florida State Marketing Bureau, 1959), p. 122.

SHIPMENTS OF FLORIDA BEANS
 BY RAIL AND TRUCK TO SELECTED CITIES
 AUGUST 1, 1958 - JULY 31, 1959



SOURCE: FLORIDA STATE MARKETING BUREAU

FIGURE 15

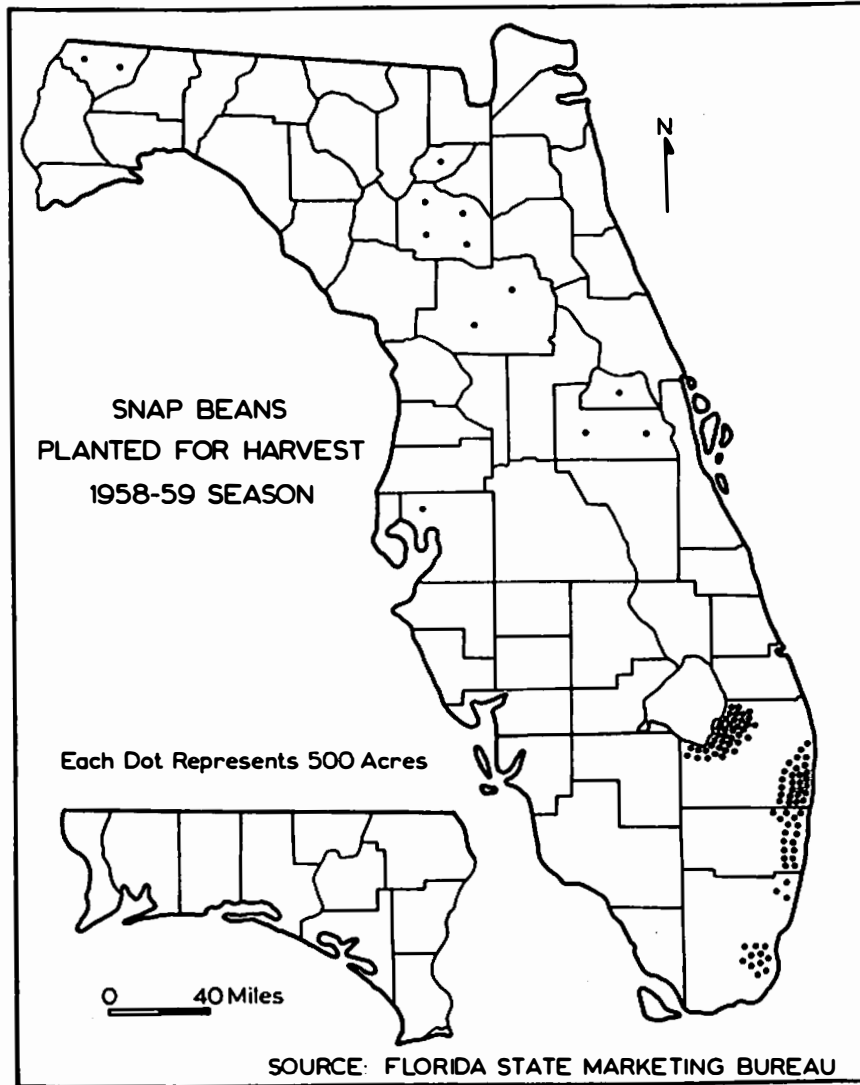


FIGURE 16

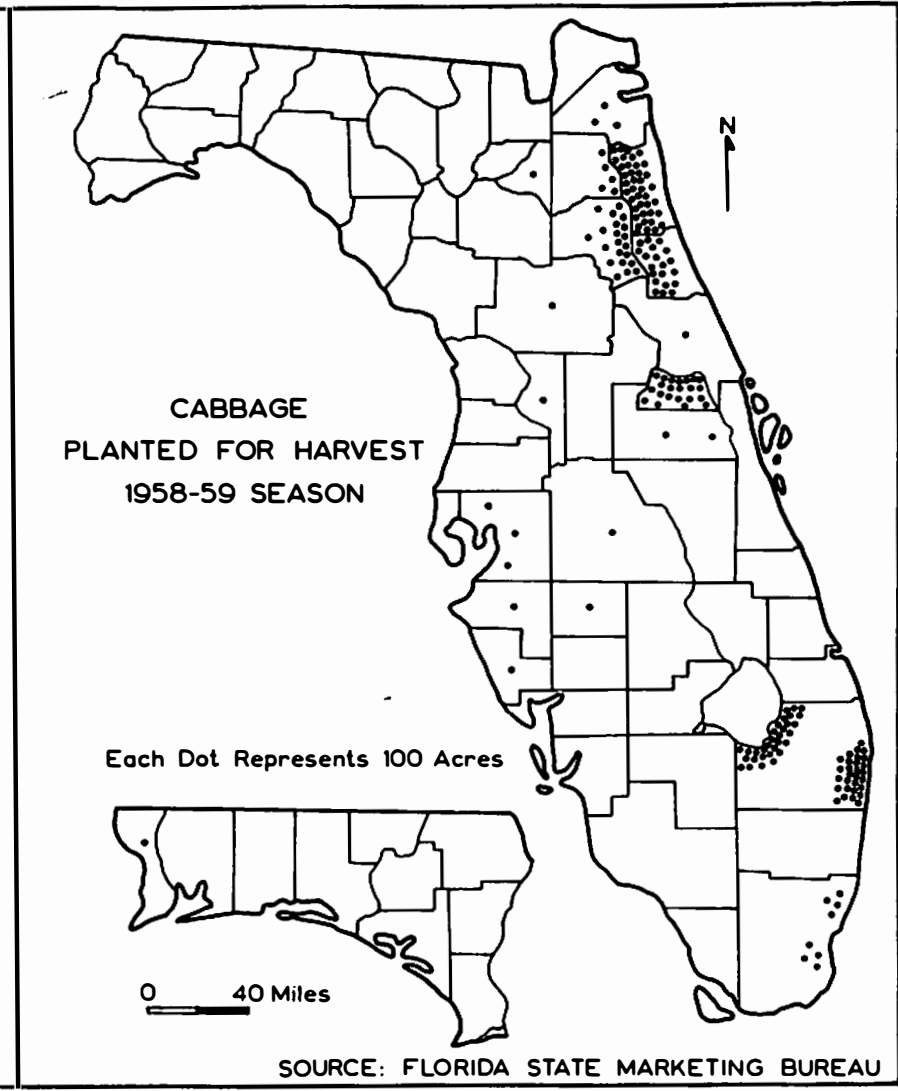


FIGURE 17

year, with 19,900 acres planted for harvest in 1952-53, as compared to only 13,900 acres in 1956-57.

Harvest of cabbage begins about the first week in December and continues through April, falling off sharply in May as crops from Georgia and more northerly states begin to mature and come into competition with the Florida crop. Since cabbage can be stored for a time, the Florida product competes with stored cabbage from New York and Wisconsin from December through April, and cabbage from Texas, Louisiana, and South Carolina is shipped in almost every month of the Florida season. Heaviest shipments of Florida cabbage occur in March, while Alabama, Georgia, and Mississippi ship in April and May, and Tennessee and Virginia in May.

The greater part of the cabbage crop is marketed privately, for only two state markets handle any appreciable quantities (Table IV). In 1954, the Sanford Farmers' Market in Seminole County sold cabbage valued at \$606,000, and the Palatka Market in Putnam County had a \$225,000 cabbage business. For the 1958-59 season five state farmers' markets sold cabbage valued at \$930,604. Only the Sanford Market, with sales of \$208,793, handled significant quantities. Considering the cabbage crop as a whole, only 12 to 15 per cent is normally sold through state marketing channels. Since this crop is not as perishable as many others, farmers can usually wait until they have harvested truckload or carload proportions, and are able to handle their own marketing.

Heaviest shipments of Florida cabbage for the 1958-59 season were to states along the Atlantic Coast (Figure 13 and Table VI). Nearly 80 per cent was shipped by truck, with markets for cabbage being more restricted to nearby states than is the case with most other Florida vegetables. North Carolina, Georgia, South Carolina, and Alabama accounted for 38 per cent of all truck shipments, while New York, Pennsylvania, Maryland, and Virginia were responsible for an equal portion. Other than the above states, only Tennessee, New Jersey, the District of Columbia, Ohio, Illinois, and Massachusetts received appreciable quantities by truck.

The largest individual city market for Florida cabbage in 1958-59 was New York, which received 15 per cent of all shipments (Figure 18). Philadelphia and Atlanta obtained an additional 15 per cent and Baltimore, Columbia, and Birmingham acquired a similar amount. Boston, Washington, D. C., Pittsburgh, Detroit, Chicago, and Cincinnati also recorded considerable quantities. Rail shipments exceeded those by truck only in Boston, Detroit, and Cincinnati. The cities listed as actually receiving Florida cabbage in Table VI, obtained over 17 per cent of their total supply from Florida.

Cauliflower was produced mostly in Manatee and Seminole counties in 1958-59. Harvest begins in December and continues into May, but greatest activity occurs in January and February. Cauliflower production seems to have reached a peak in 1953, when 1,400 acres were planted for harvest, but acreage had declined to only 500 in 1959.

TABLE VI

CARLOT SHIPMENTS OF CABBAGE FROM FLORIDA AND OTHER SOURCES TO
SELECTED CITIES - AUGUST 1, 1958 THROUGH JULY 31, 1959*

CITIES	FLORIDA		OTHERS	
	Rail	Truck	Rail	Truck
Albany	42	39	29	179
Atlanta	1	568	3	1,555
Baltimore	18	499	17	1,608
Birmingham	1	312	3	797
Boston	160	128	242	1,167
Buffalo	35	1	112	269
Chicago	58	79	551	1,947
Cincinnati	104	23	89	697
Cleveland	49	40	264	956
Columbia	1	450	-	960
Dallas	-	-	-	895
Denver	-	-	13	687
Detroit	101	43	392	348
Houston	-	-	10	255
Indianapolis	-	24	41	804
Kansas City	-	-	13	464
Los Angeles	-	-	12	3,247
Louisville	17	71	14	500
Memphis	2	45	53	633
Miami	-	64	7	267
Milwaukee	5	8	100	74
Minn.-St. Paul	-	1	110	215
Nashville	7	29	7	326
New Orleans	-	7	1	463
New York City	321	1,028	316	4,488
Philadelphia	124	623	113	2,617
Pittsburgh	48	127	227	1,042
Portland, Ore.	-	-	36	368
Providence, R. I.	30	25	28	280
St. Louis	-	9	201	793
Salt Lake City	-	-	6	179
San Antonio	-	-	-	836
San Francisco	-	-	2	1,040
Washington, D. C.	76	157	8	672
Wichita, Kans.	-	-	-	160
TOTALS	1,200	4,400	3,020	31,788

*Source: Elmo F. Scarborough, Annual Agricultural Statistical Summary, 1958-59 Season (Jacksonville: Florida State Marketing Bureau, 1959), p. 122.

SHIPMENTS OF FLORIDA CABBAGE
BY RAIL AND TRUCK TO SELECTED CITIES
AUGUST 1, 1958-JULY 31, 1959

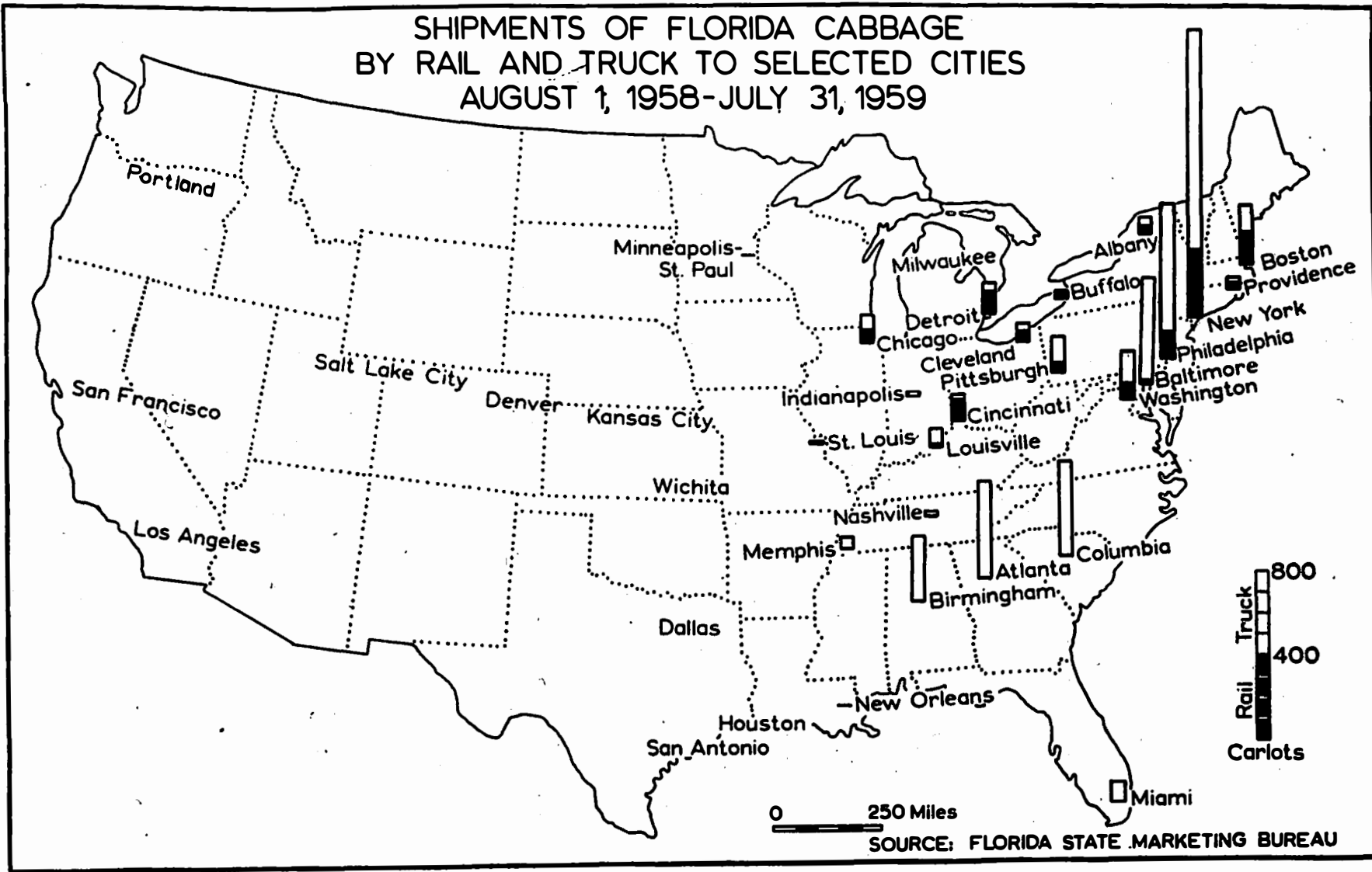


FIGURE 18

Sanford is the only state market handling appreciable quantities of cauliflower with sales amounting to \$74,550 in 1954, but dropping to \$8,742.50 in the 1958-59 season (Table IV).

Over 95 per cent of all cauliflower shipments were made by truck in 1958-59, with Georgia obtaining over 40 per cent of all truck shipments and South Carolina taking nearly 15 per cent. Alabama, New York, North Carolina, Virginia, and Tennessee accounted for most of the remainder (Table III). Florida is insignificant as a source of cauliflower to major United States market areas.

Celery, Florida's eighth ranking vegetable crop by value in 1958-59, is primarily a winter crop from Palm Beach County (Figure 22). During the 1958-59 season Palm Beach County alone produced 70 per cent of the total crop, 73 per cent of the winter crop, and nearly 64 per cent of the spring crop. Other counties of importance are: Seminole, Orange, Sarasota, and Alachua. Seminole and Sarasota produce primarily for the winter market, while Orange and Alachua market celery in the spring. Earliest shipments occur in November and usually end in June, with peak months being March and April.

Celery acreages have fluctuated only moderately during the past decade, with a low of 9,100 acres planted for harvest in the 1954-55 season and a high of 13,800 acres in 1958-59. Differences in crop value during the same decade varied from a minimum of \$9,398,000 for the 1958-59 season to a maximum of \$18,088,000 in 1957-58.

State farmers' markets are of relatively little importance in marketing celery. Only the Pahokee and Sanford markets, with volumes

of about \$408,000 and \$329,000, handled celery in 1959, accounting for less than four per cent of the total crop by value (Table IV). Many of the celery producers have large acreages and prefer to ship direct to out-of-state markets. A celery cooperative market is found at Island Grove, Florida and several cooperatives in and near Belle Glade market considerable quantities of the crop produced in the Lake Okeechobee region.

Celery produced during the 1958-59 season had a more even distribution over the eastern United States than most Florida vegetable crops, and a larger percentage of the crop was shipped by rail (Figures 19 and 21, and Table VII). Trucks accounted for slightly more than one-half of all shipments. In distribution to the cities listed in Table VII, rail shipments exceeded those by truck. Trucking dominated to cities in nearby states, and to most cities handling only limited quantities of Florida celery, whether near or far from Florida.

Georgia and Pennsylvania were the leading truck destinations for Florida celery in 1958-59, and together with New York, North Carolina, Tennessee, Alabama, Virginia, South Carolina, New Jersey, and Maryland, took 55 per cent of all truck shipments. Texas, Illinois, Louisiana, Michigan, Missouri, Ohio, Indiana, and Canada obtained another 31 per cent.

Major city markets for Florida celery were New York, Chicago, Philadelphia, and Boston, with receipts of over 26 per cent of total celery shipments. Rail was the dominant mode of transportation in each case, gaining in importance as distance from the market increased.

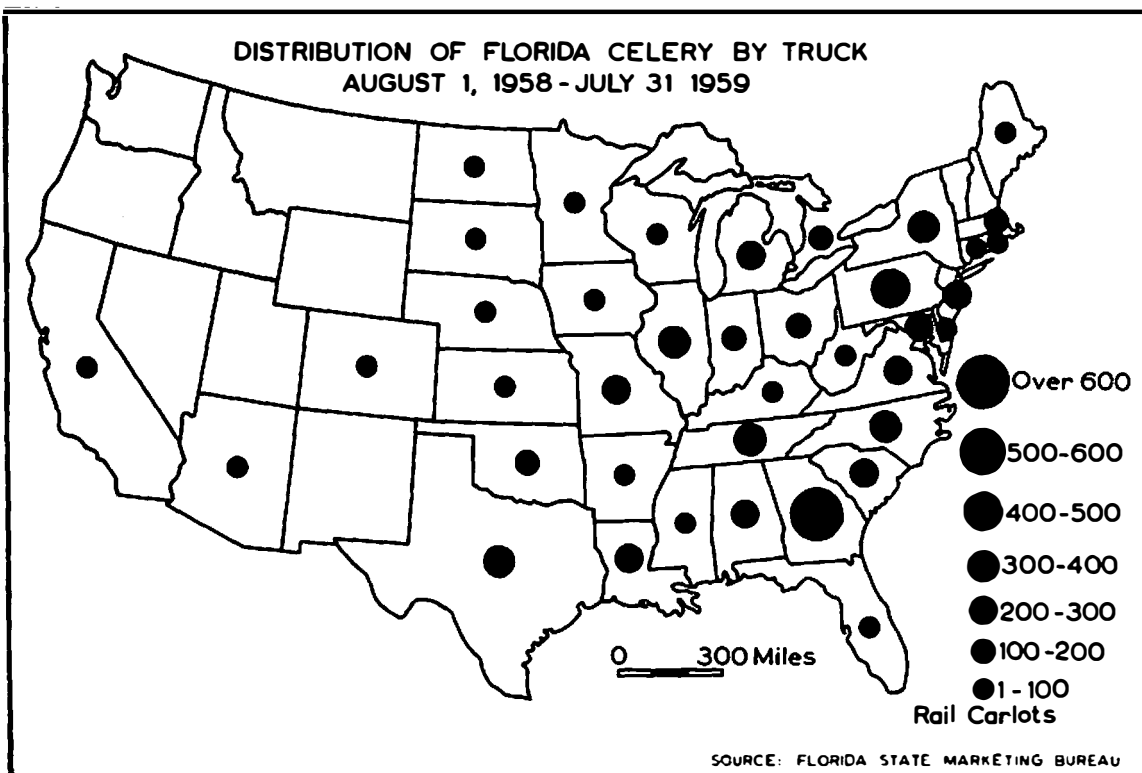


FIGURE 19

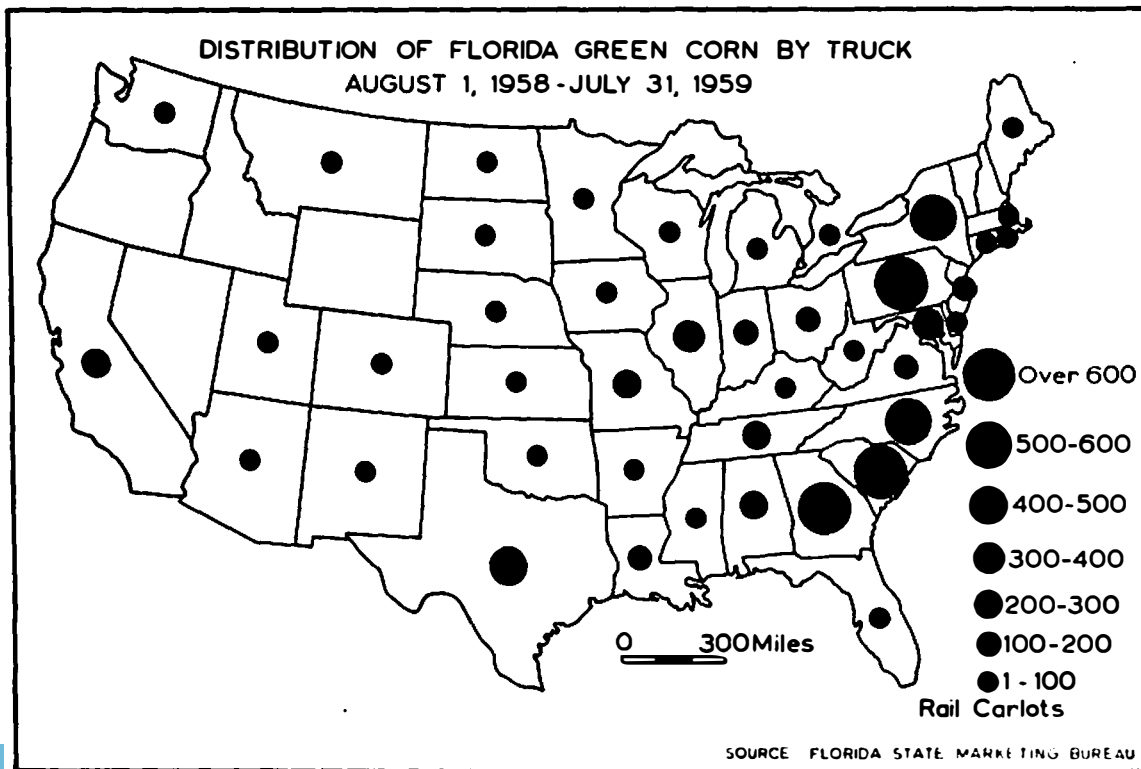


FIGURE 20

TABLE VII

CARLOT SHIPMENTS OF CELERY FROM FLORIDA AND OTHER SOURCES TO
SELECTED CITIES - AUGUST 1, 1958 THROUGH JULY 31, 1959*

CITIES	FLORIDA		OTHERS	
	Rail	Truck	Rail	Truck
Albany	24	21	229	22
Atlanta	4	262	21	329
Baltimore	240	112	433	242
Birmingham	-	160	13	220
Boston	464	16	787	216
Buffalo	48	6	454	33
Chicago	484	179	1,137	811
Cincinnati	161	10	312	108
Cleveland	101	2	831	257
Columbia	1	145	7	175
Dallas	1	123	4	511
Denver	-	23	19	507
Detroit	304	34	828	166
Houston	4	133	53	376
Indianapolis	25	59	299	76
Kansas City	2	60	56	400
Los Angeles	-	-	23	9,450
Louisville	41	43	82	67
Memphis	11	110	4	196
Miami	-	157	69	182
Milwaukee	26	19	257	84
Minn.-St. Paul	-	14	515	219
Nashville	12	22	10	39
New Orleans	29	188	81	218
New York City	1,068	398	2,348	1,211
Philadelphia	376	261	1,437	491
Pittsburgh	90	14	809	93
Portland, Ore.	-	-	48	416
Providence, R. I.	12	3	135	69
St. Louis	120	56	373	176
Salt Lake City	1	-	16	346
San Antonio	-	45	3	300
San Francisco	-	-	14	1,452
Washington, D. C.	145	116	175	197
Wichita, Kans.	5	18	3	134
TOTALS	3,799	2,809	11,885	19,789

*Source: Elmo F. Scarborough, Annual Agricultural Statistical Summary, 1958-59 Season (Jacksonville: Florida State Marketing Bureau, 1959), p. 122.

Atlanta, Washington, D. C., and New Orleans, together obtained nearly 12 per cent, with truck shipments being dominant in New Orleans and Atlanta. Nine additional cities--Cincinnati, Birmingham, Miami, Columbia, Houston, Dallas, Memphis, Pittsburgh, and Cleveland--received appreciable quantities of Florida celery, with truck shipments predominating in the six southern cities. The cities under consideration accounted for 54 per cent of Florida celery distribution in 1958-59, and approximately 17 per cent of all celery marketed in these cities originated in Florida (Table VII).

The 1958-59 winter corn crop consisted of 9,200 acres, of which Palm Beach County had 79 per cent and Dade County most of the remainder (Figure 23). The 32,000 acre spring crop was more widely distributed, although Palm Beach still dominated with over 76 per cent of the acreage. Most of the remainder was planted in central Florida, in Orange County. A light fall crop, planted primarily in the Everglades portion of Palm Beach County, is harvested beginning in October, with heavy harvests continuing through the first two weeks in December. Marketing begins in central Florida earlier in October. The Pompano Beach and Dade County areas supply the major part of corn harvests until mid-March, when the Lake Okeechobee section becomes dominant. Supplies from the Okeechobee region increase through April and early May, with shipments beginning in mid-May from the central portion of the state.

Although there have been times when the corn crop was seriously damaged by adverse weather conditions, both acreage and crop value have steadily increased. During the 1948-49 season 14,700 acres were planted

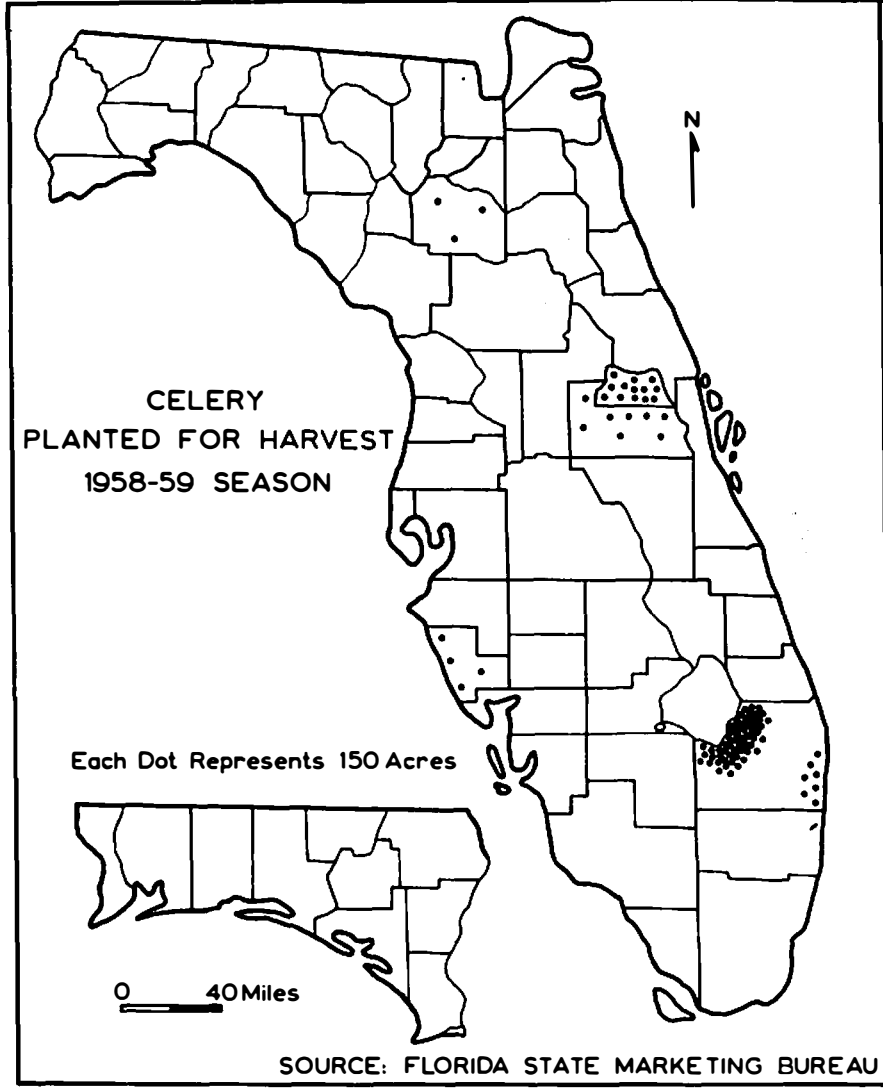


FIGURE 22

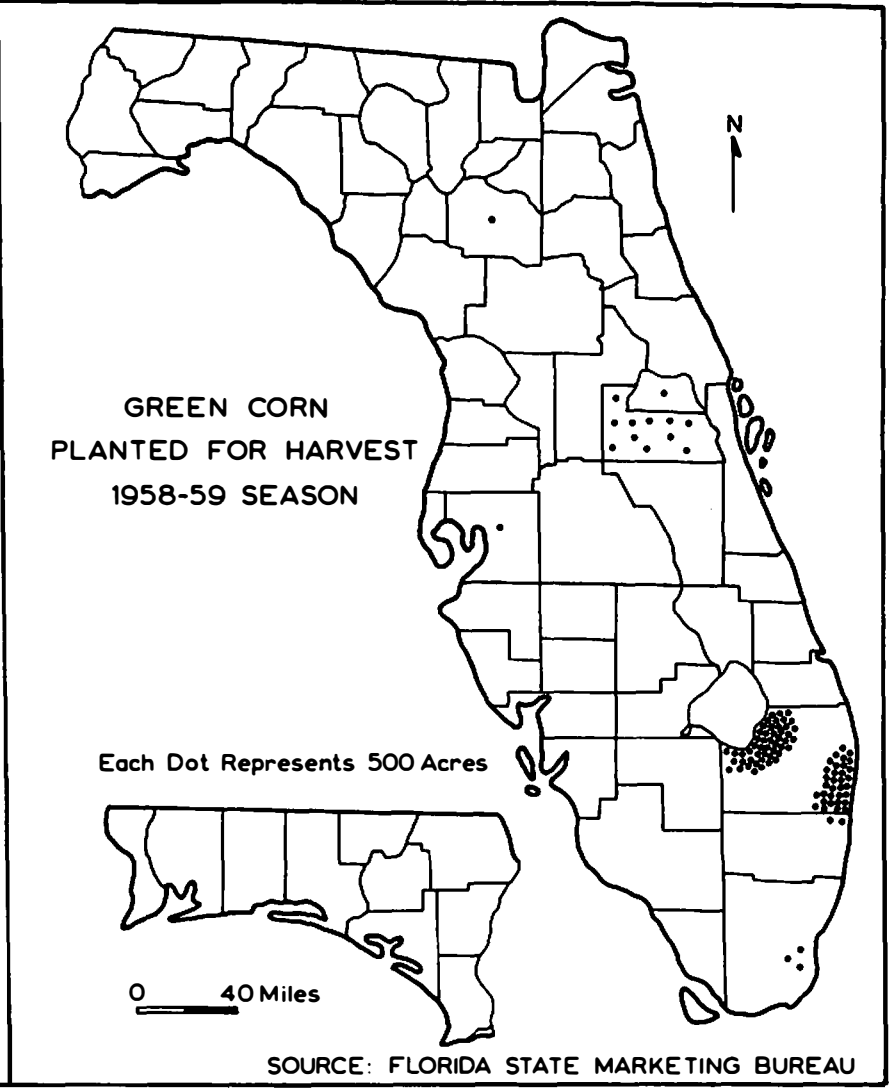


FIGURE 23

for harvest, while the acreage had increased to 42,700 for the 1956-57 season. In the same years the crop brought \$4,516,000 and \$13,152,000 respectively. In 1958-59, a total of 51,700 acres were planted and 48,500 acres harvested for a value of \$13,971,000.

Major markets handling corn shipments and the value of corn sales in 1958-59 were as follows: Pahokee, \$2,449,647; Sanford, \$418,945; and Pompano, \$400,836 (Table IV). Seven markets handled corn in some quantity, for total state market sales of \$3,279,189, or 26 to 28 per cent of the corn crop harvested for sale. The several cooperative markets adjacent to Lake Okeechobee are probably responsible for sales at least as great as those from the state markets.

Trucks accounted for 60 per cent of green corn shipments during the 1958-59 season, with the majority moving to areas east of the Appalachian Mountains (Figure 20, and Table III). South Carolina, Pennsylvania, and Georgia led all other states in receipts of Florida green corn by truck and together with North Carolina and New York accounted for over 43 per cent of all truck shipments. Texas, Illinois, Missouri, Maryland, Alabama, Tennessee, and California were additional markets of importance.

Railroads accounted for over 44 per cent of all corn shipments to the cities listed in Table VIII, and were increasingly dominant as distance from Florida and the size of shipments increased (Figure 24). These same cities purchased 56 per cent of all Florida corn shipments, truck, rail, and water, for the 1958-59 season. New York City received more than 10 per cent of all corn shipments while Philadelphia and

TABLE VIII

CARLOT SHIPMENTS OF GREEN CORN FROM FLORIDA AND OTHER SOURCES
TO SELECTED CITIES - AUGUST 1, 1958 THROUGH JULY 31, 1959*

CITIES	FLORIDA		OTHERS	
	Rail	Truck	Rail	Truck
Albany	21	19	3	214
Atlanta	6	373	4	866
Baltimore	153	138	7	766
Birmingham	1	159	-	921
Boston	265	74	11	1,143
Buffalo	71	2	6	160
Chicago	414	282	111	1,181
Cincinnati	244	23	38	311
Cleveland	203	28	17	1,100
Columbia	-	285	-	414
Dallas	-	119	23	408
Denver	-	41	21	390
Detroit	242	42	40	429
Houston	1	121	14	217
Indianapolis	82	82	16	272
Kansas City	1	92	52	315
Los Angeles	8	134	218	3,329
Louisville	61	79	25	193
Memphis	11	92	15	291
Miami	-	206	-	248
Milwaukee	16	15	9	97
Minn.-St. Paul	6	50	28	95
Nashville	10	25	21	146
New Orleans	6	139	38	243
New York City	937	516	19	3,431
Philadelphia	281	500	19	1,571
Pittsburgh	125	105	16	653
Portland, Ore.	4	2	80	200
Providence, R. I.	28	7	6	174
St. Louis	75	185	84	565
Salt Lake City	2	8	25	153
San Antonio	-	72	25	237
San Francisco	5	52	27	1,231
Washington, D. C.	142	189	2	513
Wichita, Kans.	-	19	6	120
TOTALS	3,421	4,275	1,026	22,597

*Source: Elmo F. Scarborough, Annual Agricultural Statistical Summary, 1958-59 Season (Jacksonville: Florida State Marketing Bureau, 1959), p. 123.

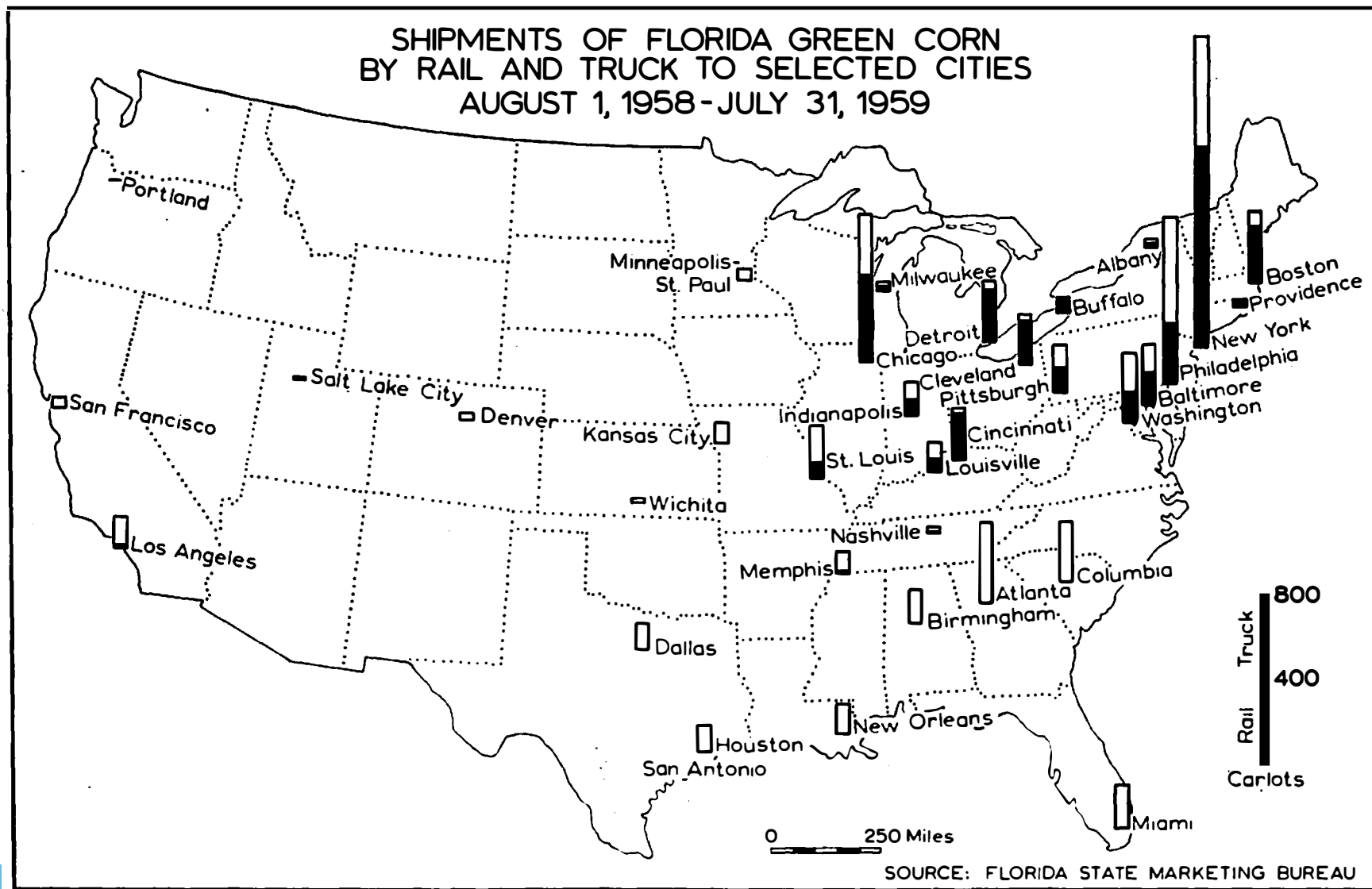


FIGURE 24

Chicago recorded an equal amount. In addition, Atlanta, Boston, Washington, Baltimore, Columbia, Detroit, Cincinnati, St. Louis, Cleveland, Pittsburgh, and Miami were significant destinations. Of the 14 cities mentioned thus far, truck receipts were larger than rail receipts only in the five cities closest to Florida, and in St. Louis. On the other hand, of eight cities receiving smaller quantities, including Indianapolis, Birmingham, Los Angeles, New Orleans, Louisville, Houston, Dallas, and Memphis, trucks dominated in all except Indianapolis, where rail and truck shipments were evenly balanced. Florida supplied approximately 25 per cent of all corn shipments to the cities considered.

Approximately 61 per cent of the Florida cucumber acreage for 1958-59 was found in counties bordering on or south of Lake Okeechobee, with Palm Beach County most outstanding (Figure 28). The remaining acreage is scattered over some 20 counties in several portions of the state. Largest cucumber acreages were planted in 1953-54, when 18,700 acres were harvested, although the peak money year was 1956-57, when the crop had a value of \$11,358,000. Average acreage for the 1951-58 period was 17,436 acres, the average crop value being \$9,484,572.

Harvest extends from the latter part of October through June, with heaviest sales occurring in November, April, and May. The winter crop comes mostly from Palm Beach, Lee, Dade, Collier, and Hendry counties, with these same counties producing a major portion of the fall and early spring crops. Counties further north begin harvesting later in the spring.

Between 50 and 60 per cent of total Florida cucumber sales were routed through the state market system in 1958-59, as compared to approximately one-third of 1954 sales. Pompano led in value of cucumbers handled during both years, with transactions amounting to \$2,612,069 in 1954 and \$2,922,833 in 1958-59 (Table IV). The 1958-59 crop was also of leading importance on the Fort Myers, Wauchula, Immokalee, Sanford, and Pahokee markets as sales totaled nearly \$6,000,000.

Trucks hauled Florida cucumbers to 42 states and Canada in 1958-59, with rails accounting for only 14 per cent of total shipments. New York State received more than 22 per cent of the cucumbers transported by truck, with most of the remainder going to other Middle Atlantic, New England, and Middle Western states (Figure 25, and Table III).

Florida supplied 27 per cent of all cucumbers marketed in the 37 cities listed in Table IX, while 71 per cent of total out-of-state shipments were destined for these cities (Figure 27). Trucks dominated in transportation, for only Detroit obtained more by rail. New York City, with receipts of over 18 per cent of all out-of-state shipments, was the primary city market, and Chicago acquired nearly 10 per cent. Other major cities receiving significant quantities were all in the Northeast or Middle West.

St. John's is the leading potato producing county in Florida, and together with Flagler and Putnam counties accounted for nearly 85 per cent of the spring crop in 1958-59, which comprised about 67 per cent

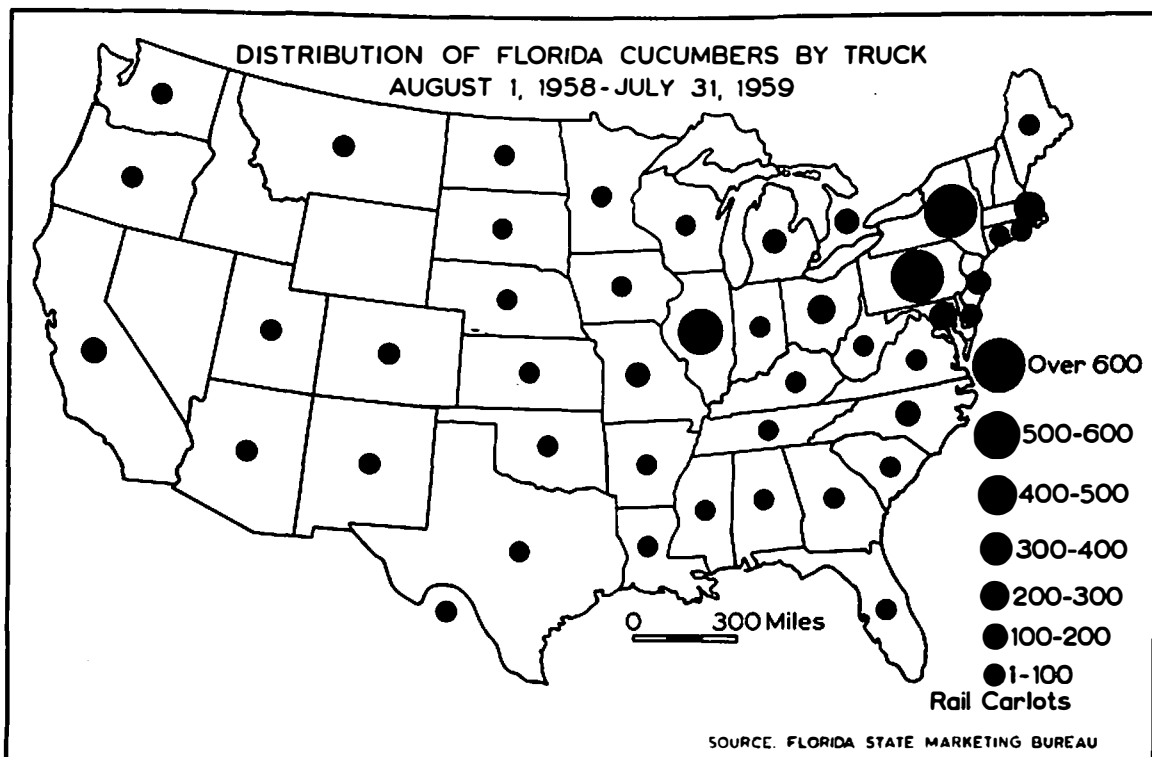


FIGURE 25

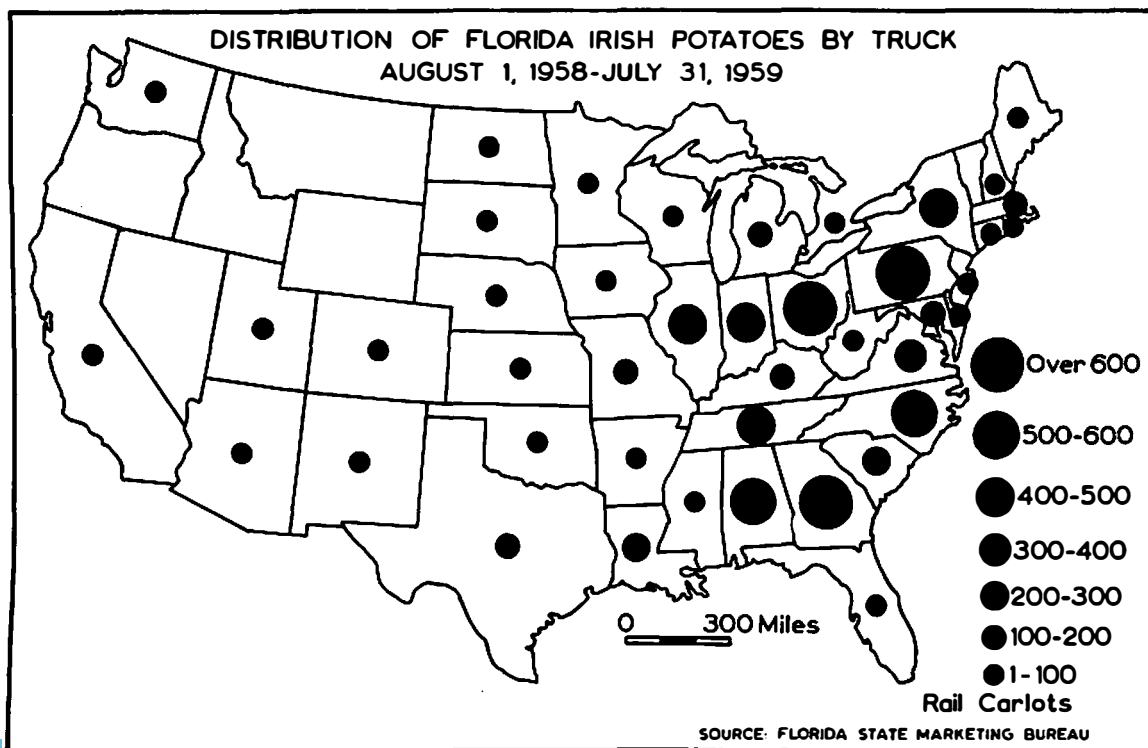


FIGURE 26

TABLE IX

CARLOT SHIPMENTS OF CUCUMBERS FROM FLORIDA AND OTHER SOURCES
TO SELECTED CITIES - AUGUST 1, 1958 THROUGH JULY 31, 1959*

CITIES	FLORIDA		OTHERS	
	Rail	Truck	Rail	Truck
Albany	5	34	-	111
Atlanta	2	49	-	111
Baltimore	7	89	-	252
Birmingham	-	37	-	96
Boston	62	333	13	976
Buffalo	12	29	1	176
Chicago	55	529	37	1,122
Cincinnati	17	62	10	186
Cleveland	21	127	-	551
Columbia	-	46	-	119
Dallas	-	41	-	119
Denver	-	49	-	187
Detroit	116	73	22	271
Houston	-	40	-	62
Indianapolis	-	43	1	72
Kansas City	-	57	-	127
Los Angeles	3	88	1	1,375
Louisville	3	29	2	41
Memphis	-	20	-	48
Miami	-	33	-	52
Milwaukee	2	38	-	93
Minn.-St. Paul	1	39	6	117
Nashville	-	1	-	17
New Orleans	-	49	1	103
New York City	161	952	37	2,525
Philadelphia	30	317	3	834
Pittsburgh	16	193	3	455
Portland, Ore.	7	2	5	83
Providence, R. I.	2	61	-	172
St. Louis	3	66	3	118
Salt Lake City	1	18	2	59
San Antonio	-	34	-	110
San Francisco	6	32	-	301
Washington, D. C.	1	85	-	122
Wichita, Kans.	-	11	-	37
TOTALS	533	3,706	147	11,200

*Source: Elmo F. Scarborough, Annual Agricultural Statistical Summary, 1958-59 Season (Jacksonville: Florida State Marketing Bureau, 1959), p. 123.

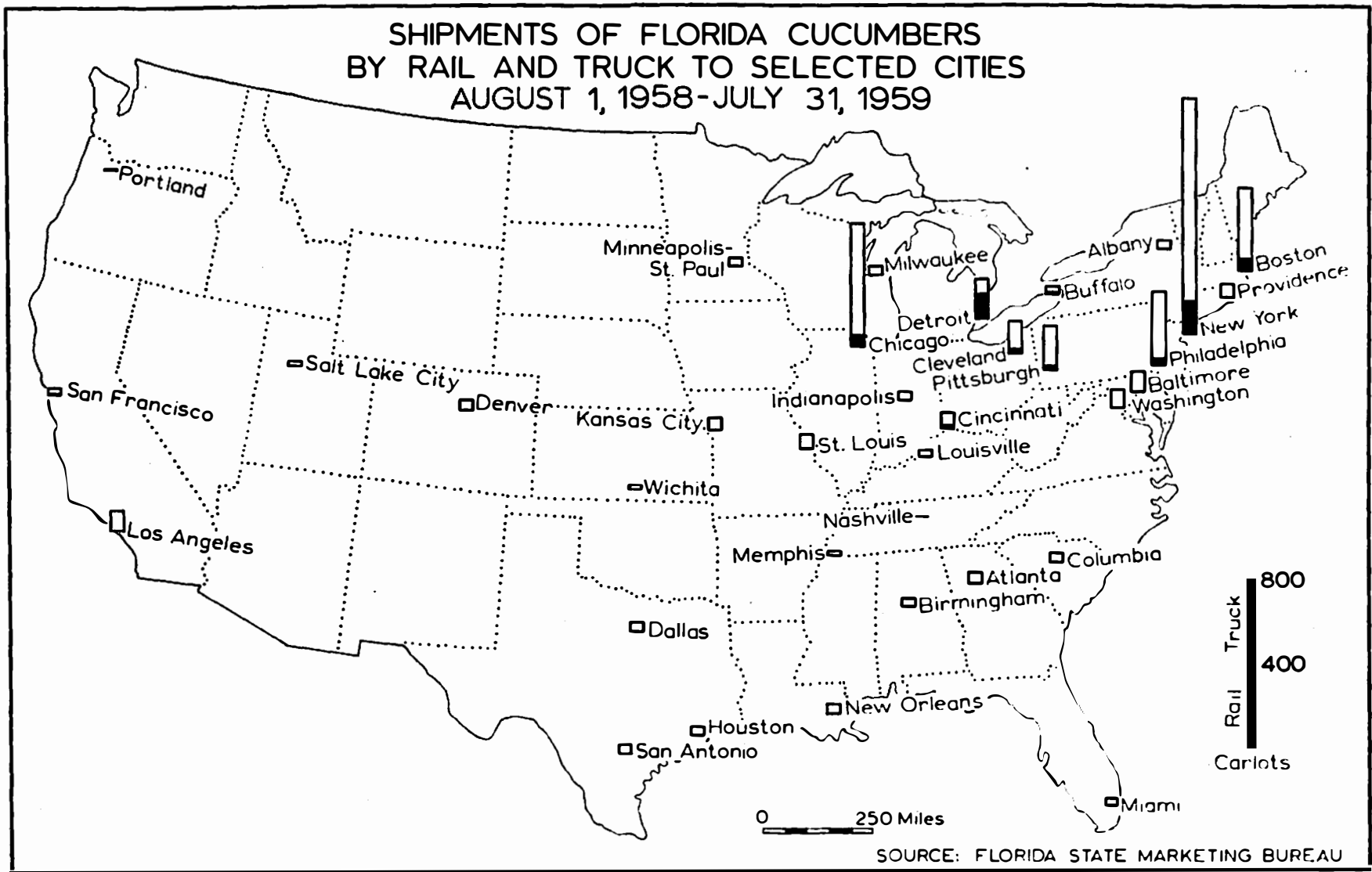


FIGURE 27

of the total state production in the same year (Figure 29). Winter potatoes were produced principally in Dade, Palm Beach, and Collier counties and accounted for 28 per cent of the total harvested crop.

The peak year in potato plantings occurred in 1956-57, when 54,300 acres were harvested. Acreages have varied rather widely from year to year, with only 24,600 acres planted for harvest in 1949-50, although the average for the period 1949-59 was approximately 38,564 acres. The most valuable crop was produced during the 1955-56 season when it was worth \$24,723,000. On the other hand, in 1956-57, when a greater acreage was planted the crop brought only \$13,888,000 as a result of lower prices.

In recent years a winter crop of potatoes has been produced in south Florida. Potatoes from this area that are not shipped during the winter often compete with those of north Florida, and have the advantage of better maturity.⁹ As a result, most of the north state crop is now sold to potato chip manufacturers and many farmers contract with the manufacturers for their production.¹⁰

Florida state farmers' markets do not handle significant quantities of potatoes (Table IV). Due to the better keeping qualities of potatoes farmers prefer to ship direct to large terminal facilities or other markets. In 1954 and 1959 less than five per cent of the potato crop was sold through the state markets. There are two cooperative

⁹H. S. Stiles, Marketing Florida Potatoes, A Report Prepared in Cooperation with the Florida State Marketing Bureau (Hastings: United States Department of Agriculture, May, 1959), p. 2.

¹⁰Ibid.

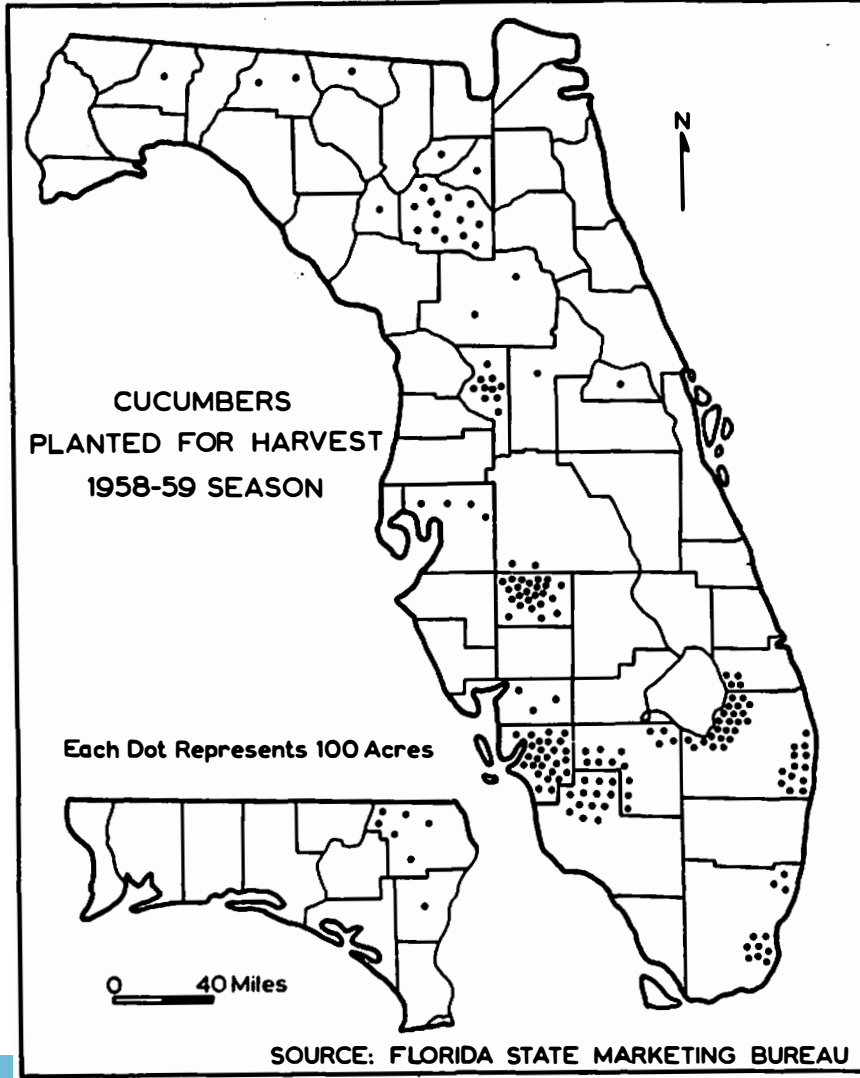


FIGURE 28

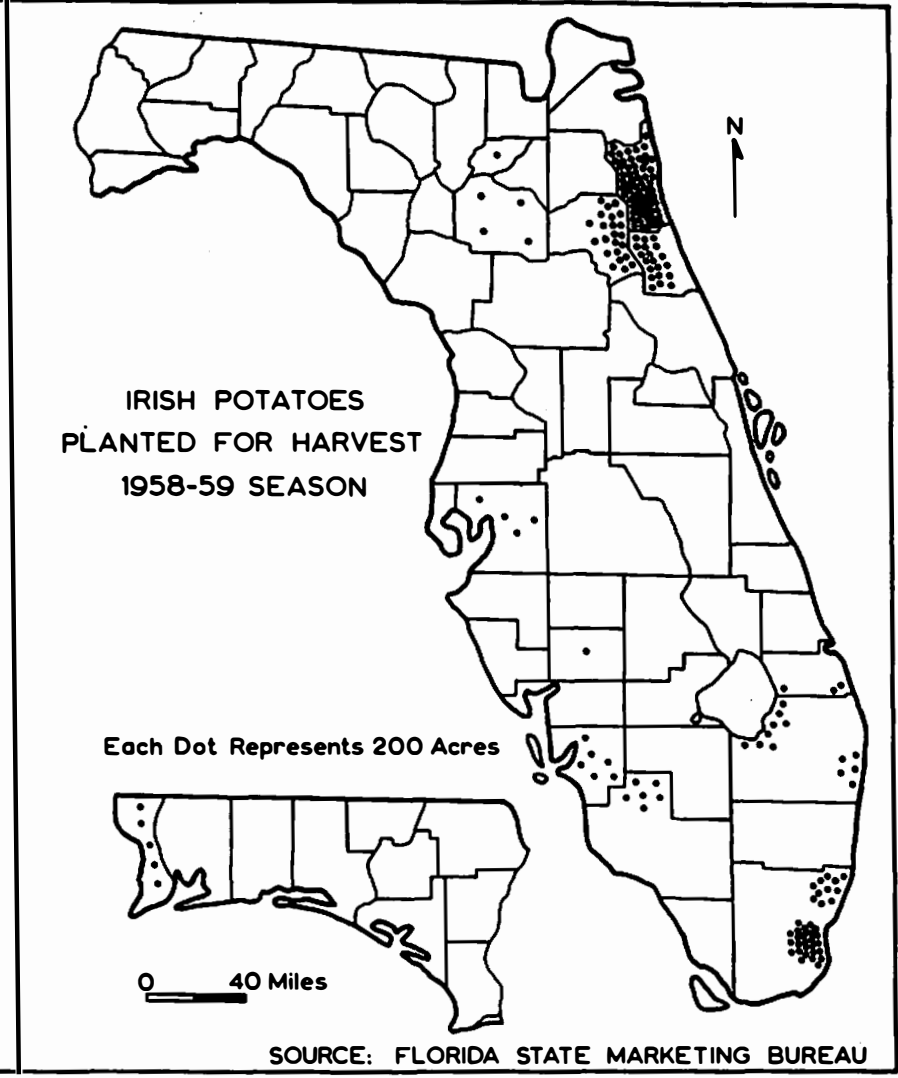


FIGURE 29

markets in Hastings designed specifically for handling potatoes, one at Fort Myers, one in Homestead, and three in Goulds, Florida.

Approximately 71 per cent of the 1958-59 white potato crop was shipped by truck to a total of 43 states and Canada, although the principal distribution was to states bordering the Atlantic Ocean (Table III, and Figure 26). Pennsylvania, Georgia, New York, and North Carolina, plus Alabama, accounted for 46 per cent of the total movement by truck. Most of the remainder were shipped to middle western and other southeastern states, with Tennessee, Indiana, Illinois, Virginia, South Carolina, and Louisiana obtaining the greater share.

The cities listed in Table X, accounted for 46 per cent of total potato shipments, with Atlanta commanding first place (Figure 30). Chicago held second place as a market for Florida potatoes, while New York City fell to an unusual sixth position behind Philadelphia, Detroit, and Columbia. Pittsburgh, Baltimore, New Orleans, St. Louis, Memphis, and Indianapolis purchased considerable quantities of potatoes from Florida in addition to those cities previously mentioned. Of the 37 cities used in this study railroads led trucks as a medium of transport in 10, all located north and west of the Ohio River. Florida accounted for less than three per cent of total potatoes marketed in the cities considered.

The most valuable of all Florida vegetable crops is the tomato. Major producing areas are in the south, with Dade County accounting for 45 per cent of the total 1958-59 acreage (Figure 36). Most of the remaining acreage was found in counties bordering Lake Okeechobee and

TABLE X

CARLOT SHIPMENTS OF IRISH POTATOES FROM FLORIDA AND OTHER SOURCES
TO SELECTED CITIES - AUGUST 1, 1958 THROUGH JULY 31, 1959*

CITIES	FLORIDA		OTHERS	
	Rail	Truck	Rail	Truck
Albany	30	16	700	776
Atlanta	2	695	1,022	3,655
Baltimore	68	116	1,498	4,039
Birmingham	1	275	853	1,880
Boston	11	35	4,497	6,505
Buffalo	60	8	744	907
Chicago	452	77	12,562	1,553
Cincinnati	144	122	2,184	1,720
Cleveland	173	44	2,296	3,265
Columbia	3	425	336	2,390
Dallas	-	53	2,400	1,888
Denver	1	21	845	3,778
Detroit	304	158	3,717	3,741
Houston	-	25	2,080	1,091
Indianapolis	44	56	1,580	3,821
Kansas City	-	75	2,167	1,405
Los Angeles	4	28	4,800	12,286
Louisville	63	20	968	1,825
Memphis	8	101	1,121	978
Miami	-	67	797	1,020
Milwaukee	58	39	1,413	923
Minn.-St. Paul	-	23	1,777	2,075
Nashville	7	17	868	456
New Orleans	18	152	1,616	673
New York City	78	218	13,187	9,707
Philadelphia	192	273	3,509	6,277
Pittsburgh	173	24	2,495	2,339
Portland, Ore.	22	1	868	1,734
Providence, R. I.	21	9	538	999
St. Louis	71	76	3,665	1,096
Salt Lake City	1	11	109	1,144
San Antonio	-	26	1,177	1,272
San Francisco	7	12	1,842	5,977
Washington, D. C.	21	70	798	1,692
Wichita, Kans.	-	21	954	489
TOTALS	2,037	3,389	81,983	95,376

*Source: Elmo F. Scarborough, Annual Agricultural Statistical Summary, 1958-59 Season (Jacksonville: Florida State Marketing Bureau, 1959), p. 125.

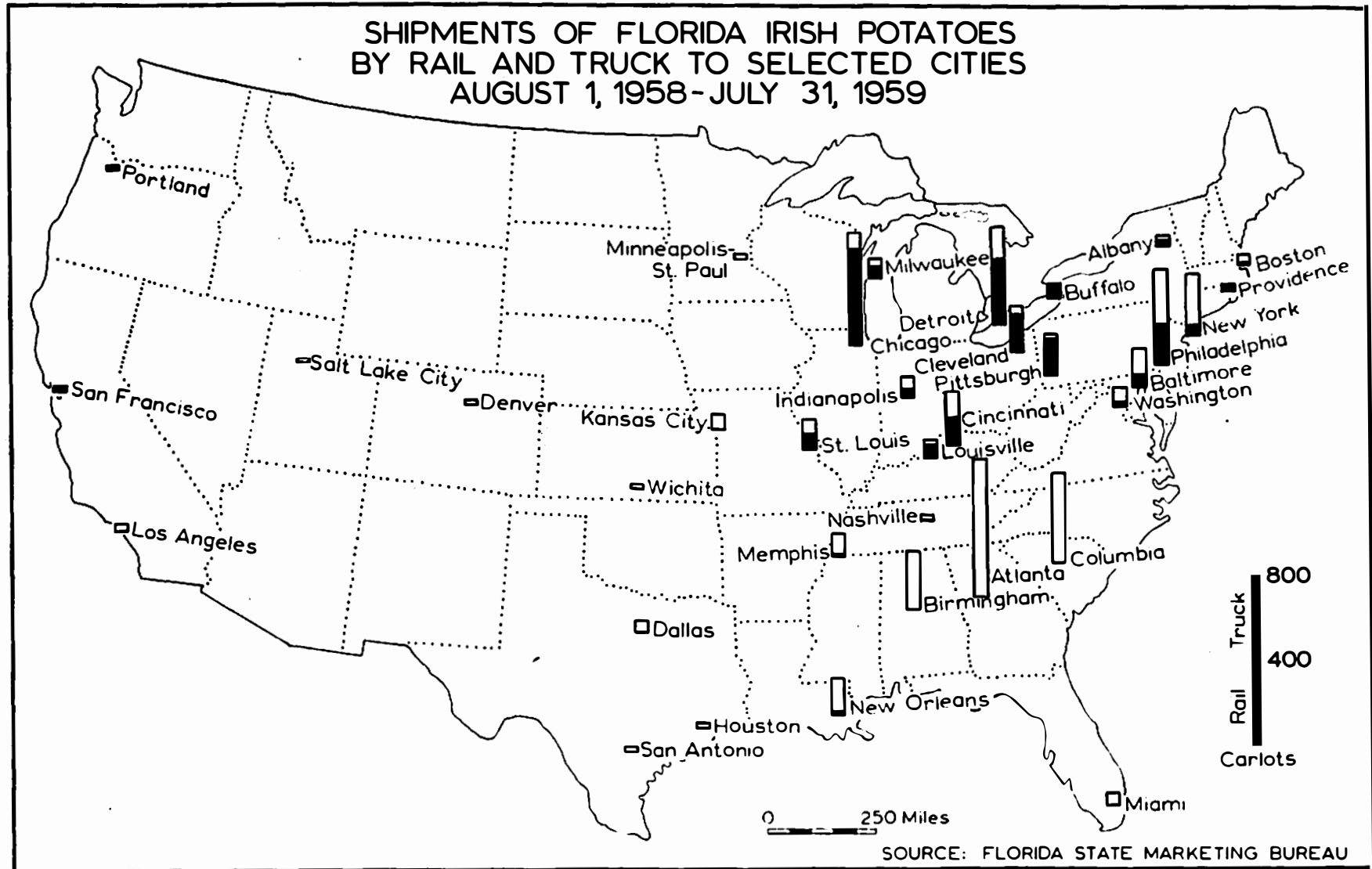


FIGURE 30

Tampa Bay. Winter tomatoes were produced entirely south of Lake Okeechobee, with Dade County being responsible for nearly 90 per cent of the total. Fall and spring crops were more evenly distributed among the major tomato producing counties, with Dade leading in fall and Hillsborough in spring plantings. Tomato harvests begin in October and last into June.

Tomato acreage fluctuates from year to year, but appears to be increasing slowly. An average of 39,000 acres was planted during the period from 1935 to 1939. From 1945 to 1949 the average had increased to only 39,300 acres, but since 1950 no year, except 1958-59, has fallen under 52,500 acres planted for harvest. The largest acreage for one season occurred in 1955-56, when 61,600 acres were planted for harvest. Due to variable weather conditions and prices the value of the tomato crop fluctuates considerably more than the acreage. The peak value season for Florida tomatoes occurred in 1954-55, when the 56,500 acre crop sold for \$57,773,000. On the other hand, the 1957-58 crop of 52,500 acres brought only \$29,819,000.

State farmers' markets handled approximately 20 per cent of the 1958-59 tomato crop, which brought a total of \$11,158,434 (Table IV). The Fort Pierce Market sold tomatoes valued at \$5,000,818, Florida City \$3,461,047, Pompano \$1,193,984, Immokalee \$862,032, and Fort Myers \$251,821. At three additional markets tomato sales exceeded \$100,000. A tomato cooperative is found at Ruskin, in Hillsborough County, and there are many private packing houses and marketing facilities in Dade County.



FIGURE 31

TOMATO FIELD NEAR HOMESTEAD, FLORIDA

Florida supplied tomatoes to 40 states and Canada during the 1958-59 season, with trucks responsible for 77 per cent of all shipments (Figure 32, and Table III). New York took more than double the amount of any other state, and together with Tennessee, Georgia, Pennsylvania, North Carolina, Texas, South Carolina, and Alabama, accounted for over 56 per cent of all truck shipments. Massachusetts, Virginia, Illinois, and Ohio were the destination for over 14 per cent of the tomatoes distributed by truck, while Louisiana, Missouri, Indiana, Maryland, New Jersey, and Oklahoma accounted for an additional 11 per cent.

The cities examined in Table XI, were responsible for 73 per cent of all Florida tomato shipments by rail and 57 per cent of all truck shipments (Figure 34). New York City alone received more than 15 per cent of the total distribution. Other cities obtaining major quantities of Florida tomatoes were: Philadelphia, Boston, Columbia, Atlanta, Chicago, Birmingham, Baltimore, Detroit, Pittsburgh, Indianapolis, Washington, D. C., and Cincinnati, in order of their importance. Rail receipts exceeded those by truck in eight cities, including Philadelphia, and more distant points from Florida. Florida supplied more than 20 per cent of all tomatoes distributed to the cities under consideration.

Green peppers have become one of Florida's largest and most profitable crops, with 14,500 acres planted for harvest in 1956-57, bringing a value of \$12,977,000. The 1957-58 acreage dropped to 11,500 acres harvested, with a value of \$11,432,000, but the 1958-59 harvested

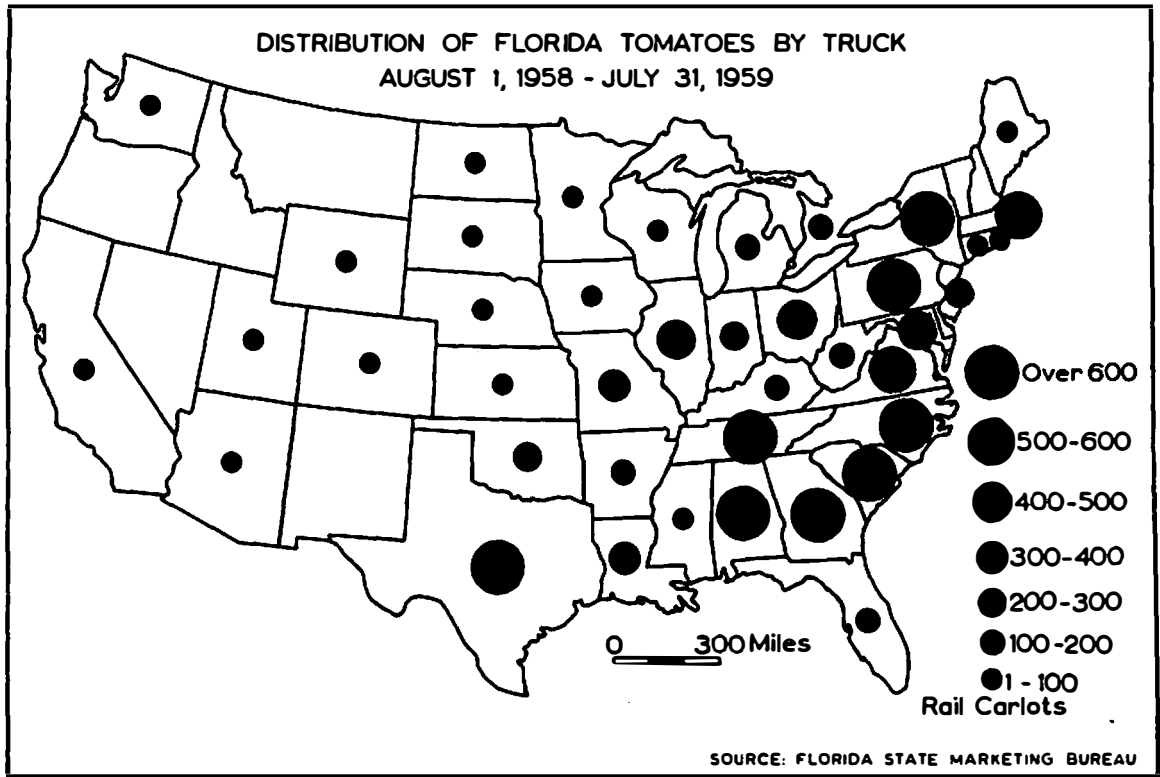


FIGURE 32

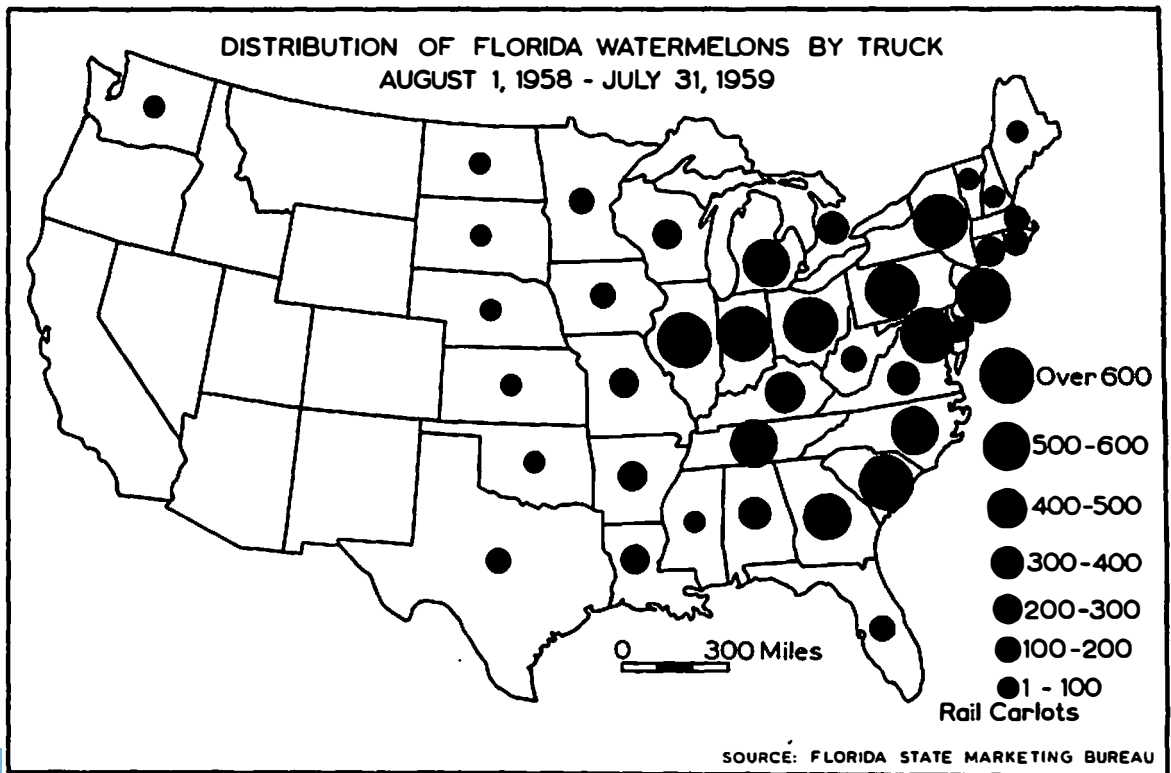


FIGURE 33

TABLE XI

CARLOT SHIPMENTS OF TOMATOES FROM FLORIDA AND OTHER SOURCES TO
SELECTED CITIES - AUGUST 1, 1958 THROUGH JULY 31, 1959*

CITIES	FLORIDA		OTHERS	
	Rail	Truck	Rail	Truck
Albany	13	1	83	150
Atlanta	18	686	94	776
Baltimore	160	316	287	685
Birmingham	4	577	17	1,126
Boston	691	263	858	593
Buffalo	56	43	196	253
Chicago	227	457	1,193	1,585
Cincinnati	22	208	86	560
Cleveland	67	93	71	2,105
Columbia	14	809	10	695
Dallas	1	160	55	1,342
Denver	1	20	116	752
Detroit	265	179	506	479
Houston	-	115	105	635
Indianapolis	109	146	212	555
Kansas City	10	83	246	379
Los Angeles	13	28	166	11,587
Louisville	26	137	43	252
Memphis	12	77	111	355
Miami	-	112	42	94
Milwaukee	5	9	12	167
Mim.-St. Paul	36	27	250	203
Nashville	19	62	23	125
New Orleans	-	165	149	428
New York City	605	2,275	1,907	2,683
Philadelphia	557	500	697	1,112
Pittsburgh	89	353	309	923
Portland, Ore.	35	-	167	558
Providence, R. I.	32	10	66	143
St. Louis	70	108	296	895
Salt Lake City	3	12	24	523
San Antonio	2	91	165	844
San Francisco	-	45	55	3,207
Washington, D. C.	105	130	189	296
Wichita, Kans.	1	26	37	112
TOTALS	3,268	8,323	8,843	37,177

*Source: Elmo F. Scarborough, Annual Agricultural Statistical Summary, 1958-59 Season (Jacksonville: Florida State Marketing Bureau, 1959), p. 126.

SHIPMENTS OF FLORIDA TOMATOES
BY RAIL AND TRUCK TO SELECTED CITIES
AUGUST 1, 1958 - JULY 31, 1959

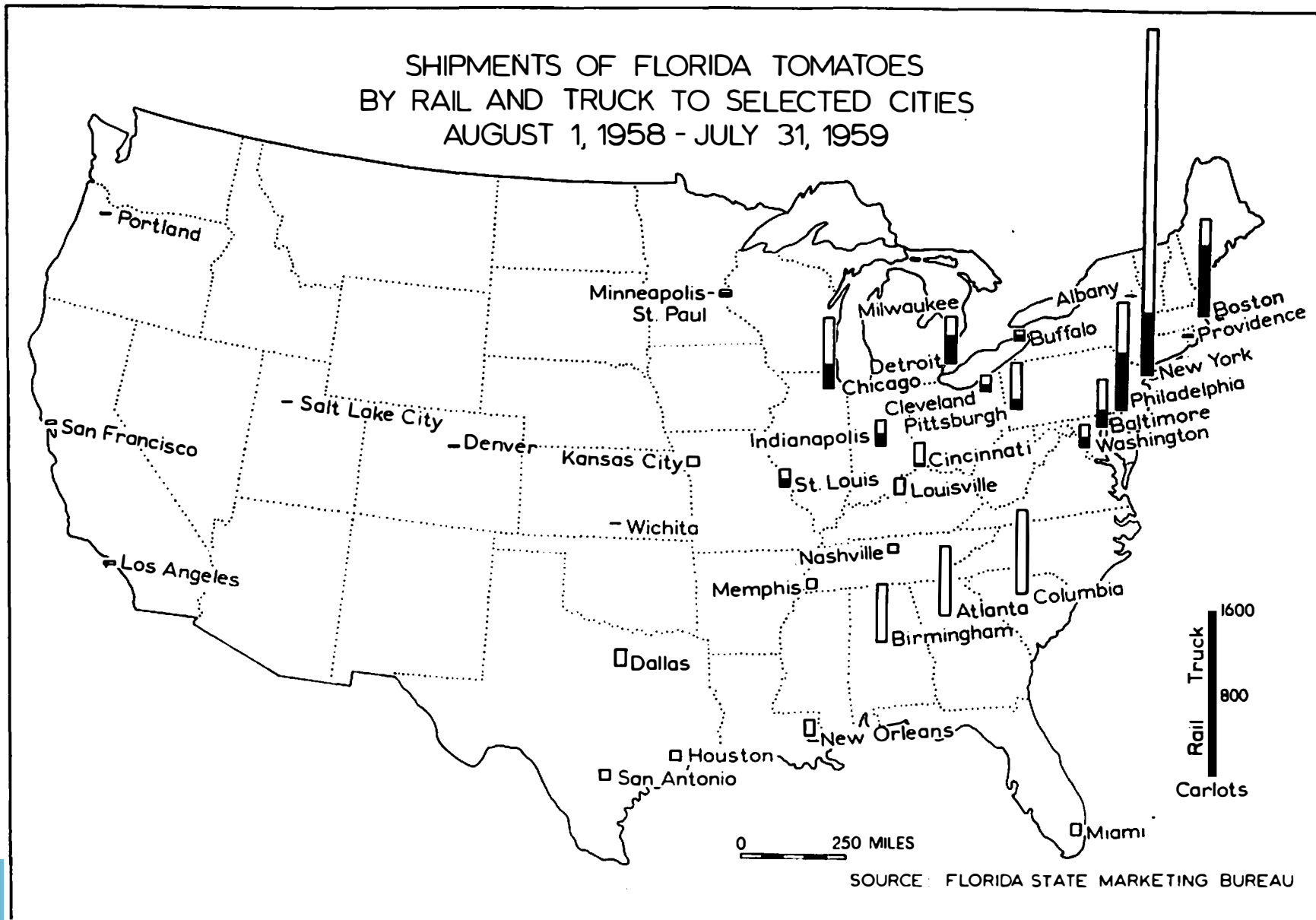


FIGURE 34

acreage increased to 14,400. Pepper acreage and crop value have increased almost every year during the past decade.

Although many Florida counties produce some peppers, those of major importance are Palm Beach, Hillsborough, Broward, Alachua, Sumter, Lee, and Collier (Figure 35). The principal acreage is found around Lake Okeechobee and in counties to the south of the lake. Most of the winter crop is produced in Palm Beach County, the fall acreage is relatively small and is found mainly in the Okeechobee area and southward, while the spring harvest is largest and more evenly distributed over the state. Hillsborough County also had the largest spring acreage in 1958-59, with Palm Beach ranking a close second. Harvest begins in October, but is not heavy until December. Relatively large volumes are marketed through May and into June.

Approximately one-half of the peppers harvested for sale during the 1954 season were sold through state farmers' markets (Table IV). The Pompano Market handled by far the largest portion, with a total value of \$3,788,090 in peppers sold, or about 70 per cent of the quantity channeled through state markets. Plant City, Fort Myers, and Sanford were the only additional markets of any significance in pepper sales. During the 1958-59 season the value of peppers moving through state markets reached \$7,201,784, or considerably more than 50 per cent of the total. Pompano was again the leading outlet with sales of \$5,258,851. Fort Myers handled peppers valued at more than \$1,100,000, Plant City nearly \$487,000, and Sanford over \$255,000. A considerable

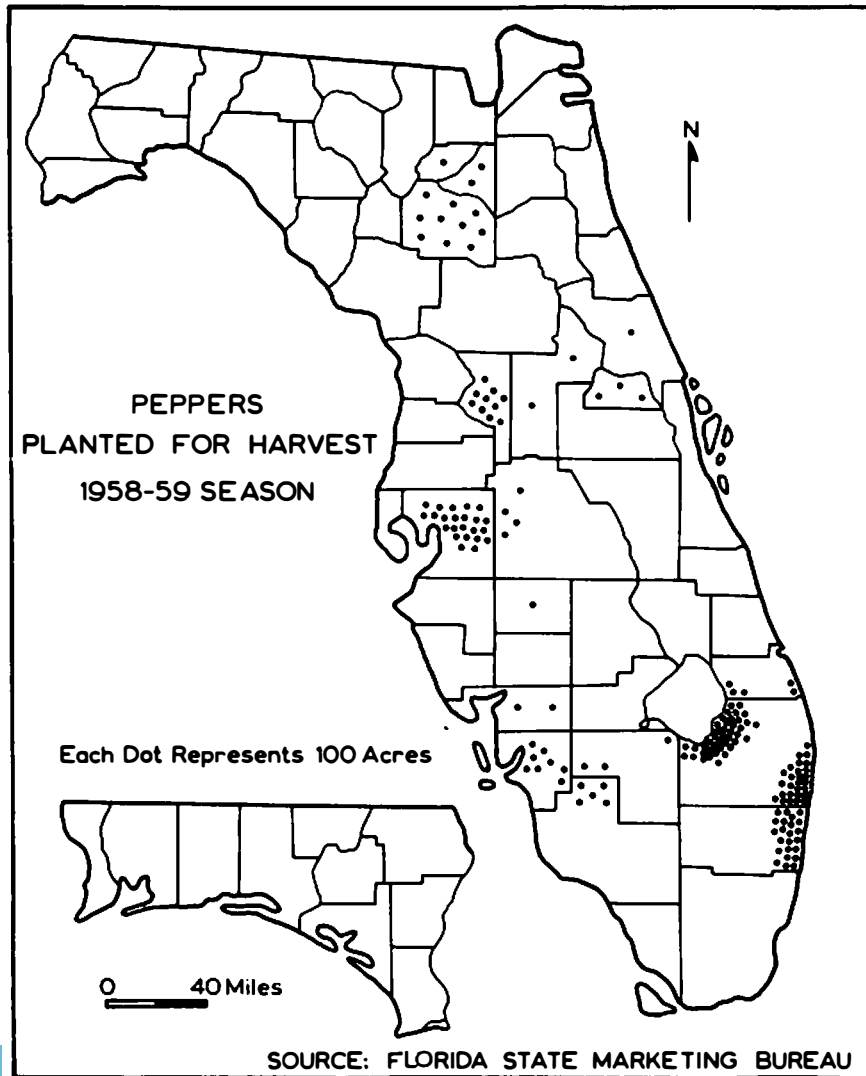


FIGURE 35

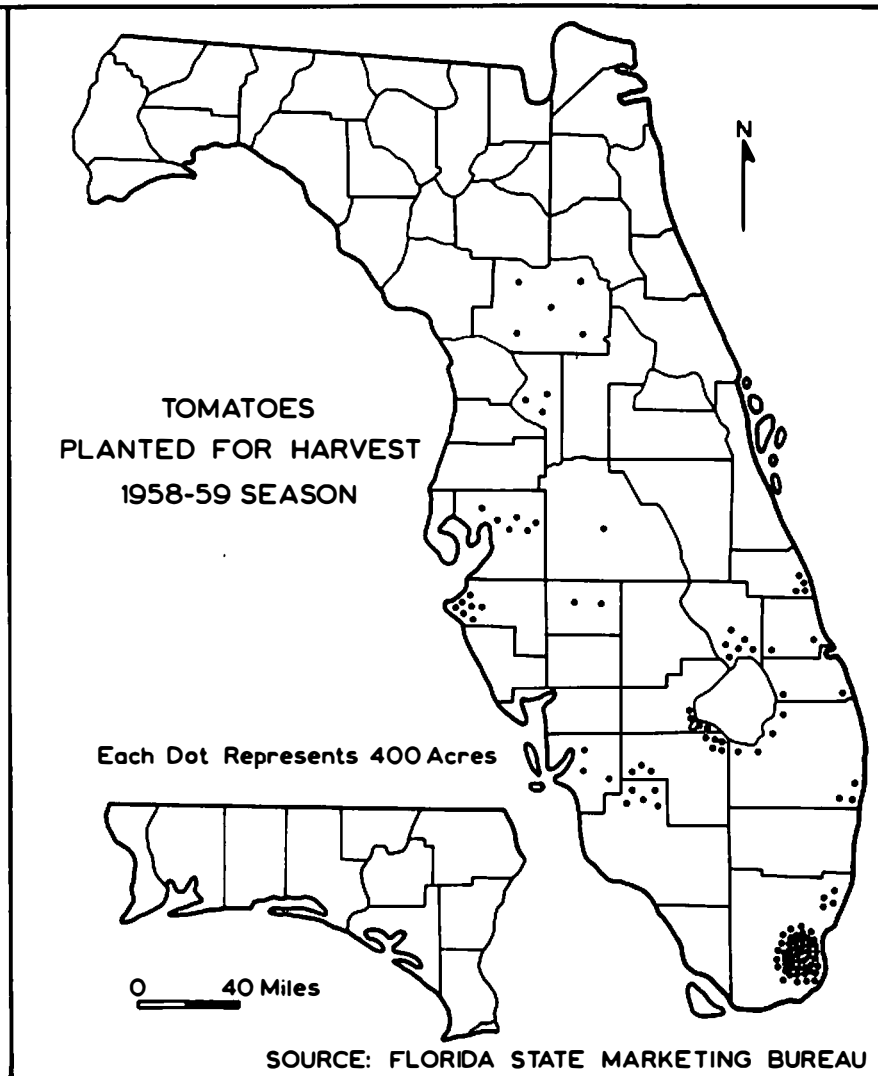


FIGURE 36

portion of the peppers not sold through state markets was handled through cooperatives near Lake Okeechobee.

Trucks hauled Florida peppers to 40 states in the United States and to Canada during the 1958-59 season, accounting for 71 per cent of all shipments (Figure 37, and Table III). New York State was responsible for 30 per cent of all truck shipments, while Pennsylvania ranked second with nearly 13 per cent. Other states receiving significant quantities by truck were: Massachusetts, Illinois, Texas, Maryland, Ohio, and Georgia.

Approximately 71 per cent of all Florida peppers sold were distributed to the cities listed in Table XII, and New York City alone accounted for one-fourth of the total (Figure 39). Philadelphia, Boston, Chicago, and Pittsburgh together obtained an almost equal amount. San Francisco, Salt Lake City, and Detroit, were the only cities of the 38 considered that had an excess of rail shipments over truck. More than 27 per cent of all peppers marketed in these cities originated in Florida.

Watermelons are entirely a spring crop in Florida, and perhaps for this reason, primarily, their production is widely scattered throughout the state (Figure 41). South Florida seems to have no advantage in watermelon production, and is of relatively less importance in supplying this item than any other major vegetable crop. For the 1958-59 season Marion County led in production with 7,900 acres. Five additional counties--Sumter, Gilchrist, Alachua, Suwannee, and Levy--planted from 4,100 to 5,800 acres and 20 counties, altogether, had plantings in excess of 1,000 acres.

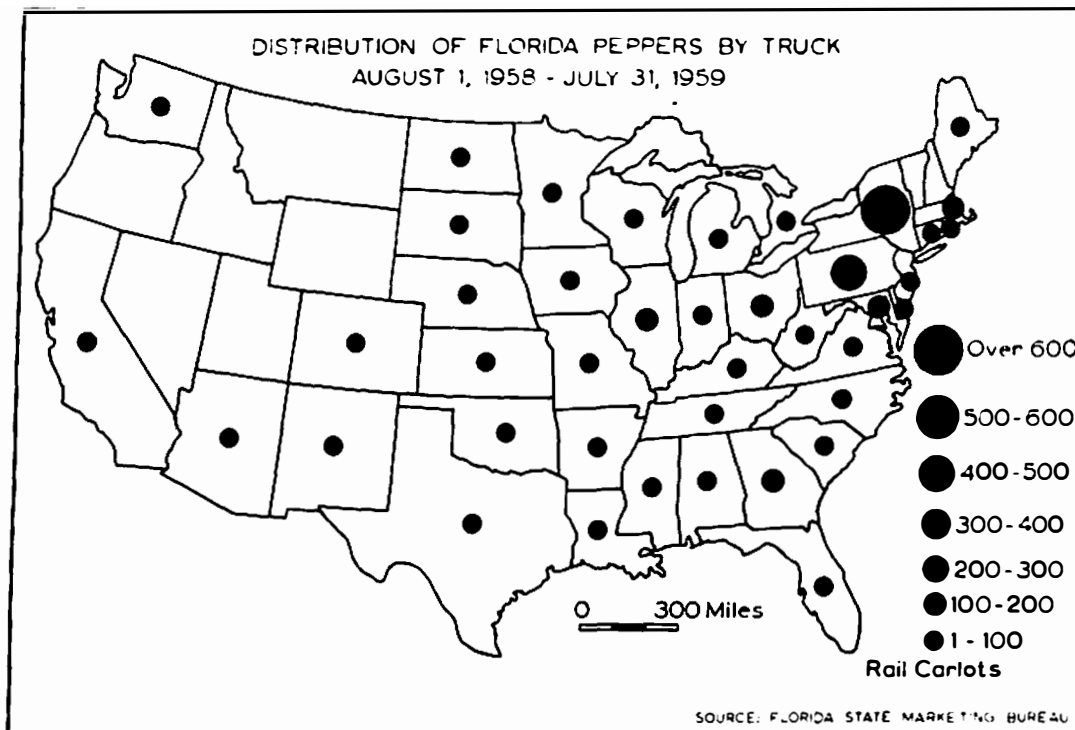


FIGURE 37

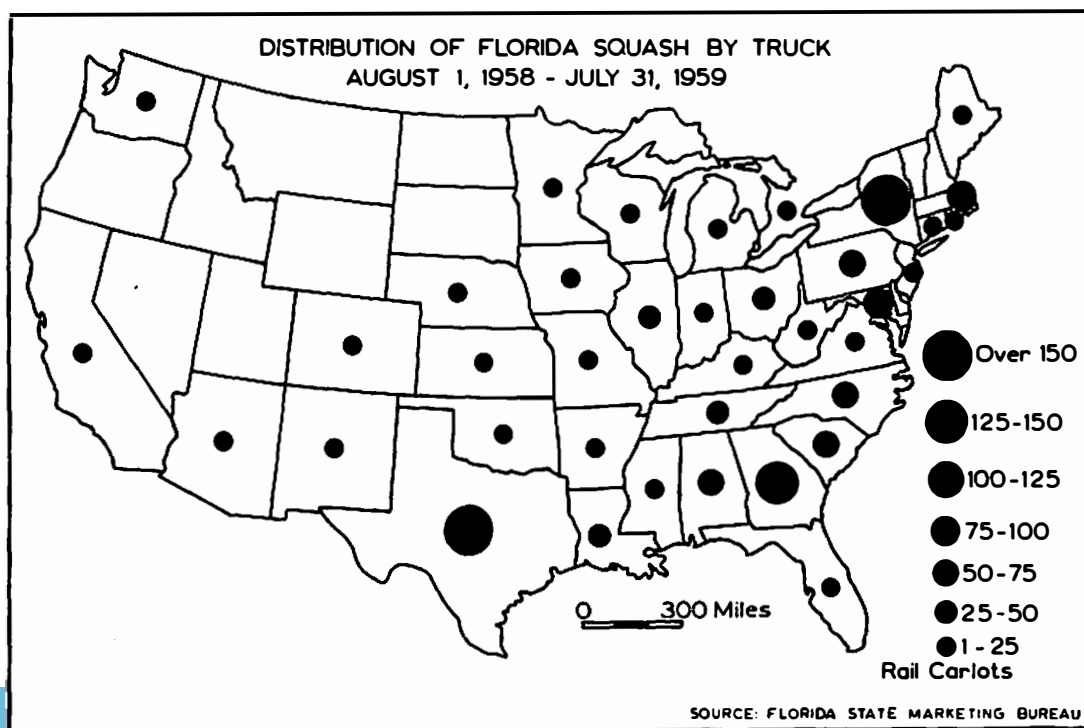


FIGURE 38

TABLE XII

CARLOT SHIPMENTS OF PEPPERS FROM FLORIDA AND OTHER SOURCES TO
SELECTED CITIES - AUGUST 1, 1958 THROUGH JULY 31, 1959*

CITIES	FLORIDA		OTHERS	
	Rail	Truck	Rail	Truck
Albany	-	41	19	30
Atlanta	1	58	6	79
Baltimore	2	74	31	103
Birmingham	-	39	-	91
Boston	148	152	135	338
Buffalo	1	5	33	49
Chicago	66	159	335	298
Cincinnati	3	26	38	85
Cleveland	27	68	68	193
Columbia	-	50	-	40
Dallas	-	34	-	118
Denver	8	16	10	134
Detroit	53	31	212	76
Houston	-	40	-	60
Indianapolis	-	28	12	15
Kansas City	-	51	18	69
Los Angeles	25	57	91	2,282
Louisville	2	23	-	13
Memphis	-	22	-	51
Miami	-	23	12	40
Milwaukee	-	7	4	19
Minn.-St. Paul	4	9	11	23
Nashville	-	2	-	18
New Orleans	1	79	12	69
New York City	287	844	288	1,284
Philadelphia	40	328	136	403
Pittsburgh	43	127	91	206
Portland, Ore.	5	-	10	60
Providence, R. I.	21	36	16	77
St. Louis	4	58	28	80
Salt Lake City	5	2	1	75
San Antonio	-	39	2	264
San Francisco	29	22	28	350
Washington, D. C.	-	63	1	69
Wichita, Kans.	-	8	-	22
TOTALS	775	2,621	1,648	7,183

*Source: Elmo F. Scarborough, Annual Agricultural Statistical Summary, 1958-59 Season (Jacksonville: Florida State Marketing Bureau, 1959), p. 124.

SHIPMENTS OF FLORIDA PEPPERS
BY RAIL AND TRUCK TO SELECTED CITIES
AUGUST 1, 1958-JULY 31, 1959

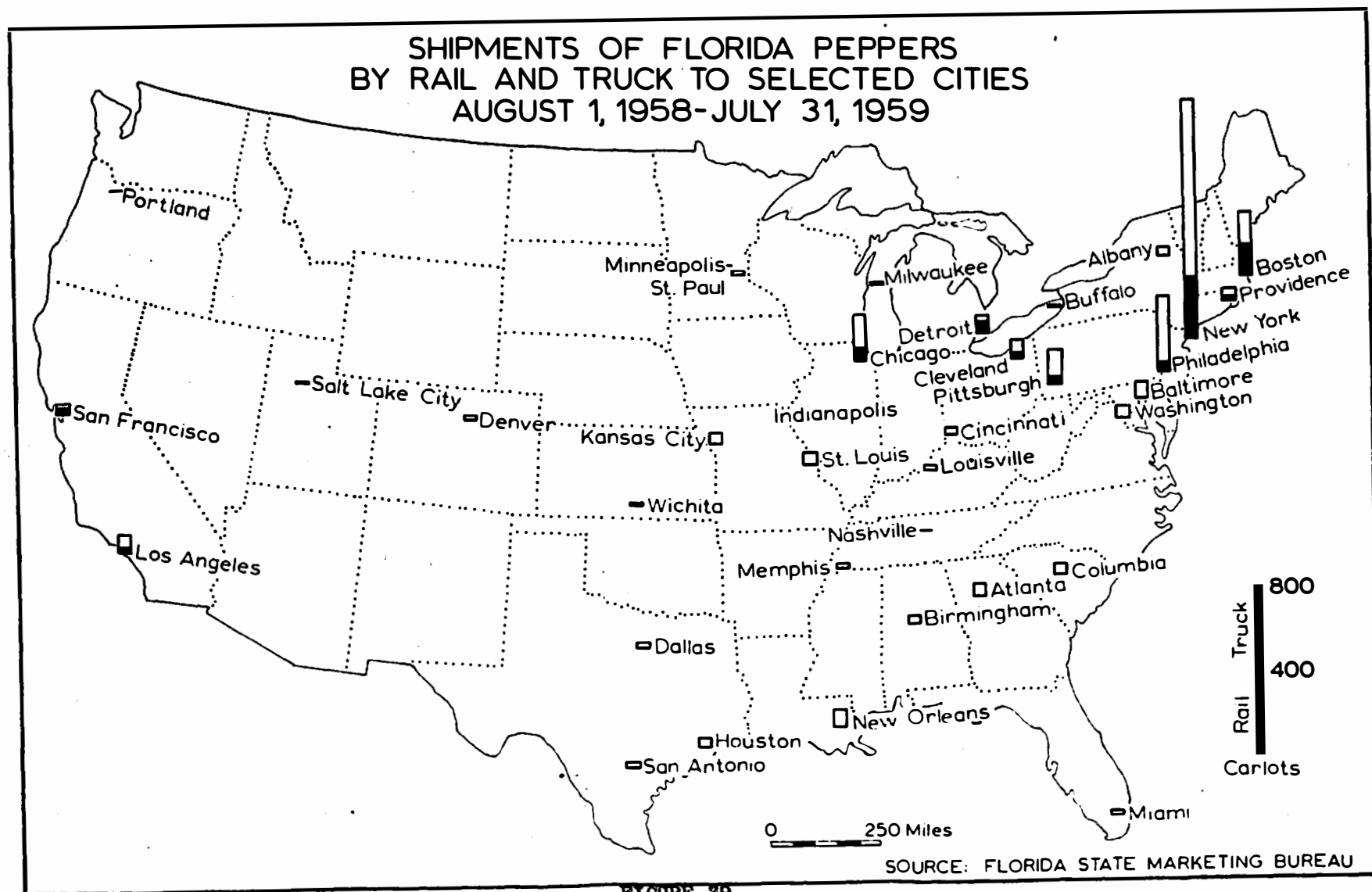


FIGURE 39

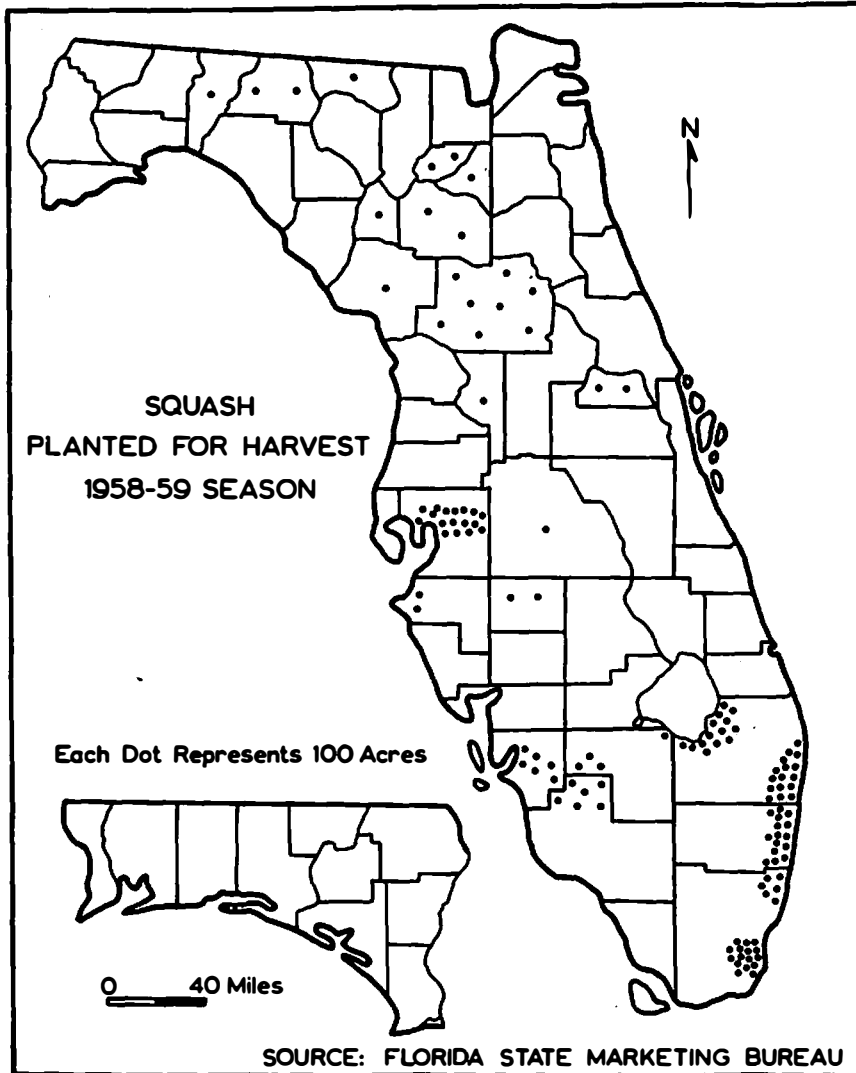


FIGURE 40

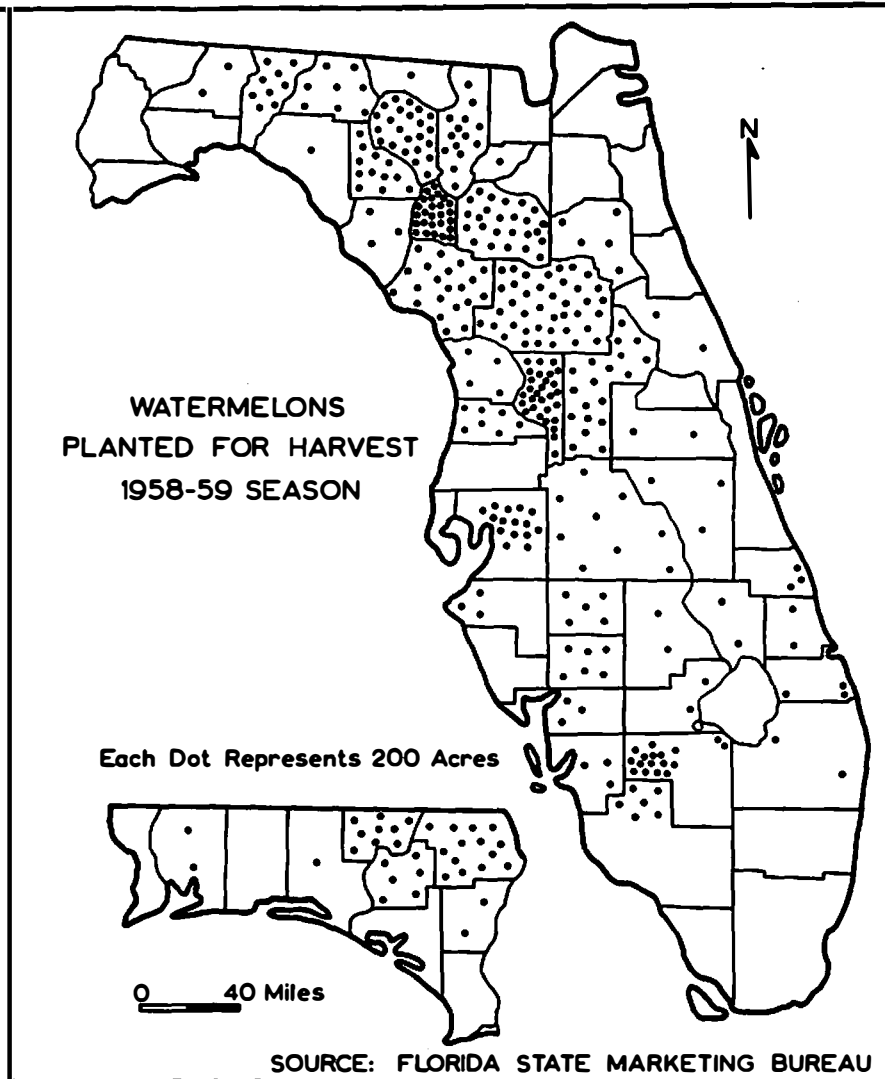


FIGURE 41

Watermelons lead all other vegetable crops in acreage planted, with the peak year occurring in 1954 when 98,000 acres were harvested. The 1955 crop had the greatest value, however, bringing \$14,428,000 from 88,000 acres. The 75,000 acres harvested in 1958-59 was the smallest since 1951-52, but brought a considerably higher cash return.

Shipments are heaviest in May and June, with major production beginning in April and ending in July. A few ice box watermelons are shipped in December, January, February, March, and April, but the total is insignificant when compared to the crop as a whole.

Florida state farmers' markets are unimportant as facilities for handling watermelons, marketing only slightly more than two per cent of the 1954 crop and less than one per cent of the 1958-59 harvest (Table IV). Much of the crop is sold in the field to buyers from more northerly city terminal markets and chain stores. Watermelons are bulky, more easily assembled into truckload or carload quantities, and thus, more readily marketed by private means. Cooperative watermelon markets are found at Bell, in Gilchrist County, and Immokalee, in Collier County.

Approximately 87 per cent of all watermelons sold during the 1958-59 season went to their destinations by truck (Figure 33, and Table III). As with most Florida truck crops, New York State was the leading market, consuming more than 10 per cent of all truck shipments. Pennsylvania, Indiana, Ohio, and New Jersey together received nearly 23 per cent, and all states east of the Mississippi River received over 100 rail carlot equivalents by truck except Maine, New Hampshire,

Vermont, Delaware, and Mississippi. No states west of the 95th meridian obtained as many as 100 carlots by truck.

The cities listed in Table XIII, accounted for 63 per cent of all rail shipments and 46 per cent of all truck distributions in 1958-59 (Figure 42). New York City obtained approximately 10 per cent of total shipments, and Birmingham accounted for another five per cent. Columbia, Philadelphia, Baltimore, and Washington, D. C., collectively, obtained an additional 12 per cent of total melon shipments. Of all cities considered rail shipments exceeded those by truck only in Boston, and no city located west of the Mississippi River received as many as 50 carlots. Florida contributed 21 per cent of all watermelons supplied to the cities in question in 1959.

The major Florida counties engaging in squash production in 1958-59 were Palm Beach, Dade, Hillsborough, Broward, and Marion (Figure 40). Palm Beach and Dade counties lead in winter acreage, with south Florida dominating squash production during all seasons. The Pompano Beach section of Broward and Palm Beach counties begins shipping squash in January; Collier, Lee, and Hendry counties in February; while Hillsborough County, around Tampa Bay, and Marion County, still further north, ship only during the spring.

Squash acreages have not increased appreciably, on the average, over the past decade. Heaviest plantings occurred in 1955-56, when 11,400 acres were harvested. In 1953-54, 9,800 acres were harvested, and 11,000 acres in 1958-59. During most years yields are obtained from 10,000 to 11,000 acres for a value of \$2,500,000 to \$3,500,000.

TABLE XIII

CARLOT SHIPMENTS OF WATERMELONS FROM FLORIDA AND OTHER SOURCES
TO SELECTED CITIES - AUGUST 1, 1958 THROUGH JULY 31, 1959*

CITIES	FLORIDA		OTHERS	
	Rail	Truck	Rail	Truck
Albany	25	101	27	161
Atlanta	2	251	-	1,588
Baltimore	22	546	4	1,502
Birmingham	-	1,086	-	3,765
Boston	328	84	318	255
Buffalo	16	153	164	225
Chicago	82	286	1,059	1,128
Cincinnati	28	180	35	348
Cleveland	39	256	145	723
Columbia	-	699	-	1,323
Dallas	2	15	2	1,561
Denver	-	-	73	845
Detroit	82	342	273	922
Houston	-	8	-	221
Indianapolis	-	133	5	579
Kansas City	-	52	98	570
Los Angeles	-	-	16	3,757
Louisville	7	126	7	401
Memphis	4	137	-	844
Miami	18	458	1	165
Milwaukee	14	141	42	253
Mim.-St. Paul	4	92	55	546
Nashville	-	21	-	135
New Orleans	-	238	-	1,060
New York City	513	1,546	507	2,632
Philadelphia	292	296	290	1,218
Pittsburgh	61	309	140	760
Portland, Ore.	-	-	248	550
Providence, R. I.	52	53	61	114
St. Louis	3	101	69	1,078
Salt Lake City	-	-	29	647
San Antonio	-	9	-	249
San Francisco	-	-	37	1,634
Washington, D. C.	9	503	45	1,369
Wichita, Kans.	-	2	3	131
TOTALS	1,603	8,224	3,753	33,259

*Source: Elmo F. Scarborough, Annual Agricultural Statistical Summary, 1958-59 Season (Jacksonville: Florida State Marketing Bureau, 1959), p. 126.

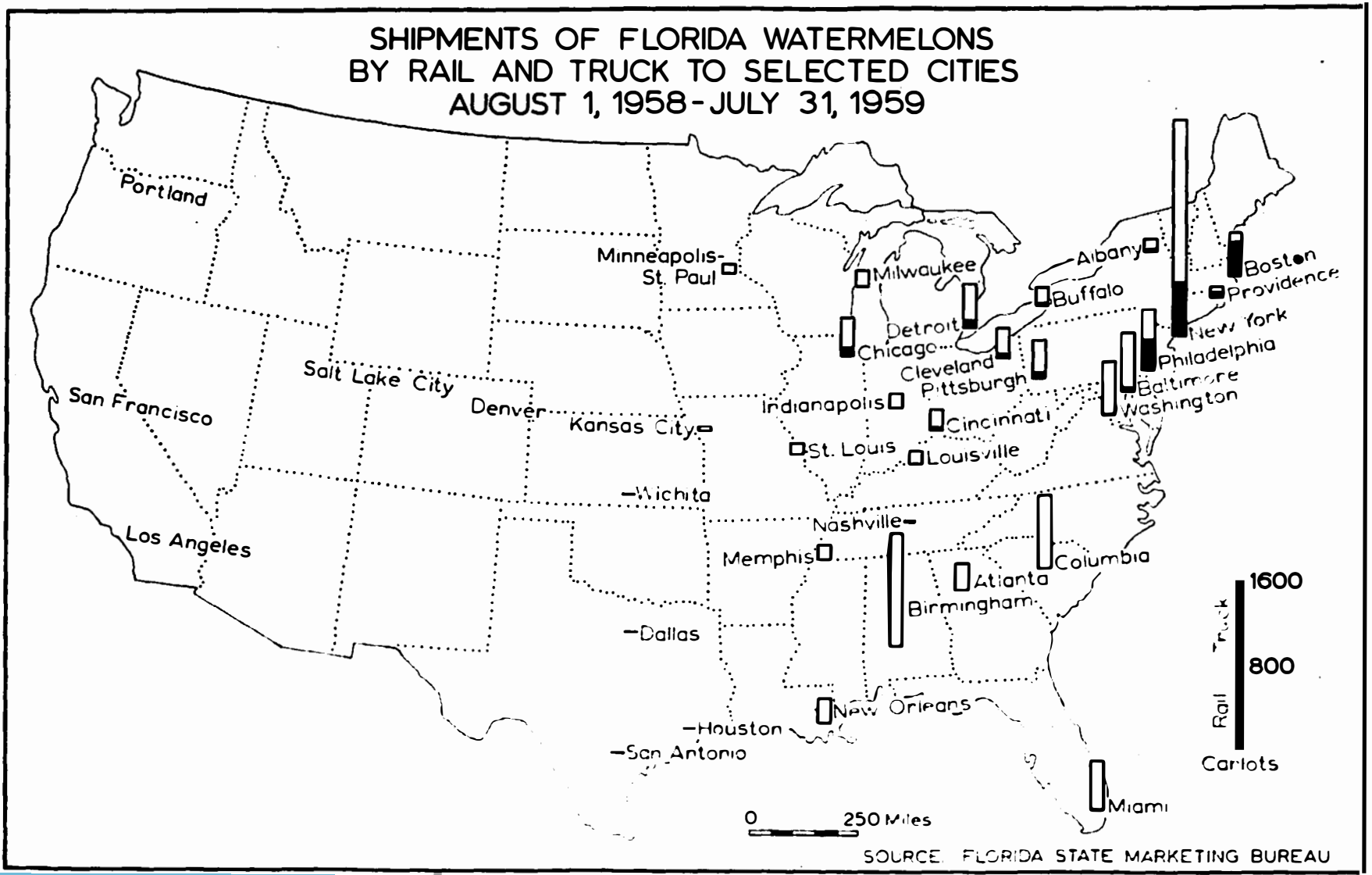


FIGURE 42

Approximately 50 to 60 per cent of the Florida squash crop is normally sold through state farmers' markets, with sales reaching \$1,984,646 in 1958-59 (Table IV). The Pompano Market led by far in 1954 with total squash sales of \$1,076,331, while Plant City rated a poor second with only \$134,898 in squash sold. For the 1958-59 season the Pompano Market traded squash valued at \$1,193,983, Plant City \$403,738, and Fort Myers \$273,561.

Almost the entire squash crop shipped from Florida to other states in 1958-59 was transported by truck. Less than 10 per cent was moved by rail. New York, Texas, and Georgia were the leading states in receipts of Florida squash, obtaining nearly 39 per cent of total truck movements (Figure 38, and Table III). These three states plus Massachusetts, Pennsylvania, Alabama, North Carolina, South Carolina, and Maryland acquired 71 per cent of all truck shipments.

As New York, Texas, and Georgia were the leading state destinations for Florida squash, New York City, Atlanta, and Dallas were three of the four leading city destinations, receiving 50 per cent of all squash shipped to the cities listed in Table XIV. Boston, Philadelphia, Chicago, Washington, D. C., and Baltimore, accounted for most of the remainder. Only 14 carlots were shipped by rail to the cities considered in the table. Florida supplied 14.2 per cent of all squash sold in the cities under consideration.

Lettuce is mostly a winter crop in Florida, and Palm Beach County alone plants approximately one-half of the crop. Sumter, Orange, Seminole, Hillsborough, and Manatee counties account for most of the

TABLE XIV

CARLOT SHIPMENTS OF SQUASH FROM FLORIDA AND OTHER SOURCES TO
SELECTED CITIES - AUGUST 1, 1958 THROUGH JULY 31, 1959*

CITIES	FLORIDA		OTHERS	
	Rail	Truck	Rail	Truck
Albany	-	-	-	-
Atlanta	-	98	-	180
Baltimore	-	43	-	85
Birmingham	8	-	-	-
Boston	-	94	6	912
Buffalo	-	-	-	-
Chicago	2	48	2	315
Cincinnati	1	8	-	33
Cleveland	-	25	-	179
Columbia	-	-	-	-
Dallas	-	84	-	149
Denver	-	19	-	232
Detroit	-	14	1	187
Houston	-	23	-	116
Indianapolis	-	-	-	-
Kansas City	-	8	-	15
Los Angeles	-	6	1	1,840
Louisville	-	-	-	-
Memphis	-	-	-	-
Miami	-	-	-	-
Milwaukee	-	-	-	-
Minn.-St. Paul	-	-	-	-
Nashville	-	-	-	-
New Orleans	-	8	21	31
New York City	1	239	51	763
Philadelphia	-	54	1	243
Pittsburgh	-	5	13	46
Portland, Ore.	-	-	-	-
Providence, R. I.	-	-	-	-
St. Louis	-	8	-	33
Salt Lake City	-	-	-	-
San Antonio	-	-	-	-
San Francisco	2	2	-	737
Washington, D. C.	-	59	-	108
Wichita, Kans.	-	-	-	-
TOTALS	14	845	96	6,203

*Source: Elmo F. Scarborough, Annual Agricultural Statistical Summary, 1958-59 Season (Jacksonville: Florida State Marketing Bureau, 1959), p. 125.

remainder. Heaviest shipments of lettuce occur in December, January, and February, although they begin in November and continue in smaller quantities through April.

The largest lettuce crop was produced in the 1955-56 season, when 4,300 acres were planted for harvest. The 1954-55 crop had the greatest value, however, bringing \$2,042,000 from 4,100 acres. Average harvests from 1951 through the 1957-58 season amounted to 3,571 acres, with the average value of the crop for the same period being \$1,641,000.

Florida farmers' markets are inconsequential as marketing outlets for lettuce since most of the crop is produced by farmers with large acreages who do their own marketing. Approximately \$146,000 in lettuce was handled on the Sanford and Palmetto markets in 1954, but this amounted to less than 10 per cent of the total crop value. Sales of lettuce on state markets failed to reach \$50,000 in 1958-59, accounting for less than four per cent of total lettuce sales for that season.

Most lettuce shipments in 1958-59 went to New York, Pennsylvania, Ohio, Georgia, and Maryland. These states accounted for 64 per cent of all truck movements (Table III). Principal cities obtaining Florida lettuce supplies were New York, Philadelphia, and Washington, D. C., as trucks moved 76 per cent of all shipments (Table XV).

Palm Beach County, with its approximately 5,500 acres of escarole and endive, planted 73 per cent of the total state acreage in 1958-59. Orange County was responsible for another 20 per cent of the total, and Sarasota and Seminole counties had most of the remaining seven per cent. Harvesting usually begins in November and continues into June, with

TABLE XV

CARLOT SHIPMENTS OF LETTUCE FROM FLORIDA AND OTHER SOURCES TO
SELECTED CITIES - AUGUST 1, 1958 THROUGH JULY 31, 1959*

CITIES	FLORIDA		OTHERS	
	Rail	Truck	Rail	Truck
Albany	-	-	526	127
Atlanta	-	4	592	677
Baltimore	-	19	1,507	403
Birmingham	-	2	233	742
Boston	-	3	2,800	516
Buffalo	-	-	990	265
Chicago	-	7	4,825	1,186
Cincinnati	-	18	1,447	348
Cleveland	-	7	2,160	386
Columbia	-	8	332	519
Dallas	-	-	187	1,849
Denver	-	-	107	1,591
Detroit	-	1	2,484	409
Houston	-	1	233	921
Indianapolis	-	-	1,151	192
Kansas City	-	-	357	901
Los Angeles	-	-	23	9,581
Louisville	-	-	685	71
Memphis	-	-	81	487
Miami	-	36	713	317
Milwaukee	-	-	1,026	115
Minn.-St. Paul	-	-	1,066	309
Nashville	-	-	340	188
New Orleans	-	2	560	445
New York City	24	172	8,298	2,960
Philadelphia	3	61	3,726	993
Pittsburgh	-	1	2,089	284
Portland, Ore.	-	-	46	1,246
Providence, R. I.	-	-	537	139
St. Louis	-	3	1,575	404
Salt Lake City	-	-	29	891
San Antonio	-	-	72	1,080
San Francisco	-	-	3	5,674
Washington, D. C.	-	38	1,093	245
Wichita, Kans.	-	-	49	355
TOTALS	27	383	41,942	36,816

*Source: Elmo F. Scarborough, Annual Agricultural Statistical Summary, 1958-59 Season (Jacksonville: Florida State Marketing Bureau, 1959), p. 124.

shipments increasing from November through March--the month of heaviest shipments--and declining rapidly after the middle of May.

An average of 4,843 acres were planted for harvest annually from the 1951-52 through the 1957-58 seasons, for an average annual income of \$2,761,000.

Less than three per cent of the 1954 crop was marketed through state farmers' markets. In 1958-59, the Sanford Market recorded sales of escarole totaling \$87,506, and the Pahokee market only \$5,693. No market handled endive in 1958-59.

Shipments of escarole and endive were almost equally divided between trucks and railroads during the 1958-59 season. New York and Pennsylvania accounted for 52 per cent of all truck shipments, while receipts by southern states were insignificant (Table XVI). All states receiving over 50 carlots were located in the Northeast and Middle West, and only five cities obtained quantities of 50 carlots or more. New York City, Los Angeles, Philadelphia, Chicago, and Boston purchased over 35 per cent of all shipments. Railroads, although accounting for one-half of the escarole and endive shipments, were responsible for only 24 per cent of the distribution to cities considered in Table XVI, as even Los Angeles received only seven carlots by rail out of a total of 234.

Radish harvests are relatively evenly distributed from October through May, with March and April exceeding other months by a small margin. Radishes are well adapted to cool season weather conditions and to the muck soils of Florida, and in recent years production has

TABLE XVI

CARLOT SHIPMENTS OF ESCAROLE AND ENDIVE FROM FLORIDA AND OTHER SOURCES
TO SELECTED CITIES - AUGUST 1, 1958 THROUGH JULY 31, 1959*

CITIES	FLORIDA		OTHERS	
	Rail	Truck	Rail	Truck
Albany	-	14	-	6
Atlanta	-	7	-	3
Baltimore	-	19	-	11
Birmingham	-	5	-	2
Boston	35	26	-	86
Buffalo	3	-	-	-
Chicago	40	55	15	105
Cincinnati	-	7	-	17
Cleveland	1	7	-	58
Columbia	-	4	-	6
Dallas	-	-	-	-
Denver	-	-	1	-
Detroit	1	6	-	6
Houston	-	3	-	-
Indianapolis	-	9	-	6
Kansas City	-	2	-	2
Los Angeles	7	227	-	-
Louisville	-	-	-	-
Memphis	-	2	-	-
Miami	-	20	-	22
Milwaukee	-	-	-	1
Minn.-St. Paul	-	-	-	-
Nashville	-	-	-	-
New Orleans	-	4	-	8
New York City	250	472	-	447
Philadelphia	20	164	1	143
Pittsburgh	-	29	-	30
Portland, Ore.	-	-	-	-
Providence, R. I.	-	6	-	42
St. Louis	-	6	-	9
Salt Lake City	-	-	-	-
San Antonio	-	-	-	-
San Francisco	-	-	-	100
Washington, D. C.	-	37	-	33
Wichita, Kans.	-	-	-	-
TOTALS	357	1,131	17	1,143

*Source: Elmo F. Scarborough, Annual Agricultural Statistical Summary, 1958-59 Season (Jacksonville: Florida State Marketing Bureau, 1959), p. 123.

been greatly accelerated by Ohio vegetable growers who move to Florida during the winter months and specialize in radishes, as well as other crops such as escarole, parsley, and chinese cabbage.¹¹ Over 11,500 acres were planted for harvest during the 1958-59 season, mostly in central and south Florida, and brought a total value of \$3,515,000.

Radishes are unimportant items on Florida state farmers' markets, and in 1954 the only market handling any appreciable quantity was Sanford, with sales amounting to \$165,186. Sales on the Sanford market declined to \$79,957 for the 1958-59 season, and no other state market recorded radish sales. Several cooperatives near Lake Okeechobee grade, pack, and market large quantities of this product.

Radishes from Florida were trucked to 36 states, Canada, and the District of Columbia in 1958-59; railroads accounting for only 27 per cent of total shipments (Figure 43, and Table III). Ohio was the leading market for Florida radishes, probably due to the large number of Ohio vegetable growers that produce radishes in the state during the winter. New York was a close second to Ohio, and these two states plus Pennsylvania acquired more than 32 per cent of all radishes transported by truck. Seven additional states--Missouri, Minnesota, Maryland, Tennessee, Illinois, Michigan, and Massachusetts--each received appreciable quantities.

¹¹Elmo F. Scarborough, Annual Agricultural Statistical Summary, 1958-59 Season, Florida Marketing Bureau, Forty-Second Annual Report (Jacksonville: Florida State Department of Agriculture, 1959), p. 92.

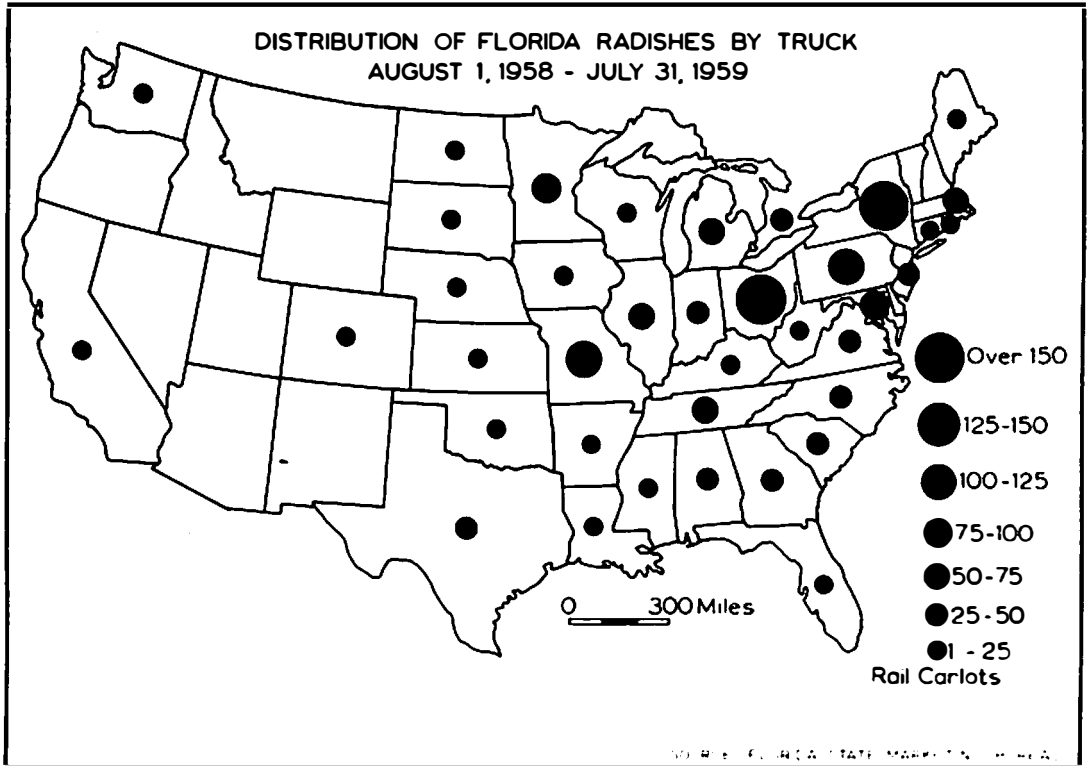


FIGURE 43

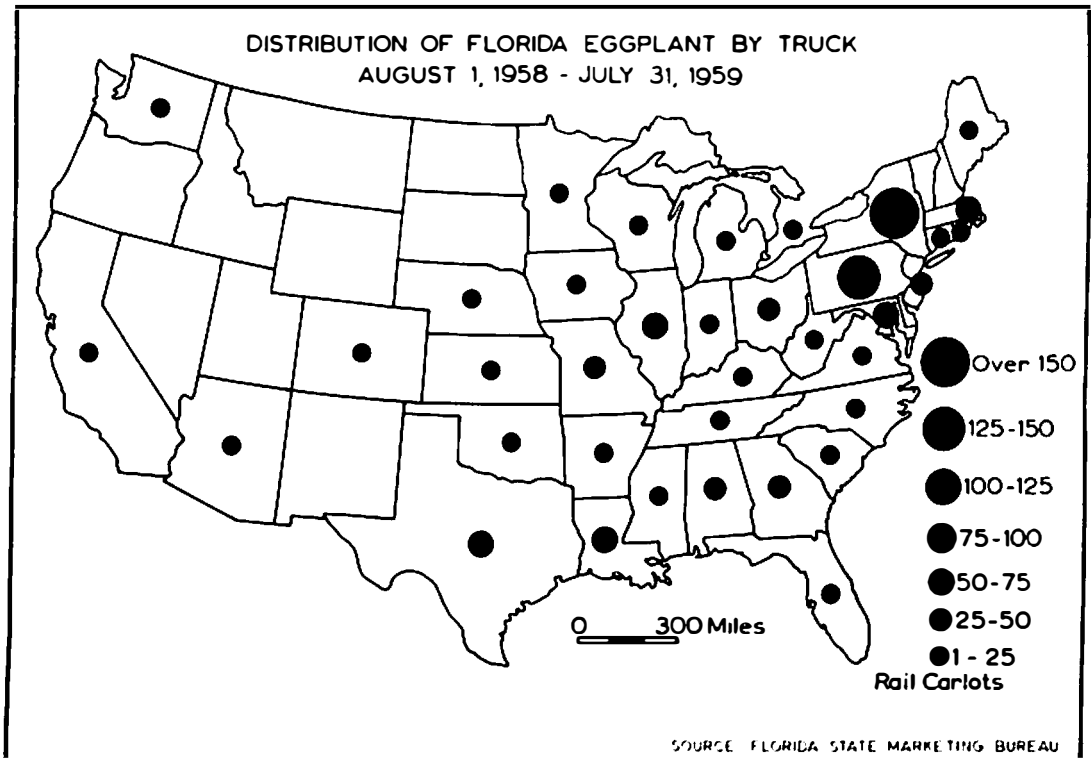


FIGURE 44

Approximately 61 per cent of all Florida radish shipments were sold in the cities shown in Table XVII. For all cities considered, trucks were found to be the major means of transportation. New York City was the largest individual market, obtaining over 14 per cent of all shipments to the cities in question. Chicago followed New York closely, with nearly 13 per cent, while Philadelphia purchased over 10 per cent and St. Louis, Washington, D. C., Minneapolis-St. Paul, and Pittsburgh each received more than four per cent. Over 23 per cent of all radishes sold in the cities considered were of Florida origin.

Palm Beach County was responsible for 28 per cent of the 3,100 acre eggplant crop planted for harvest in 1958-59. Other counties with significant acreages were Broward, Hillsborough, Alachua, and Marion. Most of the winter crop came from Palm Beach and Broward counties in the southeastern part of the state. All the above mentioned counties had spring and fall acreages, with Palm Beach the leading producer in each case. Spring was the season of heaviest production, March being the month of greatest volume in the Palm Beach, Broward Counties area. An average of 2,707 acres were planted for harvest from 1951 through 1958, with an average value of \$1,621,429. The most valuable crop, worth \$1,916,000, was obtained in 1951-52 as a result of both good yields and relatively high prices.

The Pompano and Fort Myers state farmers' markets handled \$736,000 and \$197,000 volumes of eggplants respectively, in 1954. In 1958-59, the Pompano Market had a volume valued at \$1,106,458, accounting for most of the \$1,240,398 in eggplants sold through the entire

TABLE XVII

CARLOT SHIPMENTS OF RADISHES FROM FLORIDA AND OTHER SOURCES TO
SELECTED CITIES - AUGUST 1, 1958 THROUGH JULY 31, 1959*

CITIES	FLORIDA		OTHERS	
	Rail	Truck	Rail	Truck
Albany	-	8	-	7
Atlanta	1	33	-	12
Baltimore	-	33	-	28
Birmingham	-	25	-	11
Boston	1	30	-	129
Buffalo	1	-	-	2
Chicago	30	126	10	622
Cincinnati	7	38	-	80
Cleveland	12	6	-	227
Columbia	-	8	-	2
Dallas	-	39	-	31
Denver	-	22	1	193
Detroit	4	45	1	99
Houston	-	12	-	16
Indianapolis	-	31	-	95
Kansas City	1	49	3	89
Los Angeles	-	-	-	1,134
Louisville	9	16	-	16
Memphis	-	25	-	4
Miami	-	21	-	9
Milwaukee	-	12	-	35
Minn.-St. Paul	-	59	-	37
Nashville	-	5	-	1
New Orleans	-	8	-	5
New York City	25	154	1	384
Philadelphia	27	98	5	232
Pittsburgh	4	55	-	87
Portland, Ore.	4	-	5	60
Providence, R. I.	-	2	-	42
St. Louis	9	60	-	86
Salt Lake City	-	-	5	56
San Antonio	-	3	-	37
San Francisco	-	-	-	343
Washington, D. C.	-	63	-	56
Wichita, Kans.	-	11	-	42
TOTALS	135	1,097	31	4,309

*Source: Elmo F. Scarborough, Annual Agricultural Statistical Summary, 1958-59 Season (Jacksonville: Florida State Marketing Bureau, 1959), p. 125.

state market system (Table IV). The Pompano and other farmers' markets are responsible for approximately 65 to 70 per cent of all eggplants sold.

Eggplant shipments were relatively small in volume when compared to several other Florida vegetables, and perhaps largely due to this fact, over 90 per cent of the total distribution was by truck in 1958-59. The only states receiving appreciable quantities were in the Middle Atlantic and New England regions, as New York State accounted for the lion's share, or 32 per cent (Figure 44).

The citrus crops of Florida consist primarily of oranges and grapefruit, with tangerines and limes occupying relatively poor third and fourth places. Even with the damage done by freezes in the 1957-58 season, the orange crop was valued at \$222,694,000, grapefruit \$41,266,000, tangerines \$6,696,000, and limes \$1,085,000.¹² Florida has never been surpassed in grapefruit, tangerine, and lime production, but only in recent years obtained leadership from California in orange yields. Although Florida led California in production of oranges in 1889, it lost first place during the 1890's and did not regain leadership until 1945. Since 1945, Florida has annually increased its dominance as the major orange producing state. The peak year for Florida oranges occurred in 1956, when a total of 97,800,000 boxes were produced. Freezes in the citrus areas caused a drop to 84,800,000 boxes in 1957. In the same year California had its smallest crop since 1929

¹²Ibid., p. 31.

and Florida still produced 75 per cent of the nation's oranges. The 1959 crop indicated a major recovery from the freeze damages of the previous year, as 86,000,000 boxes of oranges, 35,200,000 boxes of grapefruit, and 4,500,000 boxes of tangerines were harvested and sold for over \$345,000,000.¹³

Florida's position as the leading grapefruit producing state was seriously challenged in the latter 1930's and 1940's by Texas. The 1944 Florida crop was relatively small, and Texas and Florida each produced approximately 22,300,000 boxes. In the late 1940's and early 1950's, however, unusually hard freezes penetrated the grapefruit region of Texas, almost eliminating that state as a competitor. The peak year for Florida grapefruit was 1953, when 42,000,000 boxes were produced, amounting to 87 per cent of the nation's crop. Freezes in 1957 reduced the harvest to 31,100,000 boxes, and with increased production in Texas, California, and Arizona, Florida's portion of the nation's grapefruit dropped to 77 per cent.

Three counties in central Florida, Polk, Lake, and Orange, produce over one-half of the state's oranges, grapefruit, and tangerines (Figures 47 and 48). Polk is the leading individual county in the growing of all three fruits. Lake County ranks second in orange and grapefruit production and third in harvests of tangerines. Orange County ranks second in tangerine and orange yields and sixth in grape-

¹³Ibid., p. 9.

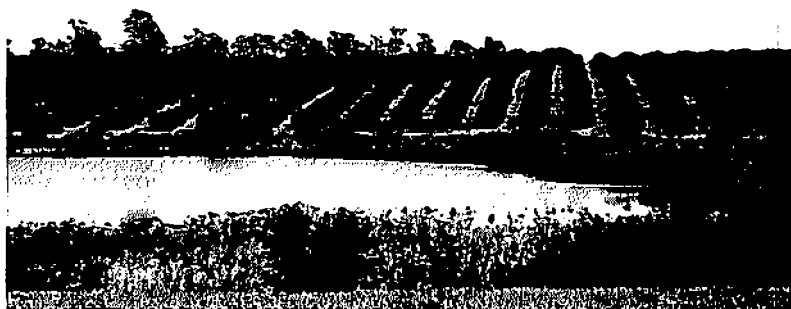


FIGURE 45

ORANGE GROVE NEAR WINTER HAVEN, FLORIDA

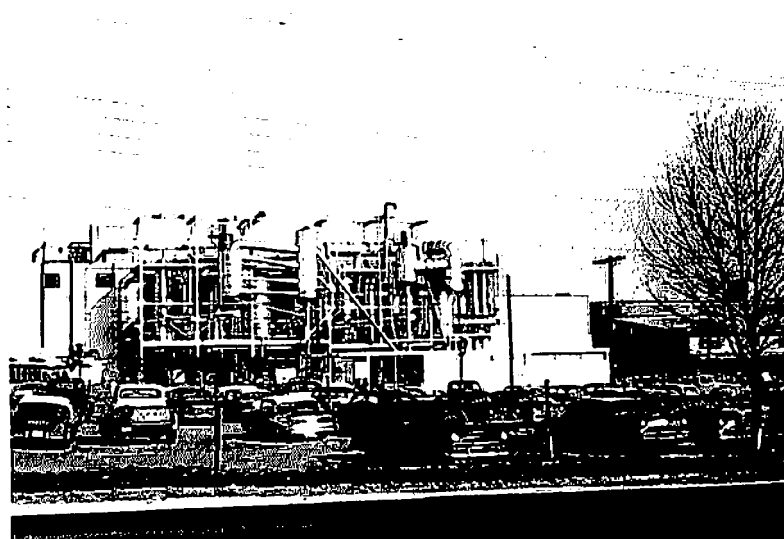


FIGURE 46

CITRUS CONCENTRATE PLANT NEAR
WINTER HAVEN, FLORIDA

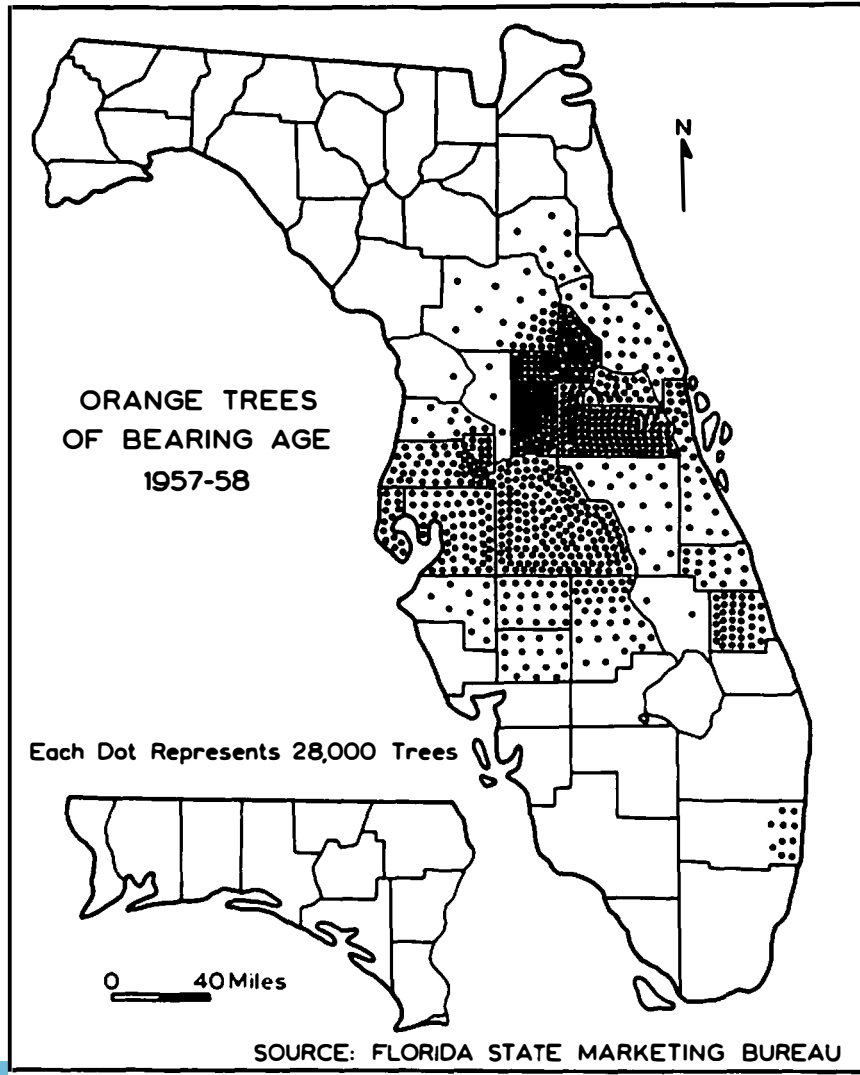


FIGURE 47

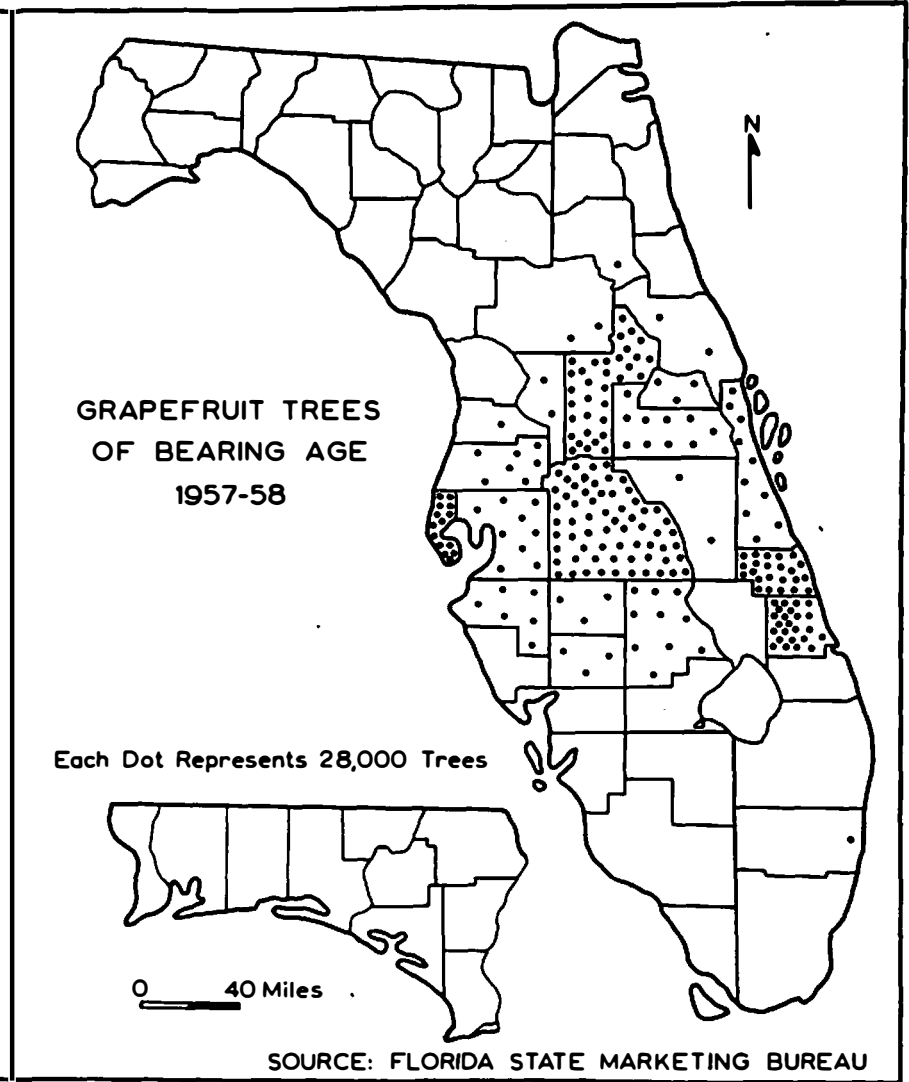


FIGURE 48

fruit. St. Lucie County ranks third in grapefruit production, and Pinellas and Indian River counties are of outstanding importance.

The only state farmers' market handling citrus was Sanford, with sales of 144,471 boxes of grapefruit and 411,684 boxes of oranges in 1954. In 1958-59, the Sanford Market sold 135,566 boxes of grapefruit for a value of \$438,792, and 216,156 boxes of oranges with a value of \$1,007,694. Markets for handling citrus fruits are mostly cooperative or private ventures. In 1939-40, there were 53 cooperative markets in Florida actively engaging in the marketing of citrus fruit. In 1940-41, 9,725,645 boxes of fresh citrus were marketed through cooperatives, or 28.9 per cent of the total volume of fresh citrus sold.¹⁴ There were 50 cooperatives marketing fresh citrus in Florida in 1955, and 10 that were engaged in manufacturing citrus products.¹⁵ Polk County, with 19 fresh citrus marketing associations and seven citrus manufacturing associations, led all other counties in number of cooperatives.

Most Florida citrus is shipped by truck, although rail transport is more significant than for many vegetables. In 1959, 61 per cent of all out-of-state orange shipments were made by truck, 62 per cent of the grapefruit, and 66 per cent of the tangerines. Trucks are most important as carriers of citrus fruit during the summer months, but decline

¹⁴H. G. Hamilton and A. H. Spurlock, Farmers' Cooperative Associations in Florida, Florida Agricultural Experiment Station Bulletin 386 (Gainesville: University of Florida, May, 1943), p. 12.

¹⁵T. J. Brooks, Cooperative Agriculture in Florida, Florida Department of Agriculture Bulletin 92 (Tallahassee: Florida Department of Agriculture, March, 1955), pp. 136-145.

in relative importance while vegetables are moving out-of-state in large quantities. Water transportation is used whenever it is available, as apparently, ". . . relative transportation cost is the most important single factor in moving fresh citrus to market."¹⁶

Statistics are not available for the distribution of Florida citrus by states. However, the Market News Service, of the United States Department of Agriculture, collects information on rail unloads of citrus for 100 United States and five Canadian cities and truck unloads for 38 United States and five Canadian cities.¹⁷ The 38 cities for which truck shipments are available are also responsible for most rail unloads, taking over 90 per cent of all oranges distributed to the 100 cities by rail, 91 per cent of the grapefruit, and 92 per cent of the tangerines shipped to the 100 cities by rail in 1958-59. The only city obtaining as many as 50 rail carloads of oranges that is not included in Table XVIII was Hartford, Connecticut. Seattle and Hartford were the only cities not listed in the table that obtained over 50 carlots of Florida grapefruit by rail, and Seattle was the only city not listed that received as many as 25 carlots of Florida tangerines by rail.

¹⁶Marvin A. Brooker and Kenneth M. Gilbraith, Factors Influencing the Method of Transportation Used in Marketing Fresh Florida Citrus, Florida Agricultural Experiment Station Bulletin 549 (Gainesville: The University of Florida, 1954), p. 8.

¹⁷Carlot Unloads of Certain Fruits and Vegetables in 100 U. S. and 5 Canadian Cities--Also--Truck Unloads in 38 U. S. and 5 Canadian Cities; Calendar Year, 1958, U. S. Department of Agriculture Circular AMS-25 (1958) (Washington, D. C.: Government Printing Office, March, 1959).

TABLE XVIII

CARLOT SHIPMENTS OF FLORIDA CITRUS TO SELECTED CITIES,
AUGUST 1, 1958 THROUGH JULY 31, 1959*

CITIES	ORANGES		GRAPEFRUIT		TANGERINES	
	Rail & Boat	Truck	Rail & Boat	Truck	Rail & Boat	Truck
Albany, N. Y.	2	125	21	165	1	25
Atlanta, Ga.	16	674	4	340	5	57
Baltimore, Md.	266	399	243	364	45	65
Birmingham, Ala.	3	466	-	217	-	43
Boston, Mass.	353	471	675	374	125	118
Buffalo, N. Y.	25	182	25	231	20	46
Chicago, Ill.	238	781	528	931	65	160
Cincinnati, Ohio	209	158	195	203	36	34
Cleveland, Ohio	162	341	315	404	56	94
Columbia, S. C.	45	346	6	106	2	45
Dallas, Texas	-	33	-	22	-	26
Denver, Colo.	-	37	-	261	-	41
Detroit, Mich.	270	152	641	241	121	76
Fort Worth, Texas	-	7	-	4	-	8
Houston, Texas	-	48	-	27	-	32
Indianapolis, Ind.	26	184	16	230	1	55
Kansas City, Mo.	-	95	-	233	-	31
Los Angeles, Calif.	-	4	-	96	-	11
Louisville, Ky.	43	296	12	221	9	33
Memphis, Tenn.	17	164	6	98	2	21
Miami, Fla.	-	675	-	660	-	80
Milwaukee, Wis.	11	81	62	275	4	25
Minn.-St. Paul, Minn.	1	43	4	336	-	32
Nashville, Tenn.	8	98	6	48	-	22
New Orleans, La.	2	273	1	139	-	20
New York, N. Y. and Newark, N. J.	1,699	1,433	2,617	1,549	452	315
Philadelphia, Pa.	696	823	774	648	120	186
Pittsburgh, Pa.	313	140	463	166	116	61
Portland, Ore.	7	-	97	5	8	4
Providence, R. I.	20	91	33	86	19	27
St. Louis, Mo.	17	185	94	286	17	57
Salt Lake City, Utah	-	6	-	143	-	2
San Antonio, Texas	-	25	-	10	-	20
San Francisco and Oakland, Calif.	-	1	4	37	-	3
Washington, D. C.	47	353	33	393	2	52
Wichita, Kans.	-	3	-	13	-	9
TOTALS	4,496	9,193	6,875	9,562	1,226	1,936

*Source: Elmo F. Scarborough, Annual Agricultural Statistical Summary, 1958-59 Season (Jacksonville: Florida State Marketing Bureau, 1959), pp. 61-63.

The United States and Canadian cities used in the study accounted for 53 per cent of all Florida orange shipments, 56 per cent of all grapefruit shipments, and 69 per cent of all tangerine shipments for the 1958-59 season. The 100 United States cities and five Canadian cities for which rail shipments are available accounted for 50 per cent of all rail shipments of oranges, 72 per cent of all rail shipments of grapefruit, and 87 per cent of all tangerine shipments by rail. The 38 United States and five Canadian cities were responsible for 62 per cent of all truck shipments of oranges, 61 per cent of all grapefruit shipments by truck and 69 per cent of all tangerines shipped by truck. Boat shipments were responsible for 90 carlots of oranges, and 238 carlots of grapefruit.

New York City was by far the leading destination of Florida oranges, grapefruit, and tangerines in 1957-58, receiving over twice the amount of its nearest rival (Figures 49 and 50). Philadelphia and Chicago ranked second and third, respectively. Although oranges are more popular than grapefruit, and enjoy a greater total consumption, Florida grapefruit were shipped to cities more distant from Florida in larger quantities due to the relative lack of competition from other grapefruit producing areas. In general, Florida oranges were dominant only in the cities east of the Mississippi River and south of the Great Lakes, whereas grapefruit from Florida was dominant everywhere except in the Southwest and in the states bordering the West Coast. Florida tangerines predominated everywhere except in California, where tange-

SHIPMENTS OF FLORIDA ORANGES
BY RAIL AND TRUCK TO SELECTED CITIES
AUGUST 1, 1958-JULY 31, 1959

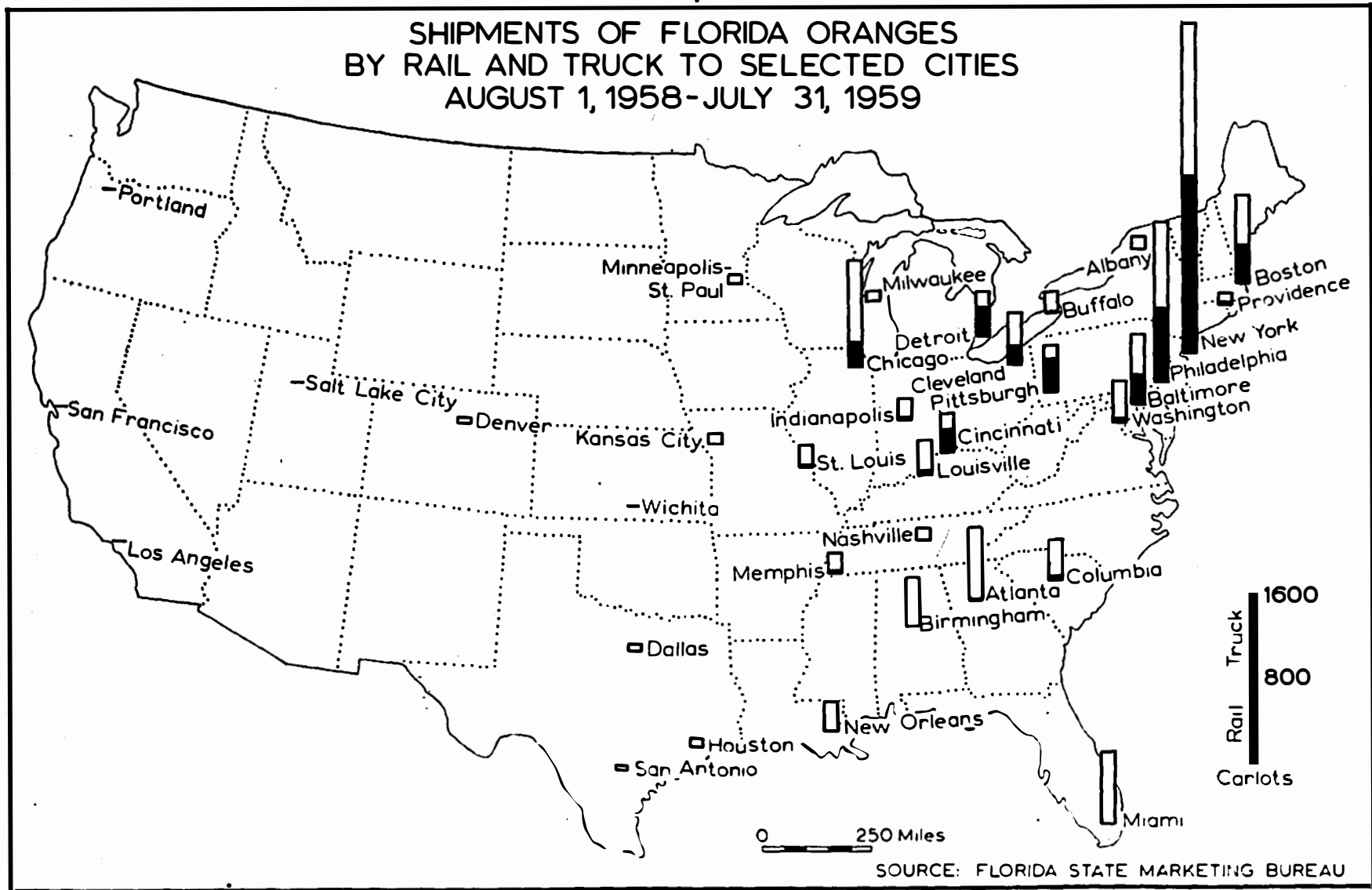


FIGURE 49

SHIPMENTS OF FLORIDA GRAPEFRUIT
BY RAIL AND TRUCK TO SELECTED CITIES
AUGUST 1, 1958-JULY 31, 1959

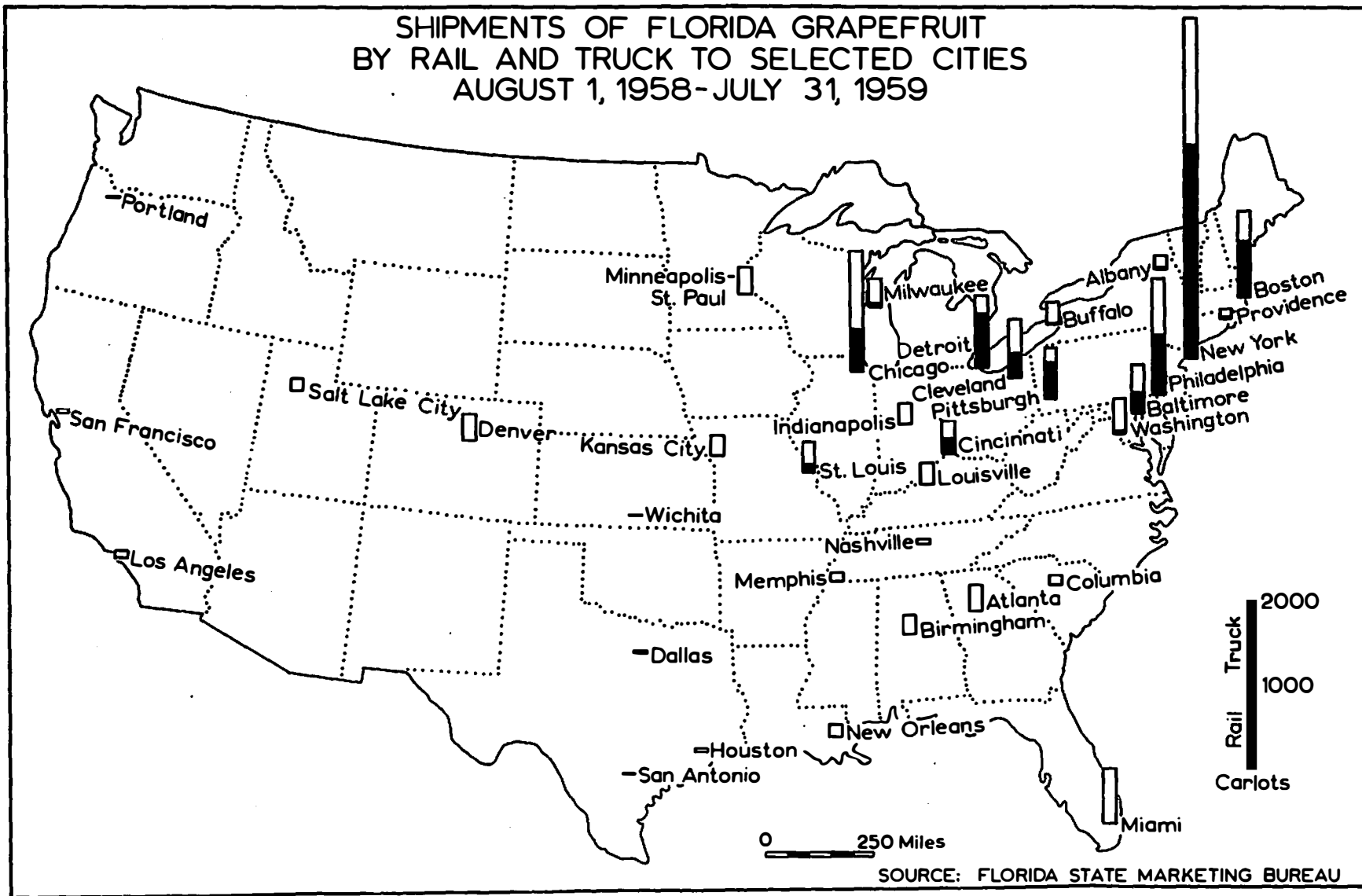


FIGURE 50

rines from that state supplied the two principal cities of Los Angeles and San Francisco.

Florida lime production, plus a number of exotic, less known fruits, occurs primarily in the famous Redlands area south of Miami. This region, with its large Persian limes, has replaced the Florida Keys as the principal lime producing area of the state. In 1958-59, there were some 6,300 acres in lime orchards in Florida, producing in excess of 195,000 boxes of fruit and valued at \$938,000.¹⁸ Approximately 36 per cent of the production was processed, with the remainder being marketed in fresh form.

From 4,900 acres in avocado orchards, 284,000 boxes of the fruit were produced in 1958-59, valued at \$1,092,000. Mango orchards now cover over 4,000 acres, and in 1958-59, 36,600 bushels were sold for \$348,000.¹⁹ Other fruits of importance in the Redlands area are papayas and passion fruit.

In summary, it is evident that although each Florida fruit and vegetable crop has its particular distribution pattern, there are basic similarities in the market areas for all products. Truck distribution of celery probably follows that of the total of all fruits and vegetables most closely, although when rail shipments are added the picture changes in favor of a heavier distribution to areas outside the South. Peppers and eggplants have approximately the same marketing pattern, as

¹⁸Scarborough, op. cit., pp. 38-39.

¹⁹Ibid., p. 14.

do watermelons and tomatoes. Peppers and eggplants are shipped primarily to northeastern states, however, while tomatoes and watermelons are more evenly distributed to states east of the Mississippi River. Cabbage, corn, beans, squash, and potatoes move primarily to Southern, Middle Atlantic, and New England states bordering the Atlantic Ocean, while radishes have a greater share of their market in the Middle West. Although grapefruit are distributed in quantity to a larger area than oranges, the places with heaviest purchases are again approximately the same.

There is considerable concern among certain persons that the rapid population growth and urbanization of Florida will overrun the fruit and vegetable producing areas with the result that United States markets currently being supplied by Florida may soon find it necessary to seek other sources. Most of the vegetable production, however, originates in areas not greatly affected by the population influx and even if this situation changes there are hundreds of thousands of acres of muck lands, yet untouched, that with the proper precautions could probably be drained and placed in vegetable production. The citrus region is not increasing in population as rapidly as south Florida, but even if the growth rate should increase there is adequate room in the central portion of the state for expanding or replanting the citrus orchards.

Actually, the most serious threats to the Florida vegetable industry may come not from population growth, but from Mexico, the Caribbean Islands, the frozen foods industries, and from the destruction

of the muck soils. The cheaper labor of Mexico and the Caribbean, together with the total absence of frost damage, places these areas in a good competitive position. In addition, the frozen foods companies are supplying a constantly larger share of vegetables to housewives and can purchase their supplies from areas of surplus summer production where vegetables can be produced at lower cost. The problems of the muck soils are those of loss through oxidation, compaction, and fire, which could result in the complete destruction of muck lands now under cultivation within a few decades.²⁰ Through proper water control and the development of an adequate fire control system these hazards can be considerably diminished, however. In answer to the threat of the frozen foods companies, Florida growers are preparing massive advertising programs to publicize the advantages of fresh, unfrozen vegetables. Solutions to threats from foreign producing areas may lie in technology, better quality, or in greater political restrictions on trade.

Thus, Florida can probably be counted upon to continue supplying northern and western markets with fresh fruits and vegetables for many years in the future, and even to expand its production as the national market increases. It would certainly seem reasonable to assume that the state of Florida, which receives approximately 25 and 35 per cent of its agricultural income from truck crops and citrus, respectively, would make every effort to aid farmers in preserving these industries.

²⁰Ford, op. cit., pp. 13-15.

CHAPTER V

PRODUCTION AND MARKETING OF GEORGIA AND SOUTH CAROLINA FRESH FRUITS AND VEGETABLES

The fruit and vegetable industries of both Georgia and South Carolina have enjoyed rapid expansion during the past several decades. From 1920 until the present, Georgia has averaged approximately twice as many acres in vegetables as South Carolina, and in total value of vegetables harvested for sale South Carolina normally trails Georgia by a value of about \$1,000,000. The larger Georgia population would indicate that a greater acreage is harvested for home use. Both states fall far behind Florida in value of vegetables sold, but are, nevertheless, of major importance as suppliers of vegetables to eastern markets for a few weeks during the year. One of the reasons for the overwhelming dominance of Florida, is the much longer season during which the latter has little competition from other producing areas.

Most rapid growth of the vegetable industries in both states occurred during the decade 1920-30 (Tables XIX and XX). Acreage planted in vegetables approximately tripled in each state throughout this period, with South Carolina vegetable acreages jumping from 36,746 to 109,921, not including Irish or sweet potatoes. Since 1930, the expansion of vegetable acreage has been less spectacular, but by 1954 South Carolina was planting over 85,000 acres annually and Georgia over 165,000, again excluding potatoes.

TABLE XIX

GEORGIA FRUIT AND VEGETABLE PRODUCTION, 1920-1954*

CROP	1954	1950	1940	1930	1920
Value of vegetables harvested for sale in thousands of dollars (except potatoes)	\$ 8,871	\$ 9,930	\$ 3,587	\$ 5,653	\$ 2,228
Total acres planted (except potatoes)	167,317	168,427	125,531	109,921	36,746
ACRES					
Lima beans	5,839	6,128	7,172	1,182	-
Snap beans	6,235	7,534	10,460	6,772	1,236
Blackeyes & other green cowpeas	28,570	35,887	53	NA	NA
Cabbage	5,274	8,161	3,800	2,446	694
Cantaloupes & muskmelons	9,716	8,289	8,782	1,829	1,659
Collards	1,360	2,921	813	163	NA
Sweet corn	3,985	5,435	3,425	3,432	955
Cucumbers & pickles	5,461	4,331	3,079	775	254
Kale	76	11	1	1	1
Lettuce & romaine	726	404	147	71	30
Mustard greens	324	254	62	NA	NA
Okra	4,578	4,055	1,645	417	60
Onions (dry)	613	266	307	375	159
Onions (green)	216	132	63	25	2
Green peas	602	974	5,064	2,922	446
Sweet peppers & pimentos	17,781	19,173	17,425	4,646	176
Radishes	91	18	5	-	1
Squash	3,386	2,884	1,092	210	54
Tomatoes	11,242	9,578	7,119	3,752	1,198
Turnips	2,097	4,188	2,024	854	111
Turnip greens	1,096	250	118	NA	NA

TABLE XIX (continued)

CROP	1954	1950	1940	1930	1920
Watermelons	57,690	47,074	48,732	73,436	29,091
Sweet potatoes**	14,410	43,540	98,797	84,855	110,033
Irish potatoes**	2,309	4,969	22,665	12,952	11,195
Peaches (thousands of bushels)***	2,481	1,300	4,360	3,246	4,789
Apples (bushels harvested)***	380,528	269,571	1,140,568	642,788	416,902

*Source: United States Bureau of the Census, United States Census of Agriculture: 1954. Vol. I, Part 17 (Washington: Government Printing Office, 1956), pp. 51-2.

**For 1950 and 1954 does not include acreage for farms with less than 50 bushels harvested.

***Does not include farms with less than 20 trees for 1954.

NA Not available.

TABLE XX

SOUTH CAROLINA FRUIT AND VEGETABLE PRODUCTION, 1920-1954*

CROP	1954	1950	1940	1930	1920
Value of vegetables harvested for sale in thousands of dollars (except potatoes)	\$7,822	\$7,630	\$3,350	\$4,255	\$1,933
Total acres of vegetables harvested for sale (except potatoes)	86,948	100,407	72,776	51,326	15,975
<u>ACRES</u>					
Asparagus	87	452	6,075	7,130	1,145
Green lima beans	2,137	2,994	4,436	666	--
Snap beans	10,032	13,455	8,812	8,106	917
Table beets	446	377	248	40	3
Blackeyes & other green cowpeas	1,757	4,180	99	NA	NA
Broccoli	398	701	298	25	NA
Cabbage	2,656	3,120	3,650	3,750	2,232
Cantaloupes & muskmelons	5,472	6,159	4,924	1,311	595
Collards	953	555	176	7	NA
Sweet corn	1,692	3,730	2,047	1,338	239
Cucumbers & pickles	5,472	6,640	4,780	4,853	1,324
Lettuce & romaine	1,114	1,012	581	533	428
Mustard greens	510	416	77	NA	NA
Okra	1,144	822	298	142	84
Dry onions	95	301	250	274	61
Green onions	214	60	35	9	--
Green peas	673	725	4,228	3,507	245
Hot peppers	502	1,058	294	NA	NA
Sweet peppers & pimentos	2,776	197	381	121	2
Radishes	1,304	1,042	247	66	--
Spinach	351	320	229	522	--
Squash	1,484	1,499	536	111	8
Tomatoes	5,948	4,036	6,908	3,221	534

TABLE XX (continued)

CROP	1954	1950	1940	1930	1920
Turnips	594	758	435	167	86
Turnip greens	1,055	60	5	NA	NA
Watermelons	37,922	45,376	21,962	14,296	7,779
Irish potatoes**	6,402	9,430	22,338	20,323	13,402
Sweet potatoes**	16,638	36,530	53,556	46,776	60,325
Other vegetables	160	362	765	1,131	282
Peaches (bushels harvested)***	3,250,779	1,476,292	2,043,651	687,650	389,734
Apples (bushels harvested)***	87,015	132,859	363,118	179,992	215,659

*Source: United States Bureau of the Census, United States Census of Agriculture: 1954. Vol. I, Part 16 (Washington: Government Printing Office, 1956), pp. 367-8.

**For 1950 and 1954 does not include acreage for farms with less than 50 bushels harvested.

*** Does not include farms with less than 20 trees for 1954.

NA Not available.

Several vegetable crops have shown sharp declines in acreage since 1920, with greatest decreases occurring in Irish and sweet potato plantings. From 1920 to 1954, Irish potato plantings decreased from 13,402 to 6,402 acres and sweet potatoes declined from 60,325 to 16,638 acres in South Carolina, while in Georgia the decline was from 11,195 to 2,309 acres and 110,195 to 14,410 acres, respectively. Since the 1954 figures do not include acreage for farms with less than 50 bushels of potatoes harvested this may account for part of the decline, but the overall reduction in acreage seems to have been great. South Carolina production of asparagus and green peas has declined, along with Georgia production of green peas. In spite of reductions in the acreages of a few crops, however, almost all major vegetable products have shown increases of from 100 to 1,000 per cent since 1920.

The peach is the major fruit crop of the two states, but Georgia production declined from 4,788,718 bushels in 1920 to 2,480,690 bushels in 1954, while during the same period South Carolina harvests rose from 389,734 to 3,250,779 bushels.

Vegetables are produced for the commercial market by almost every county in South Carolina and Georgia. Some counties in both states specialize in certain commodities, such as tomatoes, but normally a variety of vegetables is produced. The areas of most concentrated production are in southern South Carolina on the "Inner" and "Lower" Coastal Plain, and in south central Georgia. Georgia and South Carolina enjoy a competitive advantage in the production of several vegetables, partly due to environment and partly to location with respect to markets

(Figures 2 and 69, and compare Figures 6, 7, 51 and 52). Proximity to markets is probably most important, as several states, including Mississippi, Louisiana, Alabama, and California, have vegetables ready for market at approximately the same time South Carolina and Georgia vegetables are being harvested. Better transportation connections give Alabama, Mississippi, and Louisiana an advantage in sales to the Middle West, although the location of Georgia to the south of the mountains allows it to sell a considerable portion of its production in that region as well as in the East. South Carolina markets, on the other hand, are limited primarily to eastern locations. Georgia vegetables are usually ready for market slightly earlier than those of South Carolina, and South Carolina can market its products beginning a few days prior to areas further north.

Acreage reductions of the major crops produced in Georgia and South Carolina, such as cotton, tobacco, and peanuts, have released land and labor for vegetable production. Reductions were not great enough to allow the small farms that are characteristic of the region to go into livestock production, while vegetables could be produced with little or no increase in labor or equipment requirements. Mechanization has resulted in a decline in the number of mules, and land that was used to produce food crops for draft animals can now be used for the production of vegetables. Urban populations have been growing rapidly in the South as well as other areas, with a corresponding decline in rural population. As a result of declining rural populations fewer vegetables are needed on the farm and more are in demand by city

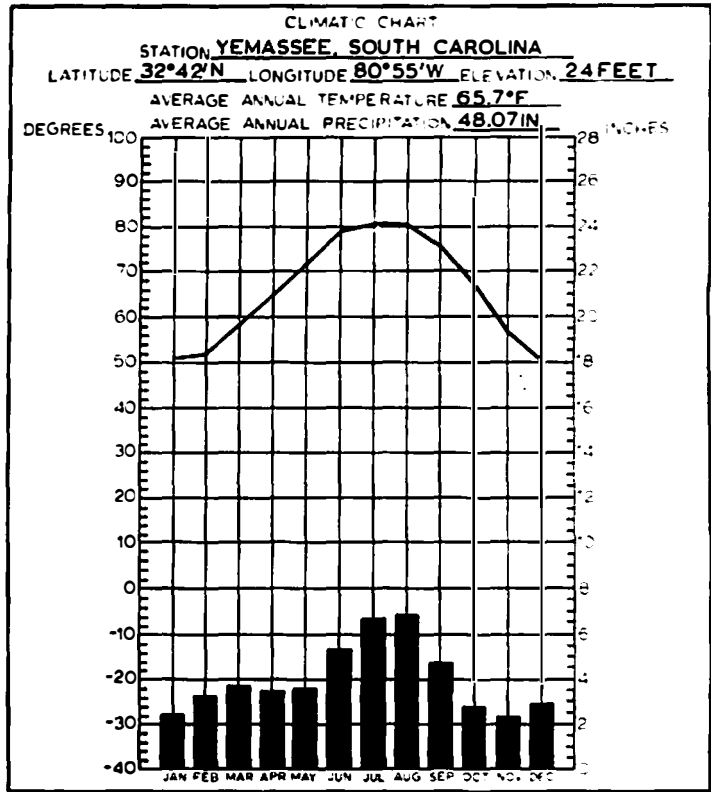


FIGURE 51

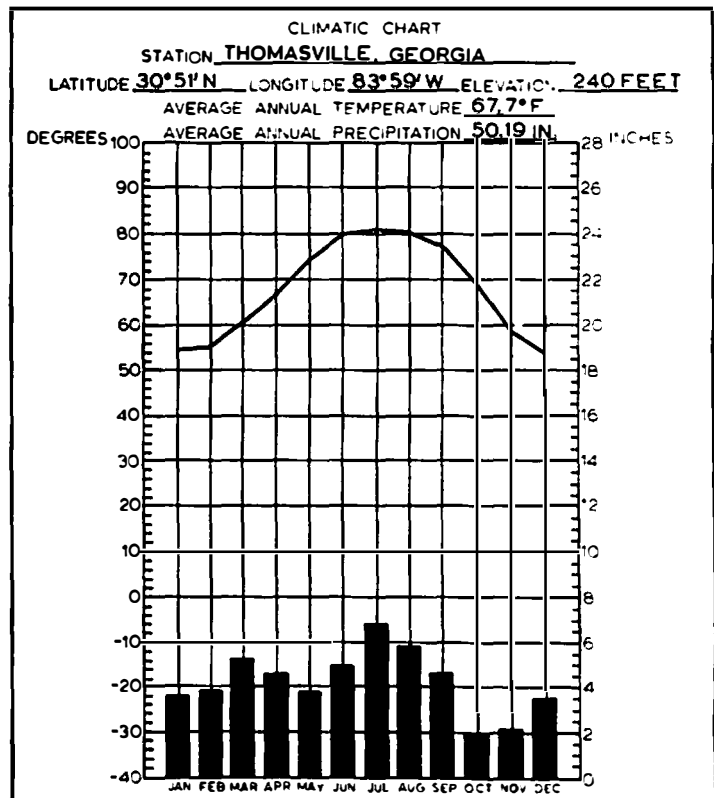


FIGURE 52

populations. Other changes that have promoted the growth of the vegetable industry, such as technological advances in handling and transporting fruits and vegetables, increases in consumer income, and changes in eating habits, have been discussed in an earlier chapter.

Most South Carolina and Georgia vegetables are harvested during the spring and early summer, although fall acreages of several crops are also planted. South Carolina produces significant quantities of cucumbers, tomatoes, snap beans, and sweet potatoes in the fall, while south Georgia has enlarged its fall crop considerably in recent years. Beginning in September, Georgia harvests squash, blackeye peas, eggplants, and bell peppers; and yields of snap beans, cucumbers, pole beans, tomatoes, sweet corn, and greens begin coming in around the first of October. Second crops of okra, and crowder and purple hull peas begin maturing during July, while second crops of lima and butter beans reach maturity about the middle of August.

South Carolina usually opens the vegetable season with its crop of fall cabbage, which is harvested from November until mid-February. The spring cabbage crop reaches maturity in mid-March and sales continue into June. Such crops as radishes, turnips and turnip greens, broccoli, and spinach, are harvested in the coastal area from early January, especially in Beaufort County.¹ Georgia spring production of most

¹C. L. Crenshaw and C. D. Davis, Marketing Methods and Facilities for South Carolina Truck Crops, South Carolina Agricultural Experiment Station Bulletin 412 (Clemson: Clemson Agricultural College Experiment Station, March, 1954), p. 8.

other major vegetable crops begins slightly earlier than the same crops produced in South Carolina, or at approximately the same time. Georgia watermelons, cucumbers, lima beans, sweet corn, green peas, and tomatoes are usually ready for market from one or two to 15 days earlier than their South Carolina counterparts.

Spring production in the two states is sandwiched between the Florida season and early harvests in Virginia and on the Delmarva Peninsula, while fall harvests are brought in after harvests in areas further north have begun to taper off and before the Florida fall and winter crops begin. In most instances, however, Georgia and South Carolina enjoy a transportation advantage over Florida during the spring, and actually supply Florida with vegetables during the summer and early fall.

In the following discussion of the production and marketing of several major Georgia and South Carolina fruits and vegetables it was not possible to gather as complete and recent information as was obtained for Florida. Production statistics for Georgia and South Carolina fruits and vegetables were taken from the 1954 agricultural census, and from a report issued by the South Carolina Crop Reporting Service of Clemson College for 1958.² Information on the facilities for marketing fruits and vegetables was more complete for Georgia products, as Georgia has a well established system of state farmers'

²South Carolina Crop Reporting Service (Columbia: United States Department of Agriculture, January, 1959), Vol. VIII, No. 1, p. 4.

markets and issues annual reports listing the various products handled and their values (Table XXI and Figure 53).³ Most South Carolina vegetables are marketed through private channels, with the Columbia State Farmers' Market being the only state facility of major importance (Figure 53). The Blackville Market, in South Carolina, deals primarily in watermelons, and was the only other state market handling significant quantities of vegetables in 1958. A county market in Greenville, South Carolina, trades small quantities of South Carolina vegetables but the volume is unknown. Private buyers and sellers of fruits and vegetables were reluctant to part with information concerning their activities for fear of competition.

Statistics for the distribution of Georgia and South Carolina products were obtained from a United States Department of Agriculture publication which gives the states of origin of certain fruits and vegetables transported by rail to 100 United States and five Canadian cities.⁴ In this chapter, only the 38 United States and five Canadian cities for which truck and rail origins are reported are used.⁵

³Georgia State Farmers' Markets, 1958; Annual Sales Report, All Markets (Atlanta: Markets Division, Georgia Department of Agriculture, 1959).

⁴Carlot Unloads of Certain Fruits and Vegetables in 100 United States and 5 Canadian Cities--Also--Truck Unloads in 38 United States Cities and 5 Canadian Cities, Calendar Year, 1958, United States Department of Agriculture Circular AMS-25 (Washington: United States Department of Agriculture, Agricultural Marketing Service, March, 1959)

⁵Since the cities for which both rail and truck information is available account for 82 per cent of total rail distribution to the 100 cities, and since a more complete picture can be presented by showing distribution by both methods of transportation, several long tables detailing rail distribution to the 100 cities would not be worthwhile.

TABLE XXI

SALES OF SELECTED VEGETABLES ON GEORGIA STATE FARMERS' MARKETS, 1958*

Vegetable	Athens	Atlanta	Value of Sales		Cairo	Columbus	Cordele
			Augusta	Blue Ridge			
Beans	\$77,202	\$1,898,665	\$143,298	\$1,843	\$ 18,952	\$210,694	\$ 37,428
Cabbage	5,736	1,109,089	83,749	1,212	--	47,836	21,338
Cantaloupes	18,817	357,873	34,180	--	--	42,640	171,187
Corn, Green	10,935	956,001	41,373	--	554	64,796	6,720
Cucumbers	6,950	211,092	14,781	1,843	--	22,282	12,610
Okra	19,781	333,290	25,286	--	234,992	33,483	5,798
Peppers	5,610	360,209	54,215	47	41	18,661	1,498
Potatoes, Irish	24,001	4,426,463	268,354	--	40	600,417	60,207
Potatoes, Sweet	17,638	1,555,919	113,842	--	--	83,366	22,605
Squash	8,204	350,768	19,460	172	3,414	42,356	1,670
Tomatoes	33,366	4,074,994	240,946	--	36	299,997	134,814
Watermelons	43,574	1,005,043	82,833	--	238	106,646	717,845

Vegetable	Dillard	Donaldsonville	Value of Sales		Macon	Moultrie	Nashville
			Glennville	Jesup			
Beans	\$59,599	\$152,427	\$ --	\$ 6,147	\$145,479	\$113,348	\$ 237
Cabbage	58,816	--	--	--	98,408	47,875	240
Cantaloupes	1,887	35,976	100	2,736	14,072	39,357	1,327
Corn, Green	3,699	7,321	--	25,847	36,326	27	203
Cucumbers	4,920	4,500	--	478	6,409	1,709	18,380
Okra	319	28,850	--	1,021	25,257	660	--
Peppers	2,311	--	--	225	11,354	30	171
Potatoes, Irish	14,378	--	--	282	426,765	82	--
Potatoes, Sweet	2,254	3,661	--	37	207,615	5,829	1,118
Squash	625	2,031	--	140	23,820	8,030	--
Tomatoes	6,902	--	49,174	3,956	128,140	59,175	36,695
Watermelons	1,110	156,648	14,884	27,768	79,616	42,095	6,459

TABLE XXI (continued)

Vegetable	Pelham	Rome	Value of Sales		Tifton	Valdosta	Vidalia
			Savannah	Thomasville			
Beans	\$ 6,570	\$ 9,131	\$252,743	\$862,329	\$ 11,364	\$ 80,272	\$ 2,787
Cabbage	1,544	5,246	104,431	192,493	2,475	43,081	3,087
Cantaloupes	2,550	11,474	46,452	14,903	138,430	30,515	290
Corn, Green	2,644	5,526	89,975	3,229	--	24,256	815
Cucumbers	600	1,596	34,336	43,232	14,914	20,034	407
Okra	1,113	5,823	60,401	129,757	--	24,700	1,005
Peppers	--	1,776	38,562	11,075	--	23,596	84
Potatoes, Irish	--	39,141	321,291	14,260	--	129,526	14,500
Potatoes, Sweet	137,500	7,187	129,041	70,171	30,275	99,425	4,765
Squash	1,489	2,046	41,234	219,969	1,266	14,274	1,981
Tomatoes	87,992	32,211	416,788	17,454	153,912	75,875	1,731
Watermelons	3,472	14,677	139,048	111,522	113,126	156,179	700

*Source: Georgia State Farmers' Markets - 1958 Annual Sales Report (Atlanta: Georgia Marketing Commission, 1959), pp. 4-39.

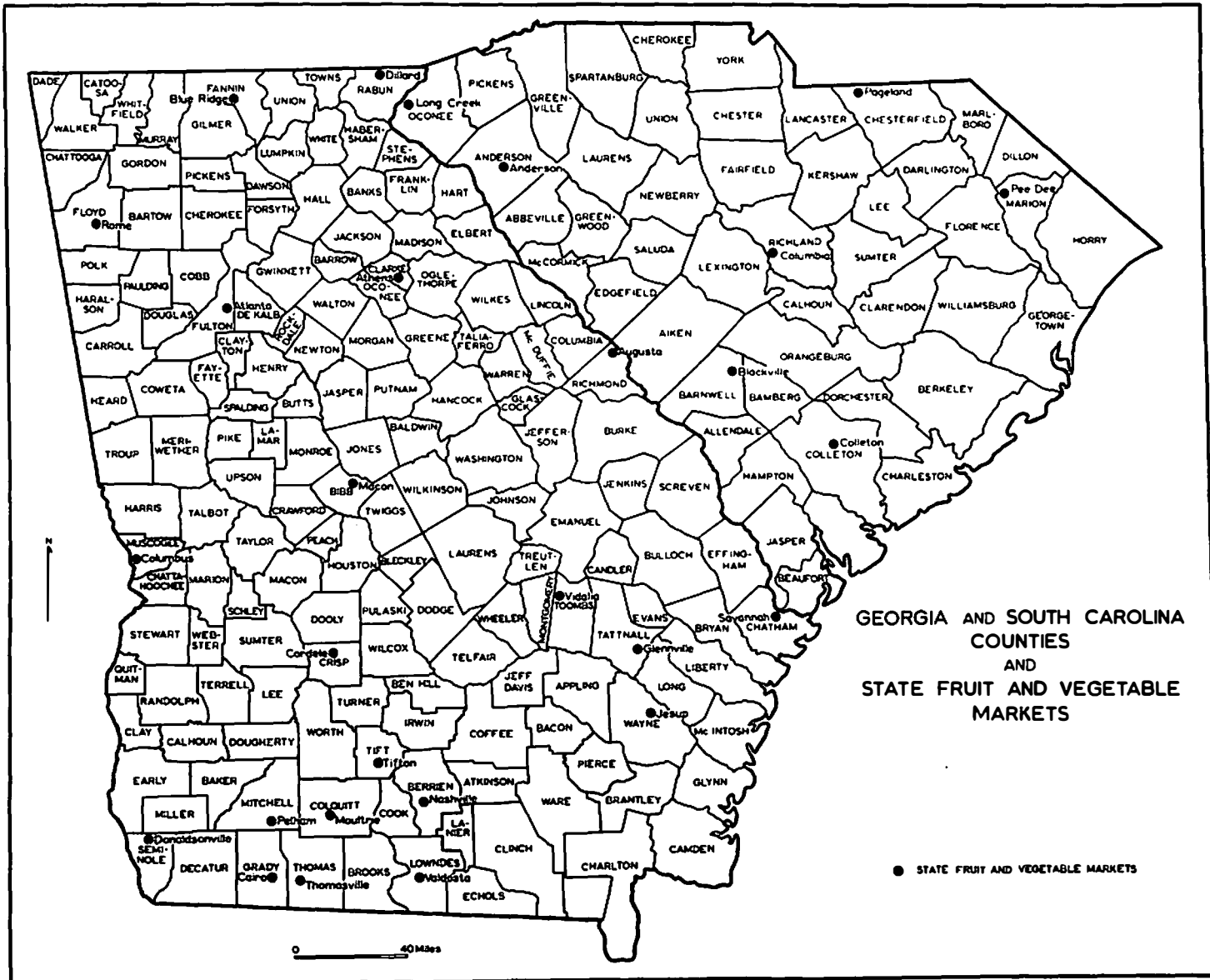


FIGURE 53

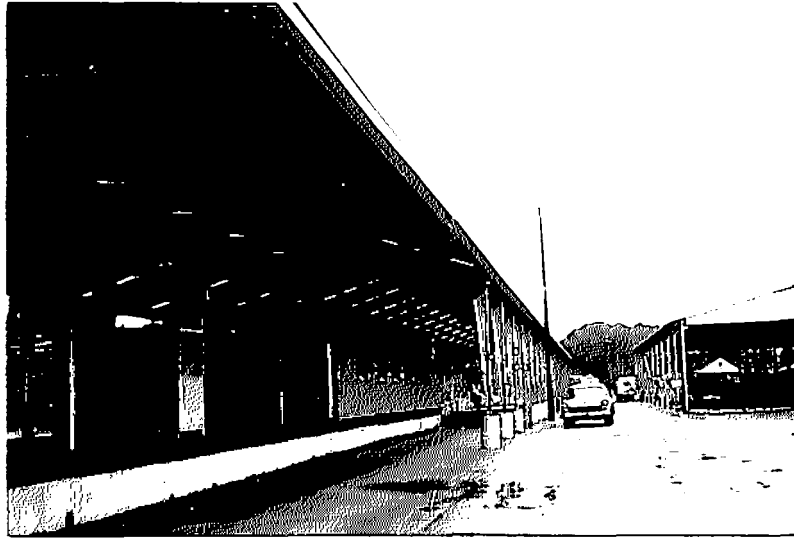


FIGURE 54

AUCTION SHED, THOMASVILLE STATE FARMERS' MARKET
THOMASVILLE, GEORGIA



FIGURE 55

SALES SHED, TIFTON STATE FARMERS' MARKET,
TIFTON, GEORGIA

Watermelons occupy larger acreages than any other vegetable crop in both Georgia and South Carolina. Relative importance of watermelons, when compared to total vegetable acreage, has been declining in Georgia over the past several decades, but in South Carolina watermelons have maintained approximately the same acreage relationship to the total vegetable crop, excluding potatoes. In 1954, Georgia had 57,690 acres planted in watermelons compared to 37,922 acres in South Carolina. In both states production is widely distributed.

Most South Carolina melons are produced on the Coastal Plain, with 7,646 acres planted in Barnwell County, and 7,107 acres in Chesterfield County (Figure 56). The above two counties, plus Allendale, Bamberg, Hampton, Kershaw, and Aiken, had nearly 80 per cent of the total state acreage in 1954. During the same year 17 Georgia counties produced over 1,000 acres, all located on the Coastal Plain and mostly in south Georgia (Figure 56). Brooks County led all other counties with 6,898 acres, followed by Thomas with 4,212 acres, and Crisp with 4,110 acres. These three counties, plus Worth, Colquitt, Dooly, Turner, Cook, and Lowndes, produce over one-half of the Georgia crop.

During the period 1946-50, Georgia's average melon production was 254 per acre and South Carolina yielded an average of 198.⁶ At these rates Georgia would have produced approximately 14,653,000 melons and South Carolina 7,699,000 melons in 1954. It would be difficult to

⁶W. T. Ferrier, Marketing South Carolina Watermelons, South Carolina Agricultural Experiment Station Bulletin 396 (Clemson: Clemson Agricultural College, June, 1951), p. 5.

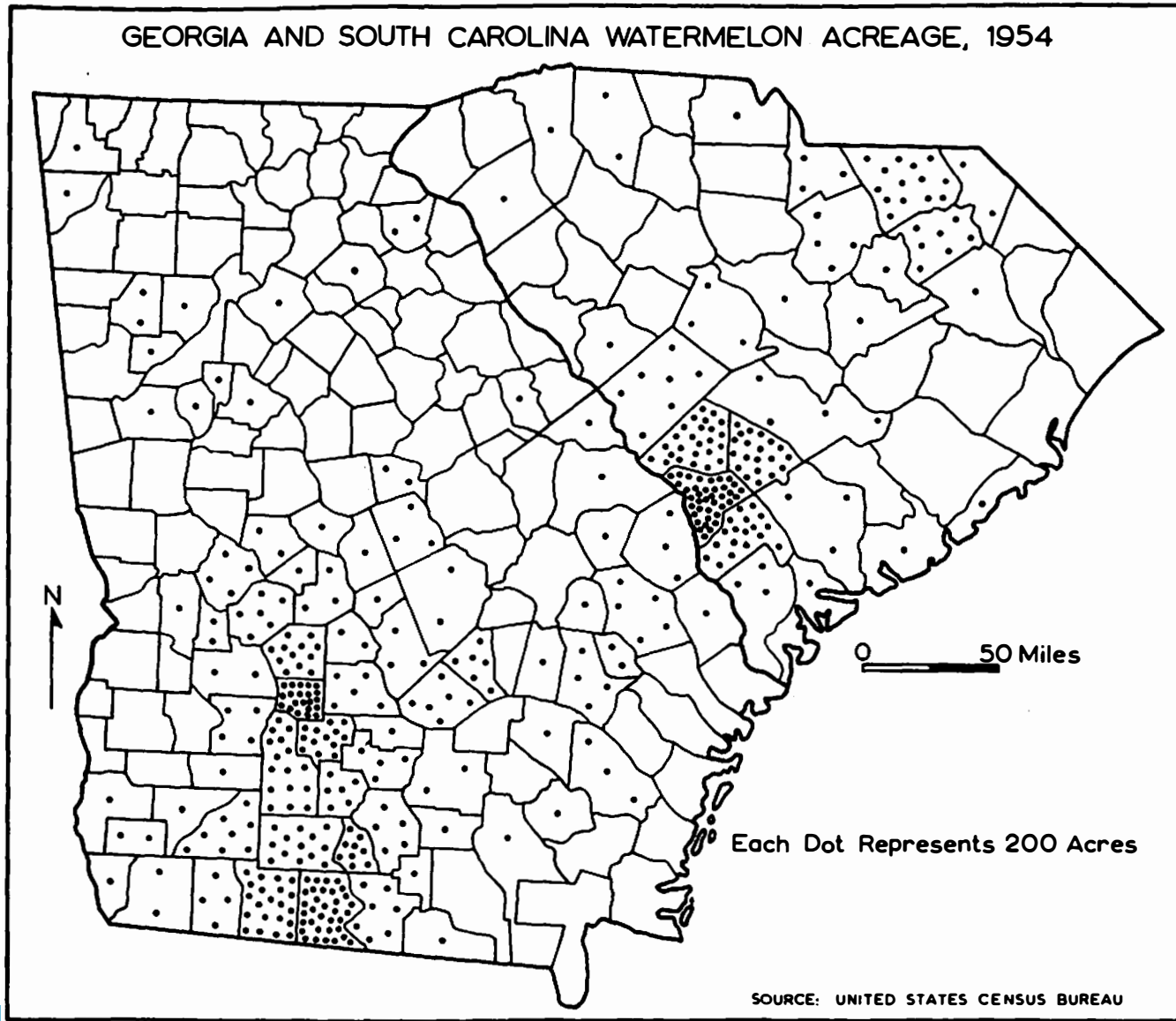


FIGURE 56

determine the percentage of watermelons entering regular marketing channels, but probably about one-half are consumed locally. Twenty Georgia markets listed watermelon sales totaling over \$2,800,000 in 1958, but many of the melons handled on the larger terminal markets were purchased from concentration facilities, and terminal market sales also include watermelons produced in other states (Table XXI). Melons totaling approximately one-half the above value were sold on concentration markets and would probably be more representative of the Georgia crop. The number of melons sold on all 20 markets amounted to over 8,990,000 but melons sold on concentration markets numbered only 5,870,000, or about 40 per cent of the total production based on 1954 figures. The Atlanta Market handled over 2,000,000 melons for a value in excess of \$1,000,000; while Cordele, a concentration market, sold over 3,400,000 melons for a total value of only \$717,055. Cordele melons were first sale, Georgia melons, whereas many of the melons sold on the Atlanta Market arrived from other states prior to the time the Georgia crop was ready for harvest and brought premium prices.

In South Carolina, relatively the same marketing situation prevails as in Georgia. Most markets handling South Carolina melons are privately owned, although three state-owned markets normally handle a large portion of the crop. In 1952, 11 South Carolina markets--private, state, and cooperative--handled over 3,380,000 melons, or approximately 36 per cent of the total production for that year.⁷ In 1957 South

⁷Crenshaw and Davis, op. cit., p. 42.

Carolina melons were in relatively short supply due to severe late freezes, but approximately 12,227,000 were produced for a value of \$2,404,000.⁸ The Blackville State Farmers' Market in Barnwell County --which is primarily a watermelon market--handled some 1,551,469 melons during 1957, bringing \$387,867.⁹ In addition, the Pageland State Farmers' Market, in Chesterfield County, sold 524,404 melons for a value of \$131,101. Other watermelons were sold through contacts made at the market, but did not move through the market facilities and are not included in the market total.¹⁰ In 1958, South Carolina melons valued at \$241,078 were sold on the Columbia Market.¹¹ Some of the melons traded on the Columbia facility may have been counted at other markets, however, for the Blackville Market often ships considerable quantities to Columbia. Total sales of watermelons on the fresh market amounted to \$2,404,000 in 1957, and \$1,612,000 in 1958.

Trucks, in 1958, accounted for most watermelon shipments from Georgia and South Carolina to the 37 cities shown in Table XXII. Only 11 per cent of South Carolina melons were shipped by rail as compared to approximately 16 per cent of Georgia melons. Rail shipments increased with distance from the producing areas and were dominant to Canadian cities.

⁸South Carolina Crop Reporting Service, op. cit., p. 4.

⁹Report, State Agricultural Marketing Commission, 1957 (Columbia: Columbia State Farmers' Market, 1957), p. 1.

¹⁰Ibid., p. 4.

¹¹Columbia State Farmers' Market Volume Report, 1958." (Mimeographed.)

TABLE XXII

CARLOT SHIPMENTS OF GEORGIA AND SOUTH CAROLINA
WATERMELONS TO SELECTED CITIES - 1958*

CITY	GEORGIA		SOUTH CAROLINA	
	Truck	Rail	Truck	Rail
Albany, N. Y.	14	18	20	10
Atlanta, Ga.	1,703	-	2	3
Baltimore, Md.	191	-	133	2
Birmingham, Ala.	134	3	-	-
Boston, Mass.	3	107	57	160
Buffalo, N. Y.	27	41	71	3
Chicago, Ill.	92	53	19	2
Cincinnati, Ohio	142	30	19	7
Cleveland, Ohio	189	15	145	6
Columbia, S. C.	98	-	1,185	-
Dallas, Texas	-	-	-	-
Denver, Colo.	-	-	-	-
Detroit, Mich.	211	120	73	2
Fort Worth, Texas	-	-	-	-
Houston, Texas	-	-	-	-
Indianapolis, Ind.	211	13	7	-
Kansas City, Mo.-Kans.	-	-	-	-
Los Angeles, Calif.	-	-	-	-
Louisville, Ky.	120	9	1	-
Memphis, Tenn.	128	-	-	-
Miami, Fla.	20	1	56	-
Milwaukee, Wis.	39	2	9	-
Minneapolis-St. Paul, Minn.	15	-	1	-
Nashville, Tenn.	35	2	1	-
New Orleans, La.	-	-	-	-
New York, N. Y.	188	155	1,254	112
Philadelphia, Pa.	99	173	115	110
Pittsburgh, Pa.	155	65	251	11
Portland, Ore.	-	10	-	-
Providence, R. I.	7	11	22	39
St. Louis, Mo.	4	-	-	-
Salt Lake City, Utah	-	-	-	-
San Antonio, Texas	-	-	-	-
San Francisco, Calif.	-	-	-	-
Washington, D. C.	391	4	324	-
Wichita, Kans.	-	-	-	-
TOTALS	4,216	834	3,764	467

*Source: Carlot Unloads of Certain Fruits and Vegetables in 100 U. S. and 5 Canadian Cities--Also--Truck Unloads in 38 U. S. Cities and 5 Canadian Cities, Calendar Year 1958, U. S. Dept. of Agriculture Circular AMS-25 (Washington: U. S. Dept. of Agriculture, Agricultural Marketing Service, March, 1959), pp. 12-82.

Georgia melons were shipped in greater quantities than the South Carolina product to cities west of the Appalachian Mountains, whereas, South Carolina melons were dominant in most eastern cities (Figures 57 and 58). For example, New York City obtained almost four times as many melons from South Carolina as from Georgia, but Chicago obtained nearly seven times as many melons from Georgia. South Carolina watermelon shipments exceeded those from Georgia to Boston, Buffalo, Columbia, Miami, New York City, Pittsburgh, and Providence, plus the Canadian cities of Montreal and Toronto. Georgia led South Carolina slightly in total shipments of melons to all the cities considered.

Tomatoes are one of the more valuable crops produced in Georgia and South Carolina, with acreages having expanded considerably during the past several decades. In 1954 Georgia planted 11,242 acres, and South Carolina somewhat more than one-half that amount. In 1930 Georgia had only 3,752 acres in tomatoes and South Carolina 3,221. Tomato acreages, then, have been expanding most rapidly in Georgia, especially in several southern counties.

Of the 21 Georgia counties producing over 100 acres of tomatoes in 1954, 13 that were found bordering each other in the south central part of the state accounted for 66 per cent of the total acreage (Figure 59). The only county of outstanding importance that is not located in the south Georgia producing area is Tattnall, whose 1,098 acres were responsible for nearly 10 per cent of total plantings.

Two South Carolina counties--Beaufort with 2,067 acres, and Charleston with 1,282 acres--were responsible for over 56 per cent of

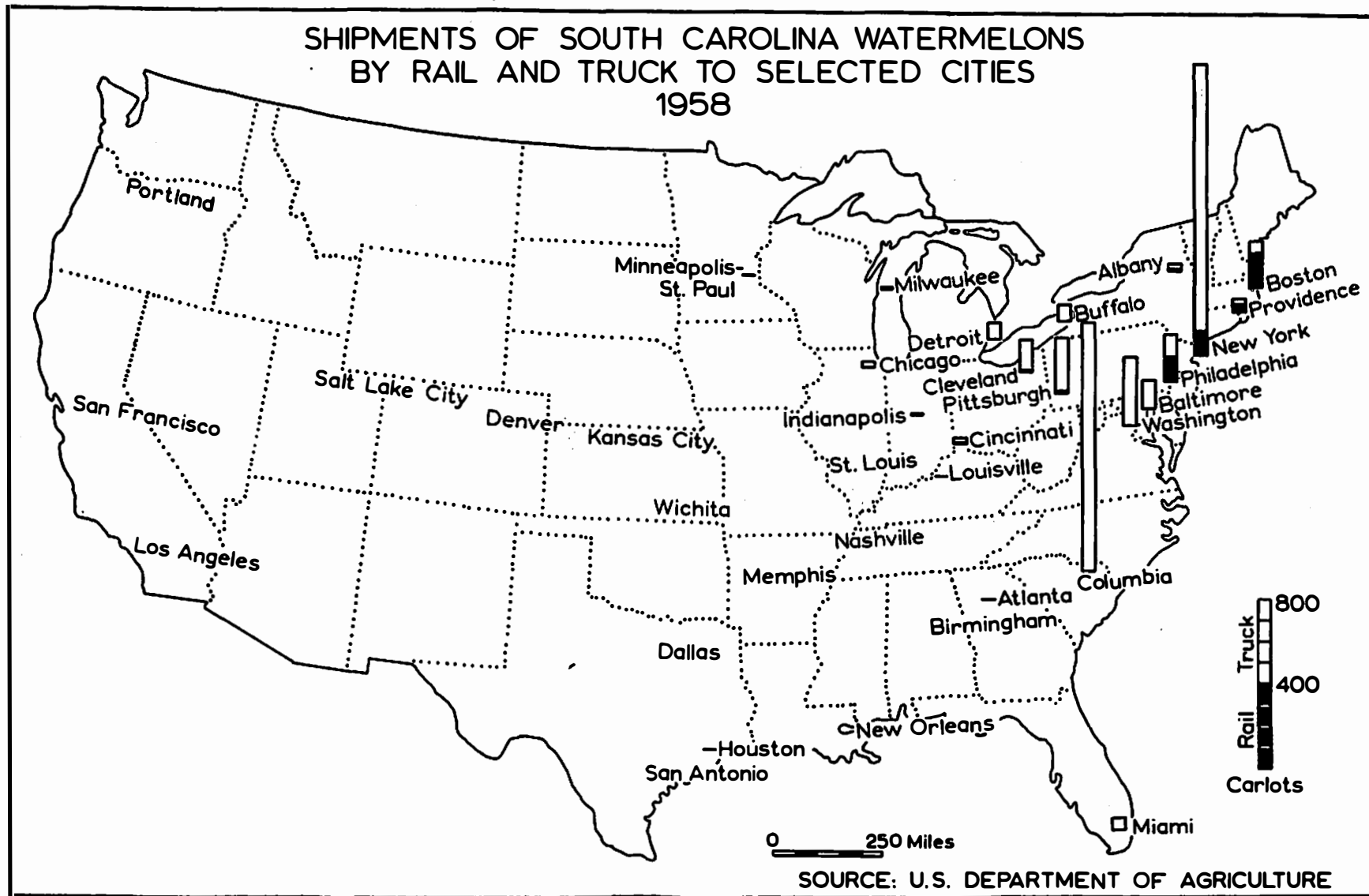


FIGURE 57

SHIPMENTS OF GEORGIA WATERMELONS
BY RAIL AND TRUCK TO SELECTED CITIES
1958

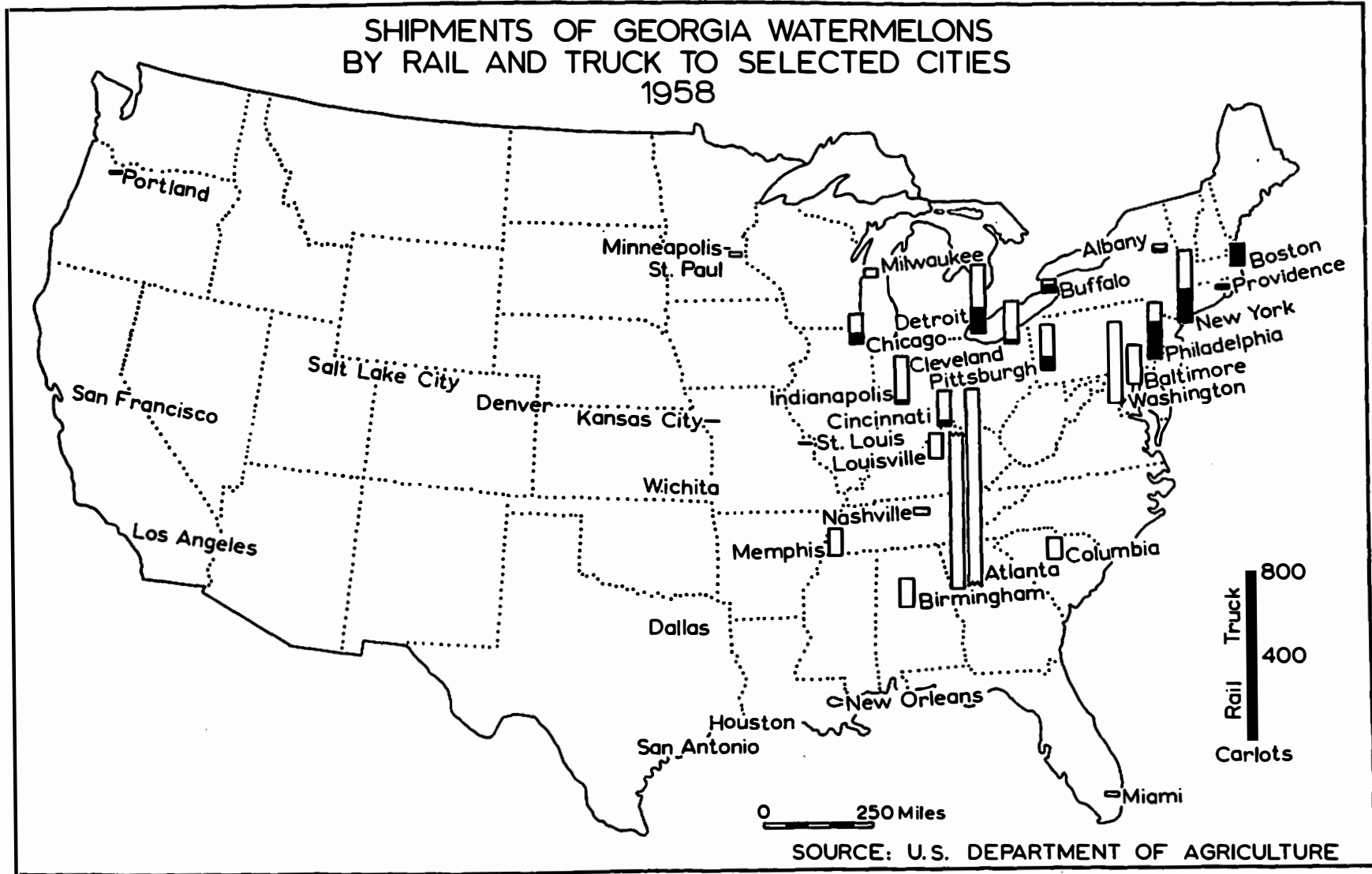


FIGURE 58

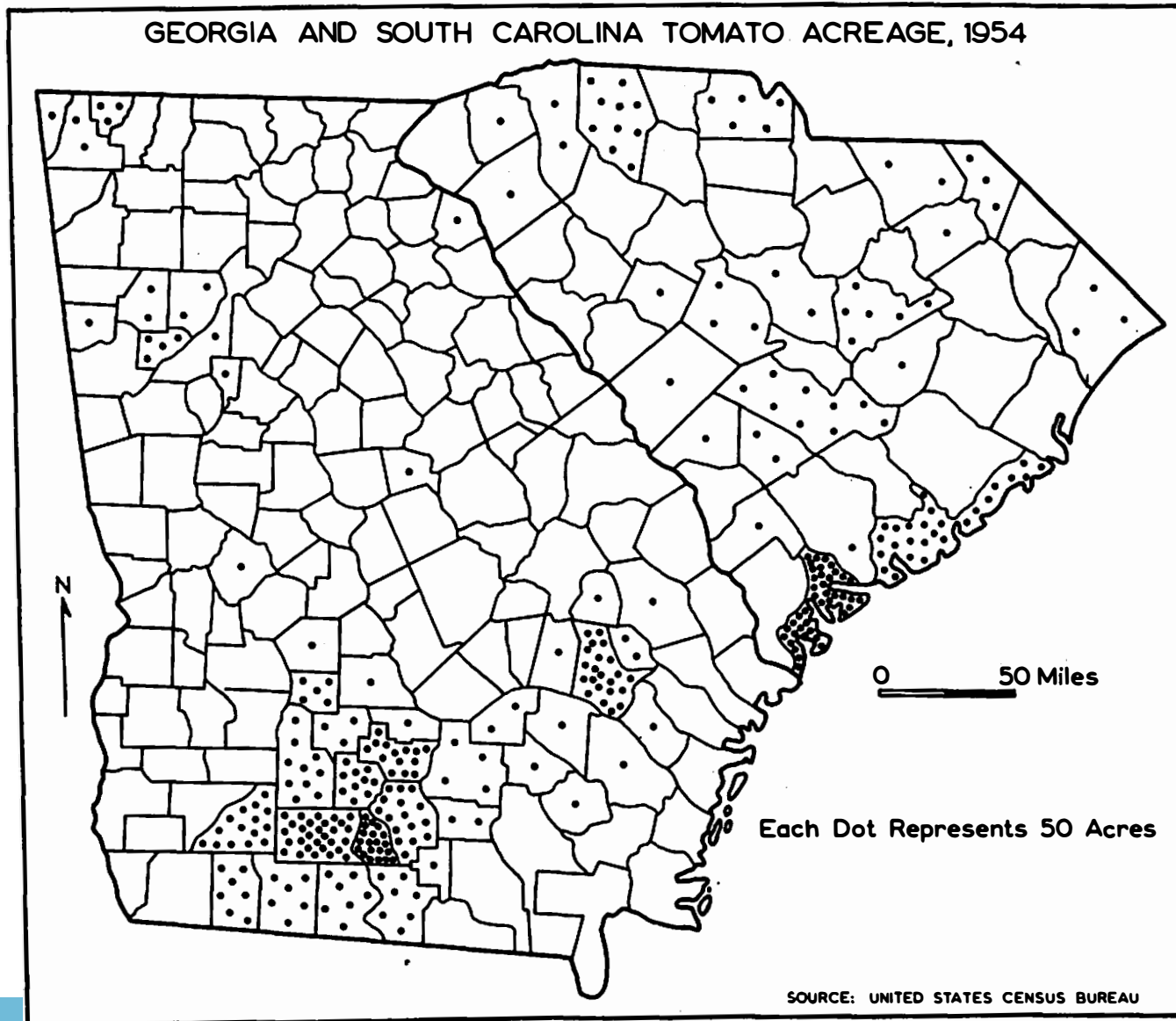


FIGURE 59

the state tomato acreage in 1954 (Figure 59). Seven additional counties planted over 100 acres; all except one being located on the Coastal Plain. Spartanburg County, on the Piedmont, planted nearly 600 acres of tomatoes in 1954, with a large portion of the acreage devoted to an early fall crop.

Georgia tomatoes begin arriving on the market about the same time as the South Carolina crop in the spring, but Georgia extends its fall harvest season considerably later, due to production in the southern part of the state. Both states have expanded their fall acreages in recent years.

A large percentage of the South Carolina tomato crop is produced by so-called "grower-shippers," who have their own facilities for grading and packing and their own market outlets.¹² In 1957, however, the Pee Dee Market, in Marion County, sold some 25,286 bushels for \$19,707, and in 1958 the Columbia Market sold 144,344 bushels of South Carolina tomatoes for \$390,396.¹³ Other markets handling tomatoes were privately owned. Total value of South Carolina tomatoes sold on the fresh market in 1958 was \$1,010,000.

Nineteen Georgia state farmers' markets handled tomatoes in 1958, with values totaling \$5,854,066 (Table XXI). The Atlanta Market sold most of these, but the majority were probably produced out-of-state.

¹²Crenshaw and Davis, op. cit., p. 40.

¹³Report, State Agricultural Marketing Commission, 1957, op. cit., p. 4.

State concentration markets, which were limited mostly to Georgia tomatoes, had a business of approximately \$700,000 in this commodity.

The distribution of Georgia and South Carolina tomatoes is much more limited than the distribution area for watermelons. Of the 37 cities listed in Table XXIII, Georgia tomatoes were sold in only 17, and South Carolina tomatoes in only 16 (Figures 60 and 61). Shipments were primarily by truck, with rails accounting for less than eight per cent of Georgia shipments and only 15 per cent of South Carolina shipments.

The cities considered received more than double the volume of tomatoes from South Carolina than were purchased from Georgia. Over one-half of Georgia shipments went to Atlanta, with the remainder being scattered among various cities in the East and Middle West. Nearly one-half of South Carolina shipments were sold in Columbia, New York City accounted for an additional 35 per cent, and most of the remainder went to Baltimore, Boston, Philadelphia, and Pittsburgh.

Cabbage acreages have not increased as much as many other vegetable crops. South Carolina acreage has remained relatively unchanged since 1930, whereas Georgia acreages have shown an increase. In 1954 South Carolina had 2,656 acres planted in cabbage and Georgia 5,274.

Nearly 70 per cent of the South Carolina acreage is found in Charleston County, with only three additional counties--Orangeburg, Beaufort, and Horry--having as many as 100 acres (Figure 62). Areas of commercial cabbage production are also clearly defined in Georgia, as almost 40 per cent of the state acreage is in Thomas County (Figure 62).

TABLE XXIII

CARLOT SHIPMENTS OF GEORGIA AND SOUTH CAROLINA
TOMATOES TO SELECTED CITIES - 1958*

CITY	GEORGIA		SOUTH CAROLINA	
	Truck	Rail	Truck	Rail
Albany, N. Y.	-	-	1	2
Atlanta, Ga.	279	-	14	-
Baltimore, Md.	14	2	52	9
Birmingham, Ala.	3	-	-	-
Boston, Mass.	-	8	18	35
Buffalo, N. Y.	-	-	1	3
Chicago, Ill.	15	3	6	1
Cincinnati, Ohio	-	2	-	-
Cleveland, Ohio	2	-	-	-
Columbia, S. C.	45	-	420	-
Dallas, Texas	-	-	-	-
Denver, Colo.	-	-	-	-
Detroit, Mich.	6	2	2	1
Fort Worth, Texas	-	-	-	-
Houston, Tex.	-	-	1	-
Indianapolis, Ind.	1	-	-	-
Kansas City, Mo.	-	-	-	-
Los Angeles, Calif.	-	-	-	-
Louisville, Ky.	21	-	-	-
Memphis, Tenn.	-	-	-	-
Miami, Fla.	-	1	-	-
Milwaukee, Wis.	-	-	-	-
Minneapolis-St. Paul, Minn.	-	-	-	1
Nashville, Tenn.	10	1	-	1
New Orleans, La.	1	-	-	-
New York, N. Y.	8	16	295	68
Philadelphia, Pa.	15	1	33	19
Pittsburgh, Pa.	11	-	19	9
Portland, Ore.	-	-	-	-
Providence, R. I.	-	-	2	2
St. Louis, Mo.	-	-	-	-
Salt Lake City, Utah	-	-	-	-
San Antonio, Texas	-	-	-	-
San Francisco, Calif.	-	-	-	-
Washington, D. C.	6	-	13	7
Wichita, Kans.	-	-	-	-
TOTALS	437	36	877	158

*Source: Carlot Unloads of Certain Fruits and Vegetables in 100 U. S. and 5 Canadian Cities--Also--Truck Unloads in 38 U. S. Cities and 5 Canadian Cities, Calendar Year 1958, U. S. Dept. of Agriculture Circular AMS-25 (Washington: U. S. Dept. of Agriculture, Agricultural Marketing Service, March, 1959), pp. 12-82.

SHIPMENTS OF SOUTH CAROLINA TOMATOES
BY RAIL AND TRUCK TO SELECTED CITIES
1958

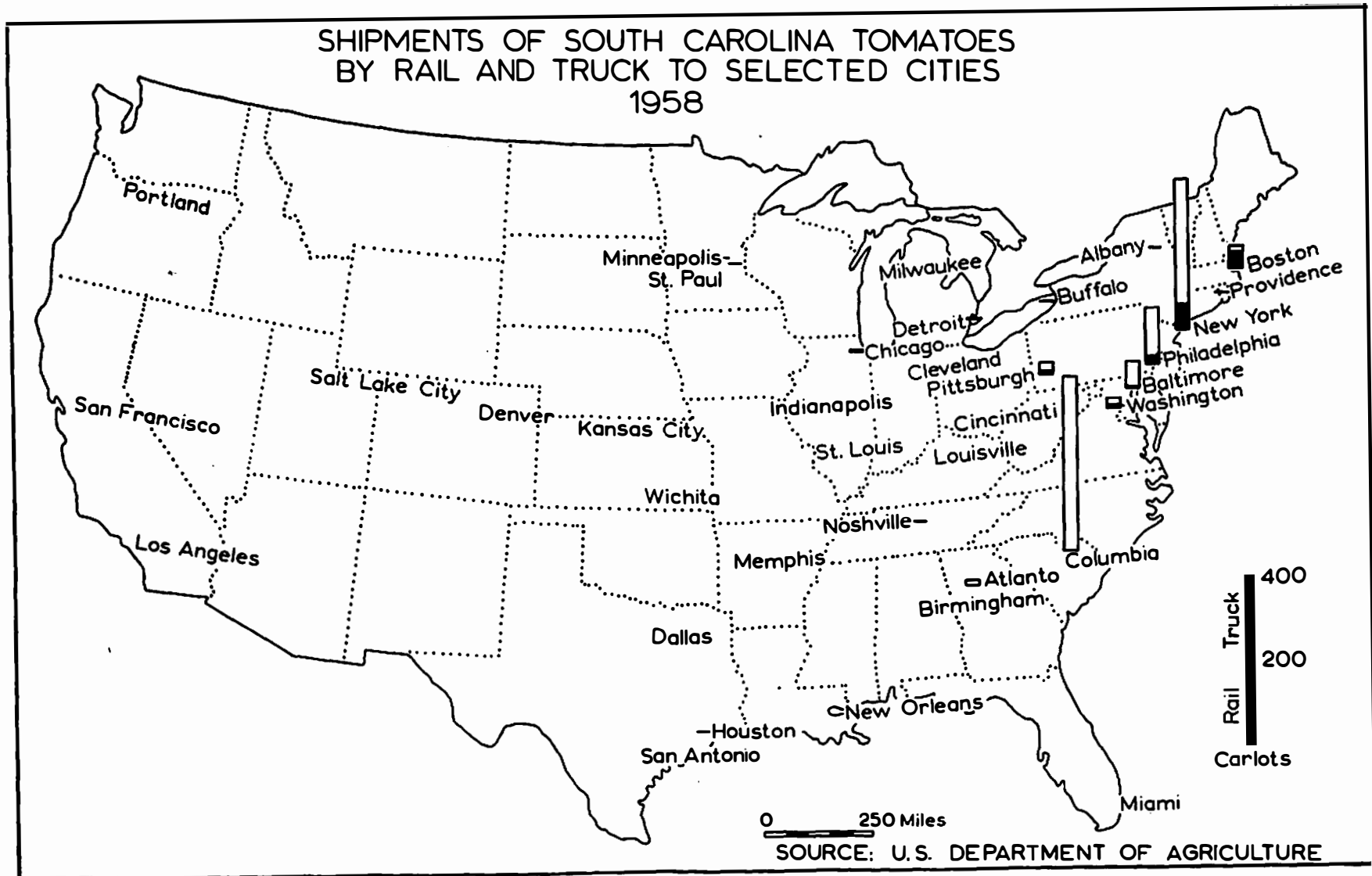


FIGURE 60

SHIPMENTS OF GEORGIA TOMATOES
BY RAIL AND TRUCK TO SELECTED CITIES
1958

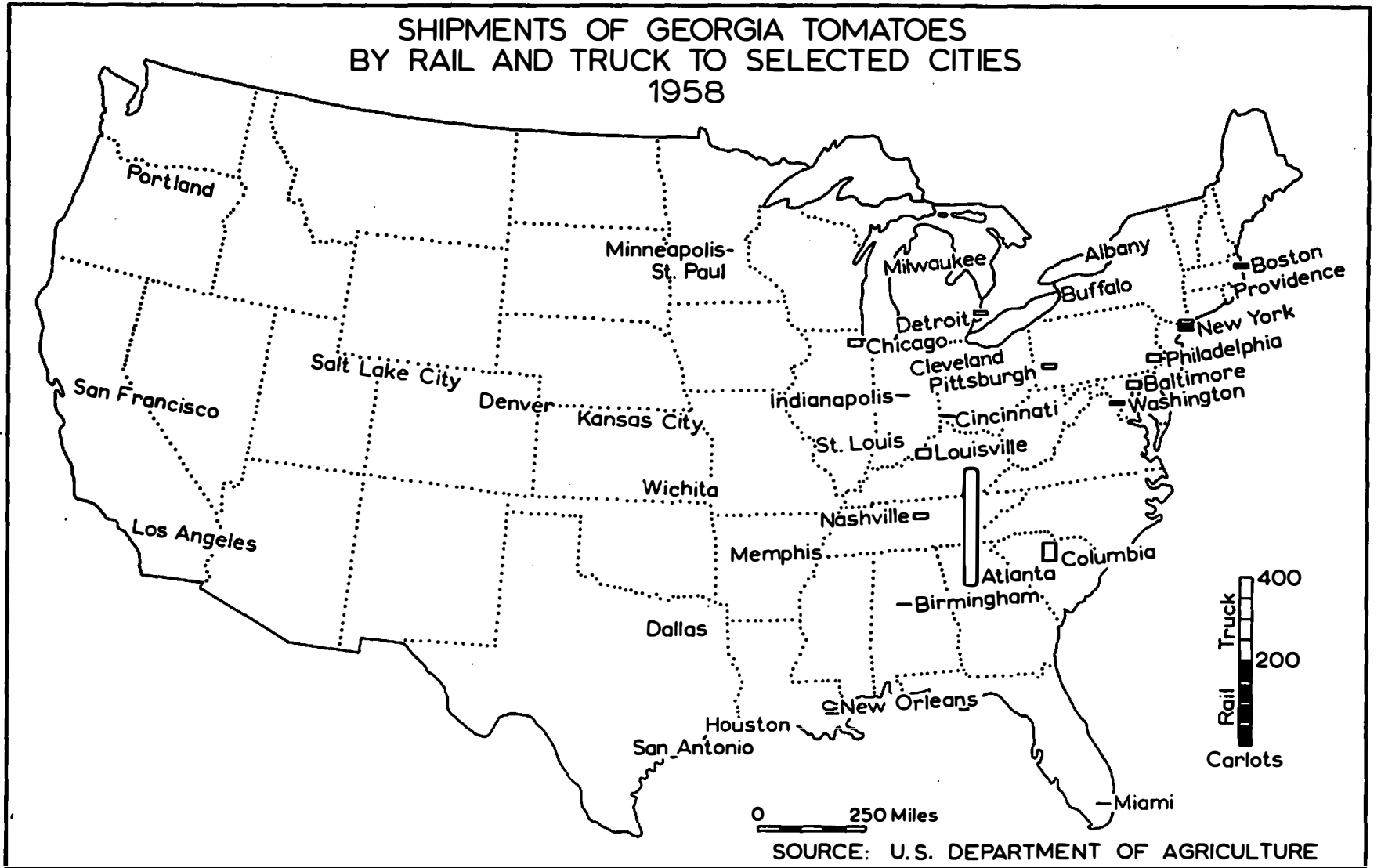


FIGURE 61

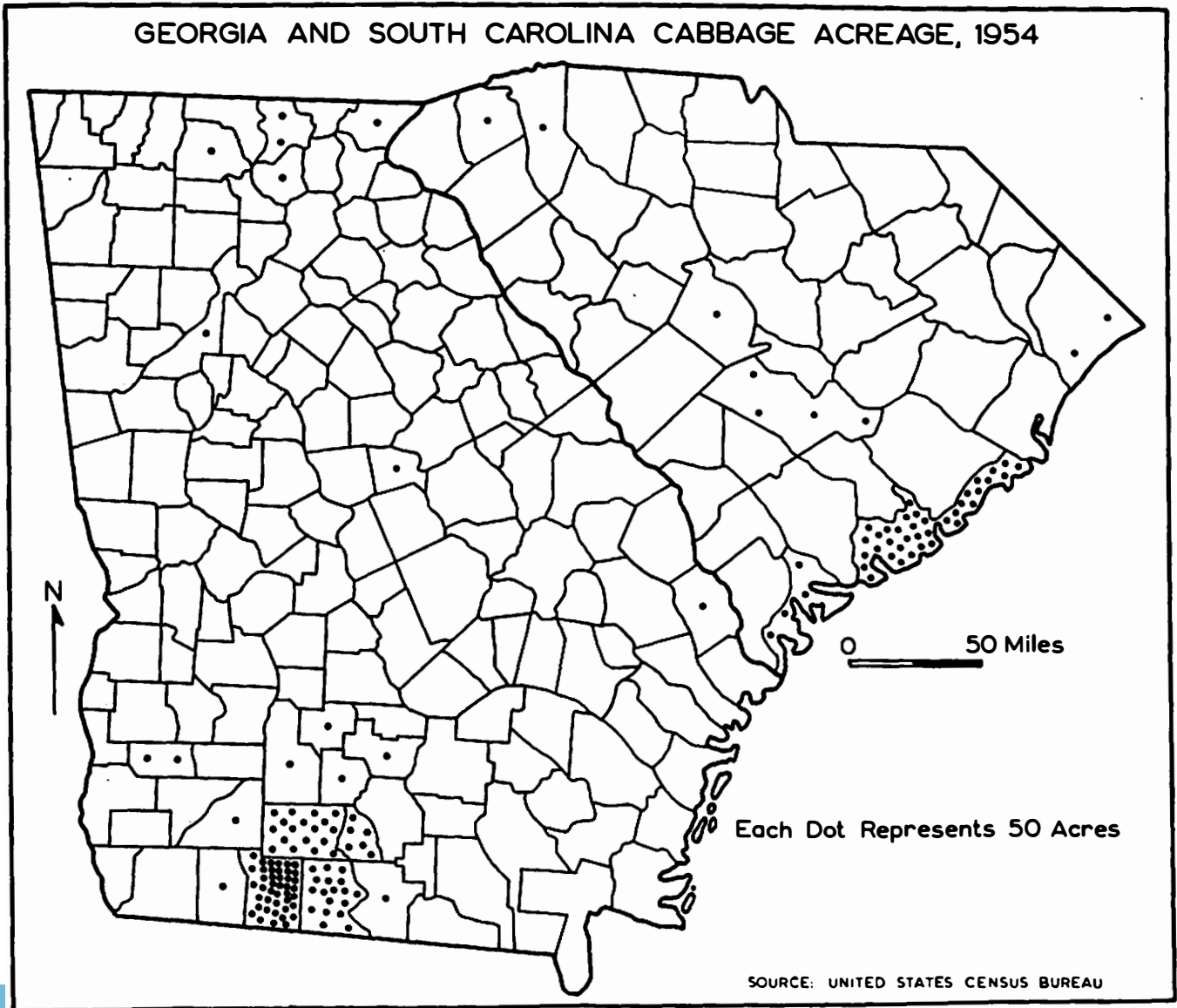


FIGURE 62

Neighboring South Georgia counties--Colquitt, Brooks, and Cook--contribute an additional 40 per cent of the acreage.

Most South Carolina cabbage is marketed by "grower-shippers" and through private buyers, since little is sold through the state market system. The Columbia Market, in 1958, sold only \$58,089 in South Carolina cabbage, while total cabbage sales for the fresh market reached \$604,000.

Georgia concentration markets handled cabbage valued at \$384,018 in 1958, and the wholesale terminal markets were responsible for sales of \$1,443,463 (Table XXI). The Thomasville Market, with cabbage sales of \$193,368, handled much of the Thomas County production and also some cabbage from neighboring counties. The total value of the 1958 Georgia crop is unknown.

Cabbage shipments from Georgia and South Carolina to the cities listed in Table XXIV were made primarily by truck, with rails accounting for only 20 per cent of Georgia and 12 per cent of South Carolina shipments in 1958. Nearly all cabbage moving to Canadian cities was transported by rail.

Georgia and South Carolina cabbage was marketed in 23 of the cities considered, with heaviest Georgia shipments going to the Middle West, whereas South Carolina cabbage was sold primarily to eastern cities (Figures 63 and 64). Atlanta took 40 per cent of all Georgia shipments to the cities considered and New York and Philadelphia were responsible for 40 per cent of South Carolina shipments. Georgia shipments, however, exceeded those from South Carolina to Washington, D. C.,

TABLE XXIV

CARLOT SHIPMENTS OF GEORGIA AND SOUTH CAROLINA
CABBAGE TO SELECTED CITIES - 1958*

CITY	GEORGIA		SOUTH CAROLINA	
	Truck	Rail	Truck	Rail
Albany, N. Y.	2	1	12	2
Atlanta, Ga.	393	-	5	-
Baltimore, Md.	4	-	42	-
Birmingham, Ala.	53	-	13	-
Boston, Mass.	12	31	17	17
Buffalo, N. Y.	-	3	6	2
Chicago, Ill.	30	12	14	14
Cincinnati, Ohio	28	17	3	8
Cleveland, Ohio	7	32	29	12
Columbia, S. C.	3	-	116	-
Dallas, Texas	-	-	-	-
Denver, Colo.	-	-	-	-
Detroit, Mich.	13	38	11	4
Fort Worth, Texas	-	-	-	-
Houston, Texas	-	-	-	-
Indianapolis, Ind.	73	3	3	-
Kansas City, Mo.	-	-	-	-
Los Angeles, Calif.	-	-	-	-
Louisville, Ky.	37	-	7	-
Memphis, Tenn.	14	-	3	-
Miami, Fla.	-	-	3	-
Milwaukee, Wis.	-	7	1	1
Minneapolis-St. Paul, Minn.	2	-	1	-
Nashville, Tenn.	29	-	7	-
New Orleans, La.	-	-	-	-
New York, N. Y.	49	22	132	17
Philadelphia, Pa.	27	8	150	4
Pittsburgh, Pa.	-	18	24	6
Portland, Ore.	-	-	-	-
Providence, R. I.	-	5	4	1
St. Louis, Mo.	9	-	-	-
Salt Lake City, Utah	-	-	-	-
San Antonio, Texas	-	-	-	-
San Francisco, Calif.	-	-	-	-
Washington, D. C.	173	1	65	2
Wichita, Kans.	-	-	-	-
TOTALS	785	198	668	90

*Source: Carlot Unloads of Certain Fruits and Vegetables in 100 U. S. and 5 Canadian Cities--Also--Truck Unloads in 38 U. S. Cities and 5 Canadian Cities, Calendar Year 1958, U. S. Dept. of Agriculture Circular AMS-25 (Washington, D. C.: U. S. Dept. of Agriculture, Agricultural Marketing Service, March, 1959), pp. 12-82.

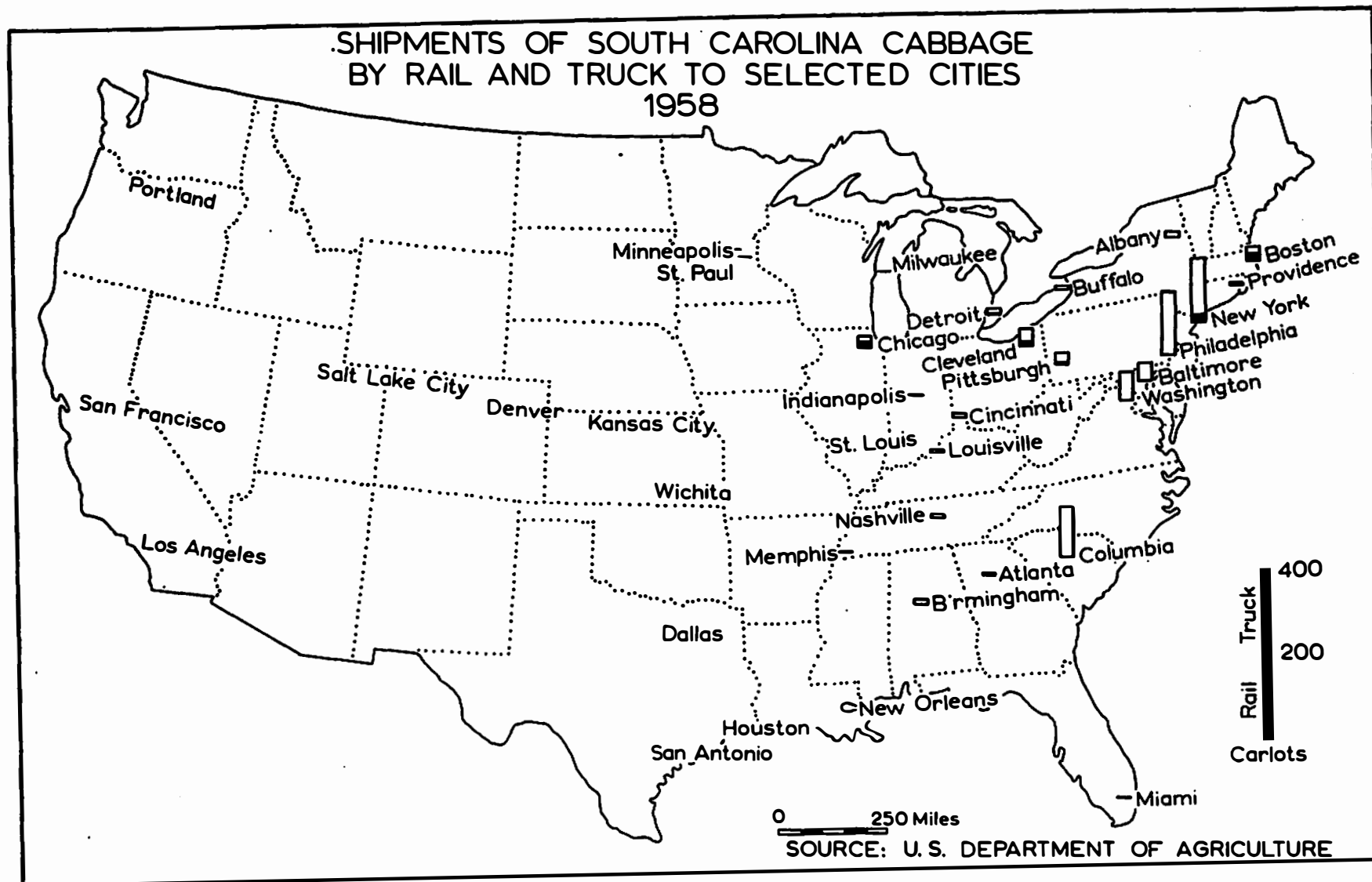


FIGURE 63

SHIPMENTS OF GEORGIA CABBAGE
BY RAIL AND TRUCK TO SELECTED CITIES
1958

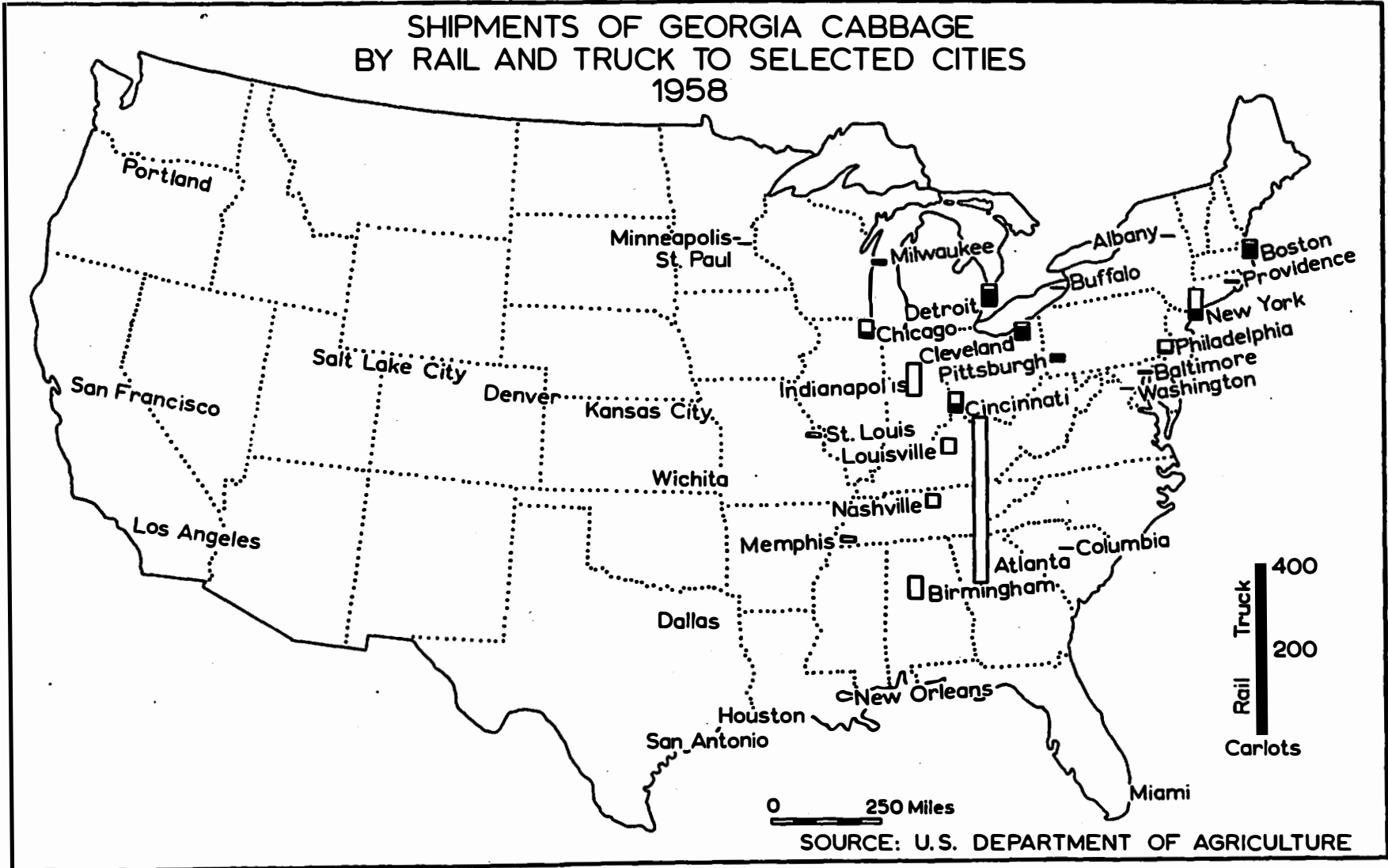


FIGURE 64

and to Boston in the East, while South Carolina shipments were dominant to Cleveland, in the Middle West. Canadian purchases were primarily from Georgia.

Irish and sweet potatoes occupy large acreages in Georgia and South Carolina, although both crops have greatly declined in acreage since 1920. The 1954 Agricultural Census indicated that Georgia had 14,410 acres planted in sweet potatoes and 2,309 acres in Irish potatoes, while South Carolina had 16,638 and 6,402 acres respectively. These figures do not include acreages on farms with less than 20 acres planted.

Seventy-five per cent of the South Carolina Irish potato crop was planted in Charlesten County, with Horry and Orangeburg the only other counties having over 100 acres (Figure 65). Sweet potato production was more evenly distributed, but Horry and Orangeburg, together, accounted for over 50 per cent of the total acreage. Other Coastal Plain counties were responsible for the remaining acreage, with Colleton, Sumter, Williamsburg, Barnwell, Clarendon, Lexington, and Florence planting an additional 22 per cent. Thirty-two of the states' 46 counties had sweet potato plantings exceeding 100 acres.

The Georgia Irish potato acreage is considerably smaller than that of South Carolina and is much more evenly distributed over the state (Figure 65). Only three counties--Effingham on the Coastal Plain, and Dade and Gilmer in the northwestern part of the state--produced over 100 acres in 1954. Sweet potato production is fairly evenly distributed over the Coastal Plain, with 40 counties producing 100 or more

GEORGIA AND SOUTH CAROLINA IRISH POTATO ACREAGE, 1954

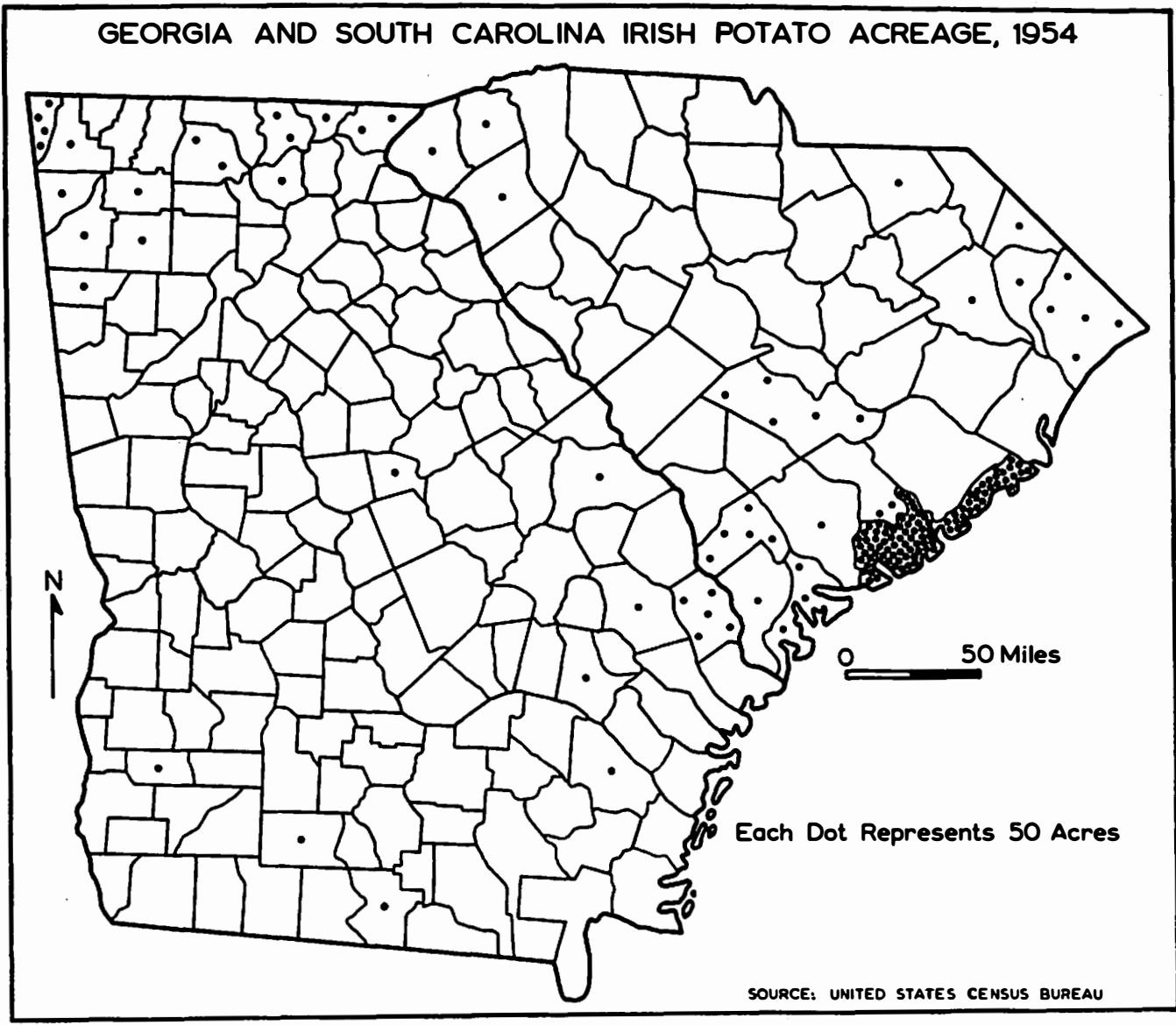


FIGURE 65

acres. Four counties--Bibb with 956 acres, Appling with 832 acres, Toombs with 522 acres, and Wilcox with 416 acres--had the major commercial crops.

Unlike many vegetables, which must be marketed immediately after harvest, potatoes may be kept in storage for a time while growers bargain for their sale. Also, potatoes make a good livestock feed and are used by industry as a source of starch and alcohol. Most South Carolina potatoes are sold by growers to private buyers as soon as possible after harvest. The buyer grades and packs the potatoes and may sell immediately, or he may store the potatoes in anticipation of a higher price. This is particularly true with sweet potatoes. Some farmers with large acreages have their own grading and packing facilities, while others have formed grading and packing cooperatives which sometimes double as agencies for buying and selling.

In 1958 the Columbia Farmers' Market handled South Carolina Irish potatoes valued at \$98,407, while sweet potatoes brought \$240,407. The Pee Dee Market sold sweet potatoes valued at \$12,830, and the Colleton Market sold sweet and Irish potatoes in small quantities. In 1952, all told, there were 13 markets handling Irish potatoes and 17 handling sweet potatoes; most of them small, private markets in each instance.

All Georgia state farmers' markets handled Irish potatoes valued at \$6,308,934 in 1958 while sweet potato sales reached \$2,492,944 (Table XXI). Concentration markets sold a relatively small proportion of the total, but are more representative of Georgia production as the

terminal markets handle large portions of out-of-state potatoes, particularly Irish potatoes. Irish potatoes worth over \$295,000 were sold on Georgia concentration markets in 1958, and sweet potato sales were valued at \$403,163.

Georgia sweet potato shipments to the cities considered in Table XXV were entirely by truck in 1958, and slightly exceeded South Carolina sweet potatoes in volume. Over 97 per cent of recorded Georgia sweet potato shipments went to Atlanta, however, with only four additional cities listing Georgia receipts. South Carolina sweet potato receipts were recorded in 14 cities in 1958, less than two per cent of the volume moving by rail. Over 50 per cent of South Carolina shipments went to Columbia, with Atlanta, Baltimore, New York City, Washington, D. C., and Louisville accounting for most of the remainder.

Georgia Irish potato shipments in 1958 amounted to less than six per cent of South Carolina shipments to the cities listed in Table XXV. Only five of these cities recorded receipts of Georgia potatoes, with 24 of the total of 34 carlots shipped going to Atlanta. South Carolina, on the other hand, shipped 665 carlots, 18 per cent by rail. Columbia, New York, Detroit, and Philadelphia accounted for 80 per cent of all South Carolina shipments to the cities considered, although 16 additional cities reported receipts of at least one carlot. Rail shipments exceeded those by truck in Detroit, Buffalo, Cleveland, Milwaukee, and Pittsburgh.

Acreage planted in cantaloupes has increased rapidly since 1920 in both Georgia and South Carolina. Georgia planted 1,659 acres and

TABLE XXV

CARLOT SHIPMENTS OF GEORGIA AND SOUTH CAROLINA
POTATOES TO SELECTED CITIES - 1958*

CITY	SWEET POTATOES				IRISH POTATOES			
	GEORGIA		SOUTH CAROLINA		GEORGIA		SOUTH CAROLINA	
	Truck	Rail	Truck	Rail	Truck	Rail	Truck	Rail
Albany, N. Y.	-	-	1	-	-	-	7	-
Atlanta, Ga.	416	-	74	-	24	-	19	-
Baltimore, Md.	-	-	25	-	-	-	24	-
Birmingham, Ala.	1	-	3	-	-	-	-	-
Boston, Mass.	-	-	-	-	-	-	7	6
Buffalo, N. Y.	-	-	-	-	-	-	3	6
Chicago, Ill.	-	-	1	-	-	-	-	1
Cincinnati, Ohio	-	-	1	-	1	-	1	-
Cleveland, Ohio	-	-	-	-	-	-	2	5
Columbia, S. C.	1	-	181	-	7	-	245	-
Dallas, Texas	-	-	-	-	-	-	-	-
Denver, Colo.	-	-	-	-	-	-	-	-
Detroit, Mich.	-	-	-	3	-	-	19	70
Fort Worth, Texas	-	-	-	-	-	-	-	-
Houston, Texas	-	-	-	-	-	-	-	-
Indianapolis, Ind.	3	-	1	-	-	-	3	2
Kansas City, Mo.	-	-	-	-	-	-	-	-
Los Angeles, Calif.	-	-	-	-	-	-	-	-
Louisville, Ky.	-	-	10	-	-	-	14	-
Memphis, Tenn.	-	-	-	-	1	-	2	-
Miami, Fla.	6	-	9	-	-	-	1	-
Milwaukee, Wis.	-	-	-	-	-	-	-	2
Minn.-St. Paul, Minn.	-	-	-	-	-	-	-	-
Nashville, Tenn.	-	-	-	-	-	-	-	-
New Orleans, La.	-	-	-	-	-	-	-	-
New York, N. Y.	-	-	17	4	-	-	112	12
Philadelphia, Pa.	-	-	8	-	1	-	60	13
Pittsburgh, Pa.	-	-	-	-	-	-	3	5
Portland, Ore.	-	-	-	-	-	-	-	-
Providence, R. I.	-	-	-	-	-	-	-	-
St. Louis, Mo.	-	-	-	-	-	-	2	-
Salt Lake City, Utah	-	-	-	-	-	-	-	-
San Antonio, Texas	-	-	-	-	-	-	-	-
San Francisco, Calif.	-	-	-	-	-	-	-	-
Washington, D. C.	-	-	14	-	-	-	19	-
Wichita, Kans.	-	-	-	-	-	-	-	-
TOTALS	427	0	345	7	34	0	543	122

*Source: Carlot Unloads of Certain Fruits and Vegetables in 100 U. S. and 5 Canadian Cities--Also--Truck Unloads in 38 U. S. Cities and 5 Canadian Cities, Calendar Year 1958, U. S. Dept. of Agriculture Circular AMS-25 (Washington: U. S. Dept. of Agriculture, Agricultural Marketing Service, March, 1959), pp. 12-82.

South Carolina 595 acres in 1920, but by 1954 plantings had increased to 9,716 and 5,472 acres respectively. The period of most rapid acreage expansion occurred between 1930 and 1940, when South Carolina plantings more than tripled and Georgia acreage more than quadrupled.

The counties in south central Georgia that produce most of the state's commercial vegetable crop were also responsible for approximately 87 per cent of the cantaloupe acreage in 1954. All counties producing over 100 acres were in this area except one.

Over 40 per cent of the South Carolina acreage in 1954 was in Barnwell County, while another 24 per cent was found in counties bordering Barnwell. Three Piedmont counties and one that is predominantly in the Piedmont had an additional 24 per cent of the total state acreage.

In 1958 the Columbia Farmers' Market sold South Carolina cantaloupes valued at \$231,951. The Blackville State Market in 1957 traded over \$75,000 in cantaloupes, although the crop in that area was only one-third of the usual production. Normally, sales on the Blackville Market would have been approximately three times the 1957 figure. Since the 1958 crop was nearly three times as great as the 1957 crop, it is reasonable to assume that the Blackville Market handled cantaloupes worth at least \$200,000 during that year. If this is true, the Columbia and Blackville Markets would have traded cantaloupes valued at some \$432,000, or approximately 60 per cent of the state's commercial production of \$712,000.

Georgia state farmers' markets handled cantaloupes valued at \$968,787 in 1958. Concentration markets accounted for nearly one-half of the total, with the Cordele and Tifton markets selling over 65 per cent of this amount (Table XXI).

No cantaloupes were shipped by rail from either South Carolina or Georgia to any of the 37 cities listed in Table XXVI during 1958. Neither state is a major supplier of cantaloupes to northeastern markets as, apparently, most of the product is consumed within the producing states. Over 53 per cent of all Georgia cantaloupes distributed to the 37 cities went to Atlanta, and Columbia took another 33 per cent. In addition to Atlanta and Columbia, only Baltimore and Washington, D. C., received over 10 carlots. Columbia was the market for more than 93 per cent of all South Carolina cantaloupes shipped to the 37 cities in 1958. Only four additional cities obtained supplies from South Carolina, with Atlanta accounting for the greater portion.

Lettuce acreages are relatively small in both South Carolina and Georgia, with the former having the largest acreage in 1954. Most rapid expansion in lettuce production occurred from 1940 to 1950, and by 1954 South Carolina had 1,114 acres and Georgia 726. In 1958 the South Carolina lettuce crop, produced for the fresh market, was valued at \$130,000.

Georgia lettuce was shipped to five of the 37 cities used in this study, with Columbia receiving 13 carlots, Miami six, Atlanta five, New York two, and Washington, D. C. one. South Carolina lettuce was shipped to 12 cities, with Baltimore, Cleveland, New York, and

TABLE XXVI

CARLOT SHIPMENTS OF GEORGIA AND SOUTH CAROLINA
CANTALOUPE TO SELECTED CITIES - 1958*

CITY	GEORGIA		SOUTH CAROLINA	
	Truck	Rail	Truck	Rail
Albany, N. Y.	-	-	-	-
Atlanta, Ga.	299	-	16	-
Baltimore, Md.	31	-	-	-
Birmingham, Ala.	10	-	-	-
Boston, Mass.	-	-	-	-
Buffalo, N. Y.	-	-	-	-
Chicago, Ill.	-	-	-	-
Cincinnati, Ohio	-	-	-	-
Cleveland, Ohio	-	-	-	-
Columbia, S. C.	186	-	359	-
Dallas, Texas	-	-	-	-
Denver, Colo.	-	-	-	-
Detroit, Mich.	-	-	-	-
Fort Worth, Texas	-	-	-	-
Houston, Texas	-	-	-	-
Indianapolis, Ind.	3	-	-	-
Kansas City, Mo.	-	-	-	-
Los Angeles, Calif.	-	-	-	-
Louisville, Ky.	8	-	3	-
Memphis, Tenn.	-	-	-	-
Miami, Fla.	-	-	-	-
Milwaukee, Wis.	-	-	-	-
Minneapolis-St. Paul, Minn.	-	-	-	-
Nashville, Tenn.	9	-	-	-
New Orleans, La.	-	-	-	-
New York, N. Y.	-	-	1	-
Philadelphia, Pa.	-	-	-	-
Pittsburgh, Pa.	-	-	-	-
Portland, Ore.	-	-	-	-
Providence, R. I.	-	-	-	-
St. Louis, Mo.	-	-	-	-
Salt Lake City, Utah	-	-	-	-
San Antonio, Texas	-	-	-	-
San Francisco, Calif.	-	-	-	-
Washington, D. C.	13	-	5	-
Wichita, Kans.	-	-	-	-
TOTALS	559	-	384	-

*Source: Carlot Unloads of Certain Fruits and Vegetables in 100 U. S. and 5 Canadian Cities--Also--Truck Unloads in 38 U. S. Cities and 5 Canadian Cities, Calendar Year 1958, U. S. Dept. of Agriculture Circular AMS-25 (Washington: U. S. Dept. of Agriculture, Agricultural Marketing Service, March, 1959), pp. 12-82.

Washington receiving four carlots each, Pittsburgh three carlots, Cincinnati two carlots, and Albany, Birmingham, Boston, Chicago, Columbia, and Philadelphia each received one carlot. All lettuce was distributed by truck.

Unfortunately, no statistics are available for the distribution of several of the more important vegetables produced in South Carolina and Georgia. Excluding potatoes, distribution statistics are available for 58 per cent of the total commercial vegetable production, however, giving a more or less representative picture of the distribution areas of products from the two states.

Additional South Carolina vegetables produced for the fresh market and for which distribution statistics would be valuable are: snap beans, cucumbers, lima beans, beets, sweet corn, broccoli, and spinach. Other Georgia vegetables of significance for the fresh market are: sweet peppers and pimentos, snap beans, lima beans, okra, squash, and sweet corn. Following, is a brief description of the production and marketing of these vegetables, using all available information. It is possible that the distribution maps for other Georgia and South Carolina fruits and vegetables may be of some value as a guide in determining the distribution pattern of the above crops.

Snap and lima beans occupy large acreages in both South Carolina and Georgia. In 1954, South Carolina planted 10,032 acres in snap beans and 2,137 acres in green lima beans, while Georgia plantings amounted to 6,235 and 5,839 acres respectively.

Georgia snap bean production is confined primarily to south-central and southwestern counties, with limited acreages in the northeast. Lima bean plantings are heaviest in the counties around Atlanta, and in south central Georgia. Only Brooks and Thomas counties in the south produce relatively large acreages of both crops, with Thomas County leading all others in snap bean production. Turner County, in south central Georgia, is the major producer of lima beans, accounting for over 17 per cent of the state acreage.

South Carolina acreages of both crops are found primarily on the "Outer" and "Inner" portions of the Coastal Plain, in the southern part of the state. Two Piedmont counties, Greenville and Pickens, produce nearly 15 per cent of the snap bean crop, however. Charleston County, on the "Outer" portion of the Coastal Plain, and Orangeburg County, on the "Inner" portion, together had approximately 50 per cent of the state acreage of snap beans and over 35 per cent of the lima bean acreage in 1954, although Orangeburg produced six times as many lima beans as Charleston.

Most South Carolina snap beans are sold through private buyers. The Columbia Market sold South Carolina snap and lima beans valued at \$247,681 and \$218,251 respectively in 1958. The relatively large portion of the state's lima bean production that is marketed through the Columbia facility is due largely to the fact that much of the acreage is within a 50 mile radius of the market. Perhaps one-fourth to one-third of all snap beans are also marketed through the Columbia

facility, although many purchases by Columbia dealers are from local buyers in the areas of heaviest snap bean production.

Georgia state farmers' markets handled over \$1,300,000 in snap beans and more than \$1,200,000 in lima beans in 1958, excluding certain quantities of Florida beans sold on the Thomasville Market (Table XXI). Concentration markets handled approximately 29 per cent of the snap beans and 37 per cent of the lima beans sold through the Georgia state market system. The Atlanta Market led in sales of both snap and lima beans, but an unknown quantity consisted of out-of-state varieties. Thomasville led all other concentration markets, with sales of Georgia snap beans totaling \$248,364, and lima bean sales of \$148,446.

Sweet peppers and pimentoes were primarily Georgia crops in 1954. Georgia plantings in these commodities reached 17,781 acres, while South Carolina reported only 2,776 acres. These crops appear to be relatively recent in South Carolina.

The most concentrated area of production in Georgia is found between 50 and 100 miles south of Atlanta, although 40 counties produce over 100 acres of sweet peppers and pimentoes. Meriwether, Pike, and Henry counties had over 28 per cent of the Georgia acreage in 1954. In contrast, only seven South Carolina counties produced more than 100 acres of peppers, with most of the production coming from the Piedmont. Greenville, Pickens, and Spartanburg counties accounted for over one-half of the total state acreage.

The Columbia Market handled a total of \$23,043 in South Carolina peppers in 1958, and in 1957 the Anderson Market--designed especially

for handling the pimento pepper crop of that area--sold peppers valued at \$16,290. Sweet peppers, with a total value of \$3,001, were also sold on the Pee Dee Market in 1957.

Total pepper sales on Georgia state markets amounted to \$529,963 in 1958, with concentration markets accounting for less than \$50,000 (Table XXI). This may have been due to the location of the major pepper producing area so close to Atlanta, which was responsible for 68 per cent of all peppers handled on the state market system.

Cucumber acreages were almost identical in the two states in 1954, with Georgia's 5,481 acres exceeding South Carolina plantings by only nine acres. South Carolina production was primarily on the southern Coastal Plain, while the Georgia acreage was predominantly in the south central area. Charleston County was the leading South Carolina producer, planting 1,336 acres, while Brooks, Lowndes, Dooly, and Colquitt counties in Georgia, all produced between 400 and 500 acres.

South Carolina cucumbers valued at \$55,485, were sold on the Columbia Market in 1958; in 1957 cucumbers with a value of \$3,423 were purchased from the Pee Dee Market and the Colleton County Market sold an unknown quantity. Most cucumbers were sold through private buyers, however, and some large growers did their own marketing. A very small portion of the crop marketed for fresh sales went through the state market system.

The Atlanta Market was responsible for about one-half of the total cucumber sales on Georgia state markets in 1958 (Table XXI). Concentration markets handled an additional one-third. Considerably

less than one-half of total cucumbers marketed for fresh sales went through the state market system.

Other major Georgia and South Carolina crops produced for the fresh market are: squash, okra, and sweet corn. These crops are produced almost entirely in south central Georgia, and on the southern portion of the "Inner" and "Outer" Coastal Plain in South Carolina. Georgia is the heaviest producer of all three commodities and contributes a larger portion to the fresh market. A large percentage of the south Georgia production of squash and okra is sold through the state farmers' markets in that area. Thomasville is the major squash market with sales totaling \$219,775 in 1958, and the major okra markets were Cairo and Thomasville with sales of \$234,992 and \$129,757 respectively. Sweet corn did not reach any of the concentration markets in significant quantities.

The peach is the major fruit crop of both South Carolina and Georgia, and the two states rank second and third nationally in peach production. In 1957 Georgia had a total of 4,314,000 trees and in 1958 South Carolina trees numbered 4,927,000. Georgia at one time led South Carolina in peach production, but South Carolina acquired dominance during the 1940's and has maintained its position since.

Important changes are occurring in the peach industries in both states, and producing areas are currently shifting away from the older Piedmont toward the Fall Line and the Coastal Plain. The Piedmont area of South Carolina contained 67.4 per cent of all the peach trees

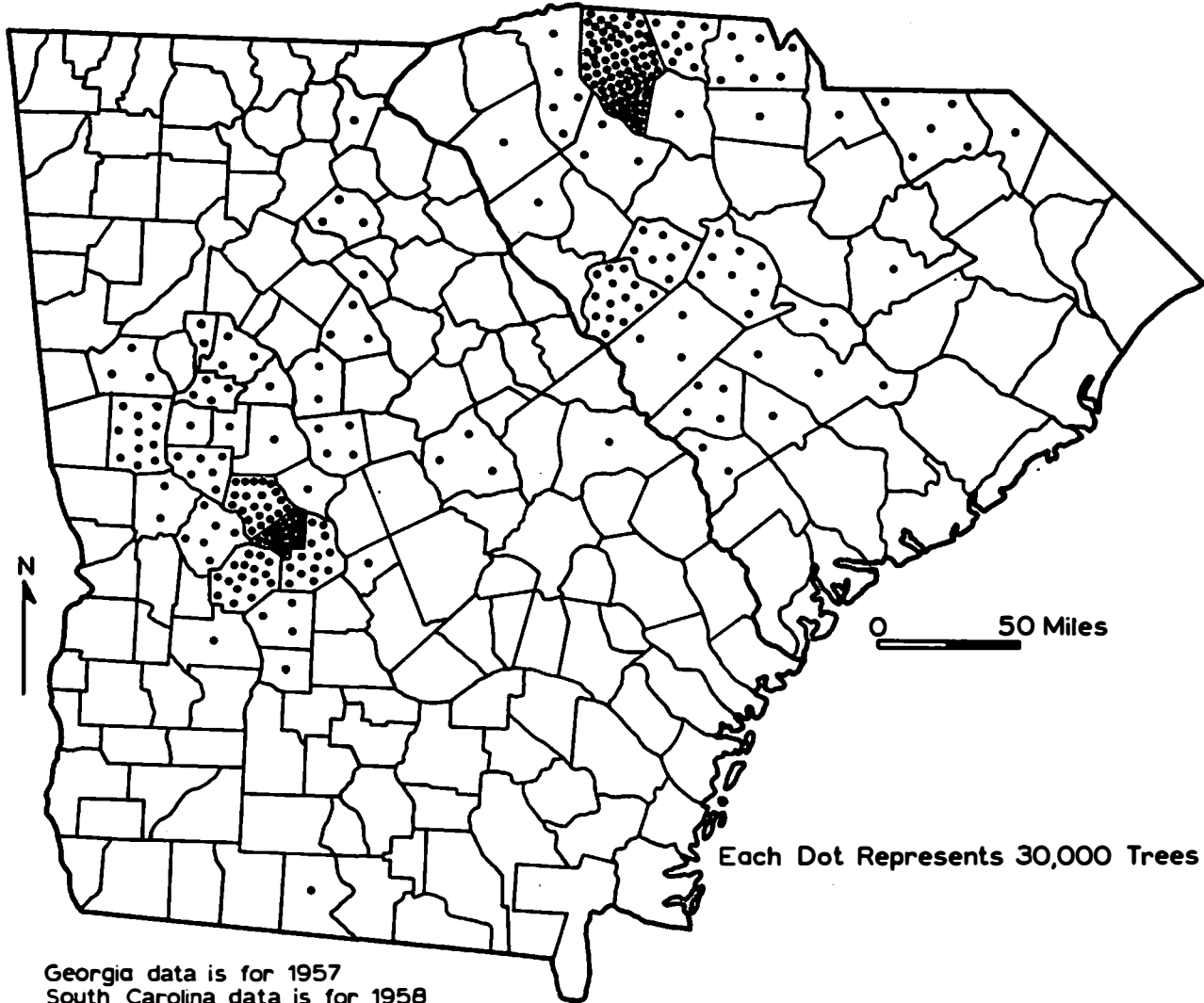
in the state in 1958, as compared to 81.1 per cent in 1950.¹⁴ During the same period the so called "Ridge" area--including Aiken, Edgefield, and Saluda counties--gained approximately 280,000 trees for an increment of 67 per cent; and the Sandhills--primarily Lexington and Chesterfield counties--had an addition of about 75,000 trees or 23 per cent. In the Upper Coastal Plain--including Allendale, Bamberg, Barnwell, Calhoun, Marlboro, Orangeburg, and Sumter counties--there were 462,000 trees in 1958 compared with 74,400 in 1950, for an increase of over 500 per cent. The most recent area to come into production is the Lower Coastal Plain, which had 34,000 trees in 1958. "While the Piedmont area is still the most important peach area in the state, further shifts in areas of production are clearly indicated."¹⁵ Spartanburg continues to be by far the leading peach producing county, however, since its 2,486,000 trees accounted for slightly more than one-half of the total number for the state (Figure 66).

Most Georgia peaches are produced in an area from 40 to 70 miles on either side of a line drawn from Columbus to Augusta (Figure 66). The greatest concentration of trees is found to the south of this line in the so called "Fort Valley" area, although heavy production occurs in a grouping of about 25 counties in the west central portion of the

¹⁴J. Sam Taylor and W. Fred Chapman, Jr., South Carolina Peach Tree Survey, 1958, South Carolina Agricultural Experiment Station, Circular 122 (Clemson: Clemson Agricultural College, May, 1959), p. 9.

¹⁵Ibid., p. 10.

PEACH TREES OF ALL AGES IN COMMERCIAL ORCHARDS
IN GEORGIA AND SOUTH CAROLINA



Georgia data is for 1957
South Carolina data is for 1958

SOURCES: UNIVERSITY OF GEORGIA AGRICULTURAL EXPERIMENT STATION
SOUTH CAROLINA AGRICULTURAL EXPERIMENT STATION,
CLEMSON COLLEGE

FIGURE 66

state, with the Fall Line running approximately through the middle of the region.¹⁶ Peach production in north Georgia has been on the decline, while counties to the south of the Piedmont have expanded production. Although the Coastal Plain portion of Georgia has the advantage of being able to produce trees that come into production earlier than varieties grown further north in the state, it has the disadvantage of a short average tree life. Eight to ten years is considered the average life of peach trees on the Coastal Plain, and growers must keep one-third to one-half their trees under three years of age if they plan to stay in the peach business.¹⁷ On the Piedmont trees are much longer lived, but producers in that area must compete with early maturing varieties planted in other states. The recent introduction of earlier maturing strains on the Piedmont may aid this section of Georgia in establishing a better competitive position with more northerly producing areas.

South Carolina peach production amounted to 5,204,000 bushels in 1958. The Piedmont produced 67.4 per cent of the total, followed by the Ridge area with 18.7 per cent, and the remainder of the state with 13.9 per cent. Over 100,000 bushels were harvested from each of 14 varieties of trees, offering a continuous fruit supply for more than two months.¹⁸ The amount sold on the fresh market totaled 2,937,200 bushels.¹⁹

¹⁶K. E. Ford, et al., Georgia Commercial Peach Survey, 1957, Georgia Agricultural Experiment Station, Mimeo Series N.S. 40 (Experiment: Georgia Experiment Station, November, 1957), pp. 3-4.

¹⁷Ibid., p. 24. ¹⁸Taylor, op. cit., p. 22. ¹⁹Ibid., p. 24.

Most peaches in both states were marketed through private channels in 1958, but Georgia state markets were of greater significance than South Carolina markets. Georgia markets sold over 530,000 bushels, most of them of Georgia origin, for a value of more than \$1,500,000. The Columbia Farmers' Market sold 176,072 bushels of South Carolina peaches in 1958 for a value of \$376,507.

Peaches received a wider distribution and were shipped in greater carlot quantities than any other Georgia or South Carolina product in 1958 (Figures 67 and 68). Shipments from both states were primarily by truck, although 36 per cent of Georgia peaches and 18 per cent of South Carolina peaches were transported by rail to the cities considered in Table XXVII. Rail shipments increased in importance with distance from the market, and accounted for 61 per cent of peaches transported to the five Canadian cities of Montreal, Quebec, Toronto, Vancouver, and Winnipeg.

Georgia peaches dominated in total shipments, and in most cities for which peach receipts were recorded. South Carolina peaches were received in larger quantities by only eight cities--Albany, Birmingham, Boston, Columbia, Milwaukee, Pittsburgh, Providence, and Washington, D. C.--out of the total of 30 United States cities that are considered in this study that obtained shipments of peaches from Georgia and South Carolina. South Carolina peaches dominated in three of the four Canadian cities for which shipments are known. Only Winnipeg, in Canada, received more Georgia peaches, and Winnipeg obtained only one rail carlot.

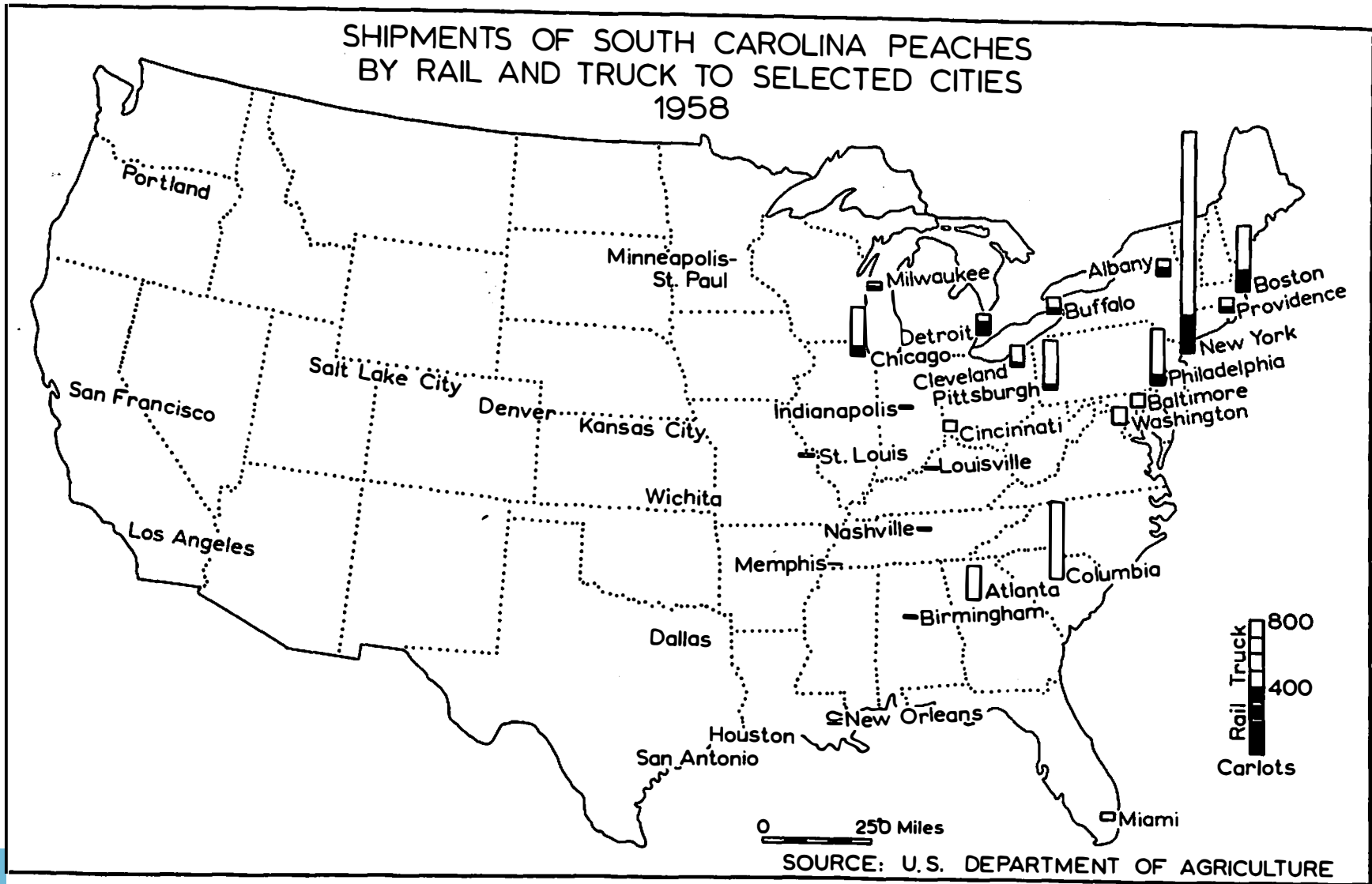


FIGURE 67

TABLE XXVII

CARLOT SHIPMENTS OF GEORGIA AND SOUTH CAROLINA
PEACHES TO SELECTED CITIES - 1958*

CITY	GEORGIA		SOUTH CAROLINA		TOTAL GA.	TOTAL S. C.
	Truck	Rail	Truck	Rail		
Albany, N. Y.	54	35	53	48	89	101
Atlanta, Ga.	526	-	203	3	526	206
Baltimore, Md.	116	61	74	5	177	79
Birmingham, Ala.	6	-	9	-	6	9
Boston, Mass.	126	150	270	134	276	404
Buffalo, N. Y.	53	68	66	33	121	99
Chicago, Ill.	349	140	229	68	489	297
Cincinnati, Ohio	54	84	67	6	138	73
Cleveland, Ohio	158	114	103	26	272	129
Columbia, S. C.	5	-	465	-	5	465
Dallas, Texas	6	-	-	-	6	-
Denver, Colo.	-	-	-	-	-	-
Detroit, Mich.	60	185	38	83	245	121
Fort Worth, Texas	-	-	-	-	-	-
Houston, Texas	10	-	-	-	10	-
Indianapolis, Ind.	58	19	8	2	77	10
Kansas City, Mo.	2	-	-	-	2	-
Los Angeles, Calif.	-	-	-	-	-	-
Louisville, Ky.	44	16	8	-	60	8
Memphis, Tenn.	1	3	1	-	4	1
Miami, Fla.	63	19	42	2	82	44
Milwaukee, Wis.	30	10	37	17	40	54
Minneapolis-St. Paul, Minn.	-	-	-	-	-	-
Nashville, Tenn.	32	1	8	-	33	8
New Orleans, La.	8	1	3	-	9	3
New York, N. Y.	1,241	672	1,086	232	1,913	1,318
Philadelphia, Pa.	274	187	292	60	461	352
Pittsburgh, Pa.	128	99	272	30	227	302
Portland, Ore.	-	-	-	-	-	-
Providence, R. I.	25	32	58	29	57	87
St. Louis, Mo.	30	30	12	-	60	12
Salt Lake City, Utah	-	-	-	-	-	-
San Antonio, Texas	11	-	-	-	11	-
San Francisco, Calif.	-	-	-	-	-	-
Washington, D. C.	42	15	103	5	57	108
Wichita, Kans.	-	-	-	-	-	-
TOTALS	3,512	1,941	3,507	783	5,453	4,290

*Source: Carlot Unloads of Certain Fruits and Vegetables in 100 U. S. and 5 Canadian Cities--Also--Truck Unloads in 38 U. S. Cities and 5 Canadian Cities, Calendar Year 1958, U. S. Dept. of Agriculture Circular AMS-25 (Washington: U. S. Dept. of Agriculture, Agricultural Marketing Service, March, 1959), pp. 12-82.

Commercial apple production is of little importance in the general economy of either Georgia or South Carolina, but it assumes considerable significance in several mountain counties, especially in Georgia. The most concentrated area of apple trees is in Habersham and Rabun counties in the extreme northeastern part of Georgia and neighboring Oconee County in South Carolina. These three counties contain approximately 42,000 trees in commercial orchards, with Habersham and Oconee having over 16,000 each and Rabun over 9,000. Gilmer County in north central Georgia had 27,444 trees in commercial orchards in 1958, and Fannin 4,541 trees.²⁰

Apple production is a relatively long time business, for more than 34 per cent of the trees in Georgia and over 45 per cent of those in South Carolina are older than 20 years of age. In orchards that have been well cared for trees are sometimes good bearers after they are over 40 years of age.²¹

²⁰K. E. Ford, et al., Georgia Commercial Apple Survey, 1958, Georgia Agricultural Experiment Station, Mimeo Series N.S. 61 (Experiment: Georgia Experiment Station, September, 1958), p. 6.

²¹B. J. Told and C. D. Evans, Commercial Apple Production and Marketing in Oconee County, South Carolina, South Carolina Agricultural Experiment Station, Circular 89 (Clemson: Clemson Agricultural College, January, 1953), p. 9.

CHAPTER VI

ANALYSIS OF THE PRODUCTION AND MARKETING OF FRESH FRUITS AND VEGETABLES IN FLORIDA, GEORGIA, AND SOUTH CAROLINA

In the three states considered in this study Florida enjoys the best environmental and economic advantages in the production and marketing of fresh fruits and vegetables. As mentioned earlier, however, Georgia and South Carolina enjoy a comparative advantage for a few days in the spring in supplying northern markets, and produce some summer and fall vegetables for shipment southward as well as to the north. In fruit production there is little competition between Georgia or South Carolina and Florida, for Florida has no commercial peach orchards and the two more northerly states are climatically out-of-bounds for the cultivation of citrus.

One of the more striking contrasts between Georgia-South Carolina and Florida vegetable production is in size of vegetable farms. In south Georgia, a grower with 40 acres in vegetables is considered a large vegetable farmer, whereas in south Florida most vegetable production comes from farms with from 150 to 2,000 acres in vegetables. This fact is reflected in the type of marketing and general quality of products offered for sale. In Georgia and South Carolina several auction markets are continuing to operate while in Florida only two such markets are still in existence and they seem to be declining in favor of other types of sales. Auctions are successful only where there are numbers of farmers attempting to sell in less than truckload or carload

quantities. Furthermore, where products are produced in large quantities the growers are better educated in proper methods of grading and packing and excellent facilities are usually available. The larger growers also keep in closer contact with buyers and market conditions in general. In South Carolina there are a few growers with several hundred acres in vegetables, but most of the vegetable yields of that state, as in Georgia, are produced by farmers with only a few acres.

Another contrast between the Georgia-South Carolina and Florida vegetable areas is in farm labor supply and mechanization. A large percentage of the vegetables produced in Georgia and South Carolina are grown on lands formerly devoted to some crop, such as cotton, that have been affected by governmentally enforced acreage reductions, or, on lands formerly used to provide food for draft animals. Many farmers with relatively large acreages have gone into the cattle business, but the small farmer with too little land for adequate pasture for cattle has often continued to produce his allotment of cotton, tobacco, or peanuts, and to plant part of the remainder in vegetables. Normally, vegetable acreages are too small to justify purchase of additional farm equipment or the employment of other than family labor. In many instances the farmer cares for his vegetable crops only in his spare time, devoting all necessary time to the basic field crops. Florida, on the other hand, with its large farms devoted either altogether or primarily to the production of vegetables, has much specialized vegetable cultivating and harvesting machinery and must import a large labor force during the winter months. There are numerous state con-

structed and controlled labor camps scattered through the major vegetable areas and farm laborers from several states, especially Georgia, Alabama, and Tennessee, migrate to Florida during the vegetable season. Some foreign laborers are brought in, but most laborers arrive from other portions of the southern United States.

In spite of the many differences between the various vegetable producing areas there are some similarities and many of the problems that exist in one also exist in others. Problems of adverse weather conditions, oversupply resulting from too heavy plantings or two different producing areas coming into production at the same time, and the economic problems caused by disaster to the crop or low prices, are common to all areas. Most farmers in all three states specialize in one to three vegetables, with a few attempting to produce a wider variety. Changes in buyer preference may also bring dire consequences to some growers as occasionally, seemingly without warning, the American housewife decides that she prefers a particular type of some vegetable or fruit to all others. Usually, the housewife purchases on appearance, and if the crookneck squash or the white hale peach suits her fancy, producers of all other types of squash and peaches may be in for a lean season.

Another problem common to all vegetable producing areas is that of transportation. Today, most vegetables are marketed by truck, with railroads declining almost annually in the relative quantity of all vegetables transported (Figure 69). Even in long-distance transportation trucks are often the major mode of moving fruits and vegetables

HIGHWAY MILEAGES BETWEEN SELECTED MAJOR MARKETS
FOR FLORIDA, GEORGIA, AND SOUTH CAROLINA
FRUITS AND VEGETABLES

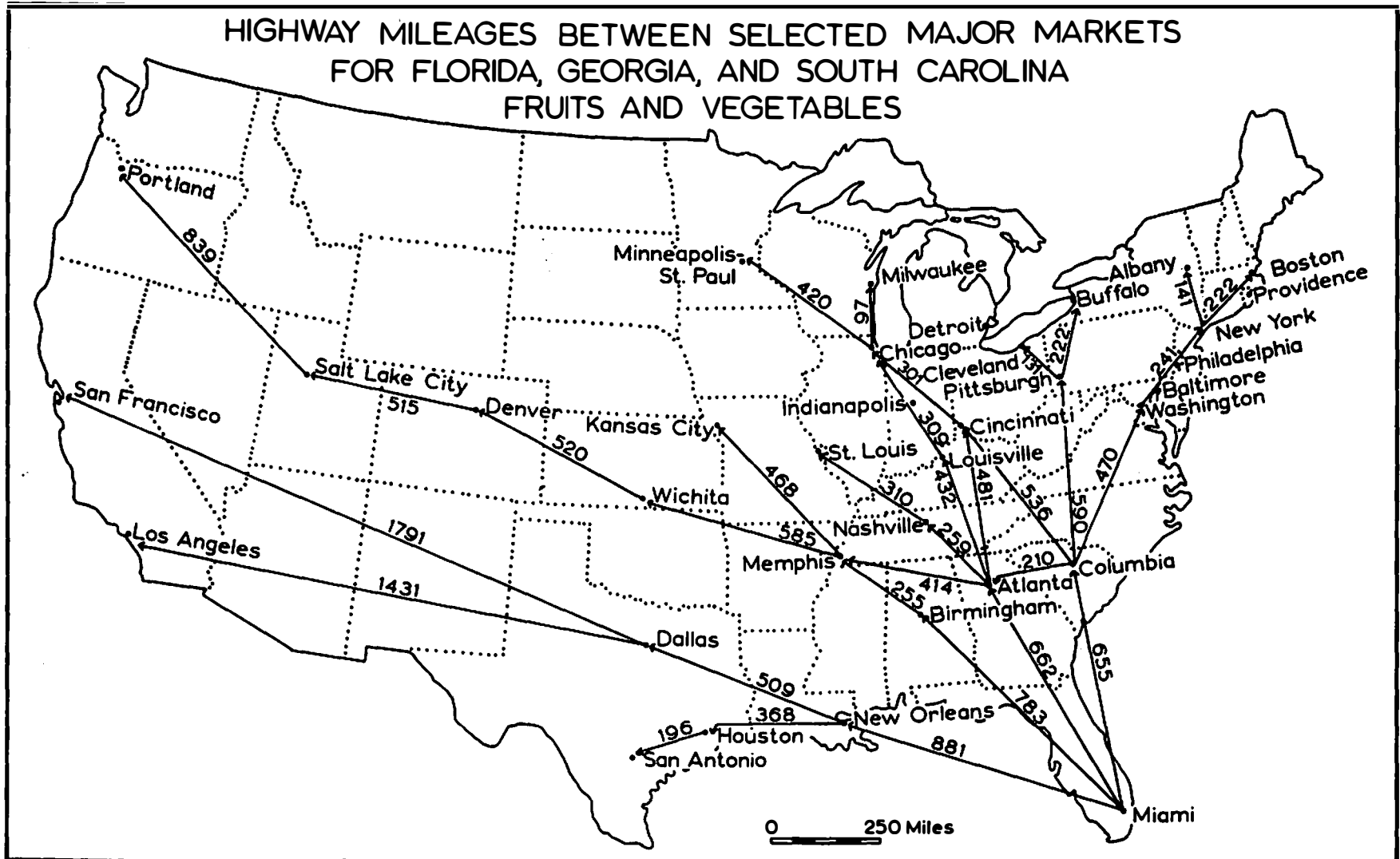


FIGURE 69

due to the several advantages they offer over rail transport. Probably the greatest single advantage of the truck over railroads is speed. While a rail car is waiting for a scheduled movement, or while it is waiting for transfer in a freight yard, the truck can be rolling toward its destination. Trucks often complete trips in from one-fourth to one-half the time required by rail and when highly perishable products are being shipped a differential of a few hours may mean a great deal of difference in the condition of the product upon arrival at its destination. Trucks also have the advantage of being able to reach places where there are no railroads and to deposit products at many points enroute without undue delay. Trucks may be loaded at the fields and sent immediately toward their objective where, upon arrival, they may unload quickly and return to the producing area for another load. As products shipped by rail must usually be moved by truck to a rail loading area and again by truck to the particular destination after arrival at the general destination, truck transportation often brings about considerable savings in loading and unloading expense and damage to the product in question. In addition, rail rates have very little flexibility, whereas truck rates vary with the amount of competition and are sometimes less expensive than rail rates. Trucks transporting vegetables, unlike other commodities, are exempt from the laws of the Interstate Commerce Commission, which usually prescribes the area over which a truck may travel. The single advantage of railroads seems to be the somewhat cheaper rates for hauling vegetables long distances. Today, however, trucks are everywhere responsible for shipment of from

65 to 95 per cent of the vegetables produced and unless the railroads discover some method for making quick deliveries they should expect a further decline in importance.

A much larger portion of the Georgia and South Carolina vegetable production is consumed within the producing states than in the case with Florida. Georgia and South Carolina produce for home consumption throughout most of the growing season and supply small quantities of vegetables to other southern states, especially Florida, during the summer months. Several of the major crops produced, such as sweet potatoes, pole beans, and turnip greens, are raised almost entirely for consumption in the producing state, or in neighboring southern states.

In the major vegetable producing areas of Florida the costs of production are so great as to allow the growers to make a profit only during the winter months when fresh vegetables will bring premium prices. As a result of this, plus the fact that Florida has a transportation disadvantage during the summer, vegetable production in that state is limited almost entirely to times when other areas are not able to produce, or when Florida has a transportation advantage. In some instances, vegetables produced in Florida during the summer cannot compete with imported commodities even though they are locally grown.

Methods of marketing the fruits and vegetables produced in Florida, Georgia, and South Carolina are as varied as the methods of production. Marketing of vegetables, however, is considerably more complicated than marketing of fruits. The only real competition in fruits is between Georgia and South Carolina peaches. Also, most

fruits, whether in Georgia, South Carolina, or Florida, are sold through private packing houses and brokers, whereas vegetables are sold through a variety of state, private, and cooperative channels.

Concentration markets have been of increasing importance in the assembly of fruits and vegetables from farmers with small acreages since about 1925. In Florida, Georgia, and South Carolina these markets have become of outstanding importance as suppliers of fresh vegetables to city terminal markets, to chain store warehouses, and the numerous wholesale and retail outlets in cities, towns, and communities over much of the eastern United States. Concentration markets are of little importance in supplying processors, and processing is of little importance for most products in the area studied.

Concentration markets have four principal functions in the marketing of fruit and vegetable products: (1) the concentration of local products in sufficient quantities to allow for economical marketing and shipping; (2) to provide local producers a cash outlet for their products; (3) to provide buyers with desired products in sufficient volume so as to make their visit to the market worthwhile; and (4) to establish prices for the local products that are bought and sold on the market.¹ Many of these markets provide the farmer with packing and grading services, and thereby insure a more uniform product for prospective buyers.

¹Roger F. Burdette, et al., Farmers' Produce Markets in the United States - Part III, Shipping Point Markets. United States Department of Agriculture Marketing Research Report Number 17 (Washington, D. C.: Production and Marketing Administration, May, 1952), p. 15.

Most farmers using concentration markets are small-volume producers that are not able to assemble enough of any one vegetable or fruit crop to fill a rail car or a large truck. Since large growers may be able to harvest enough volume daily to fill one or more rail cars or large trucks, the concentration facilities are not as important to them as to the smaller producers. Large growers use the facilities of the concentration markets primarily at the beginning or end of the harvest season when it may not be possible to harvest a large enough quantity to pay the cost of operating their own packing and shipping facilities. Other large growers use the concentration markets almost exclusively.

Many concentration markets in all three states are state-owned, but others are owned by private individuals or cooperative associations. At times, private packing houses--located at strategic places in the vegetable areas--serve as concentration points and as selling agencies. In the cooperative associations all farmer members agree to sell their marketable products through the cooperative, with profits accruing to the cooperative being returned to the growers at the end of the year in proportion to individual patronage. The cooperative, through the accumulation of a large volume of produce from many small growers, is usually able to sell for the best available price regardless of the quantity an individual farmer may have for sale.

State-owned markets in Florida and Georgia currently handle a large percentage of total vegetable sales, but few fruits. Approximately one-third of Florida vegetables are sold through the state market

system, and probably 90 per cent of Georgia vegetables. The portion of South Carolina products moving through state-owned markets is more difficult to determine, as state facilities are less numerous, often less well established, and volume reports for the markets less complete. Including the terminal market in Columbia and the Greenville County terminal market, however, the state and county markets are probably responsible for from 30-50 per cent of all vegetable sales. The Columbia State Farmers' Market is so centrally located and generally offers such superior opportunities for quick sales at good prices, that other state markets have found it difficult to obtain sufficient volume to justify continued operation.

Some fruits and vegetables are sold through private buyers and brokers that have little or no connection with established market facilities. In other instances the merchandise may be shipped toward the market on a consignment basis, to be sold by commission merchants in the market area for whatever price the particular products will bring. Since this type of selling does not bring the farmer immediate cash and since the farmer has no control over price to be received, it is usually avoided if possible.

The relative importance of concentration markets may decline in the near future as the small vegetable farmer disappears from the scene. The current tendency is for vegetable farms to become larger and larger and for the number of farmers engaged in producing vegetables to become smaller and smaller. The grower with only a small acreage cannot ordinarily compete with the highly mechanized and more efficient large

grower. The large growers, with a greater capitalization, are also better able to withstand the periodic losses which occur due to unfavorable weather or unfortunate competitive developments. The vegetable producing business has become a vicious one, in which only the strong can survive.

As most of the concentration markets in the area studied were established before many of the more modern transportation facilities became readily available, and when state and federal governments were seeking all possible avenues for the economic improvement of the small farmer, some of them are located too close together and in areas of too little vegetable production. Having too many markets has led to a greater dispersal of potential buyers, less competitive bidding for the products offered for sale, and lower prices to the producer. Most produce buyers will go to a market only during the time when the largest volume of vegetables is available. The next few years will probably witness the failure of many small, poorly located markets, with only the better located facilities being able to survive. South Georgia is currently perceiving a relative decline in importance for most of its markets while a few, such as the one at Thomasville, are increasing in significance.

There also seems to be a trend toward greater market specialization. Most of the markets studied have shown a decrease in the number of products handled, with a larger portion of total sales consisting of one or two products. Buyers interested in obtaining tomatoes, for example, will go to those markets offering the largest volume of

tomatoes for sale, resulting in more competitive bidding and higher prices to the producer. In addition, markets handling large volumes of vegetables will probably have better packing, grading and other handling facilities. The buyer, on the other hand, is assured of an adequate supply and less travel expense and delay in searching for the products needed. Local producers are also becoming more specialized, growing those products for which the better marketing facilities are available.

Terminal markets, in general, are declining in numbers and in importance as facilities for marketing fruits and vegetables. The death blow of many terminals has been the phenomenal success of chain super-markets in supplying housewives with all or nearly all of their fruits and vegetables. Since the chain stores have their own buyers for fresh produce in the producing areas, they usually by-pass terminal facilities. As a result, the current tendency is for terminals to be replaced by chain store warehouses. Many small independent stores still use the terminal markets as a source of supply, but the independent grocer, like the mule, is becoming a stranger to the American scene.

Some of the larger terminals that have an abundant and varied supply of fruits and vegetables on hand the year round will continue to survive and prosper, but those that sell primarily to a single city or a small area, and those that sell only the products of local farmers, are usually finding it difficult to continue their operations. In many instances the terminal market represents simply another costly unloading and reloading area where additional middlemen must add their profits, thereby, making the product being sold too costly for competitive buying.

Terminal and concentration markets serve mostly different purposes, but are in some ways closely related. Some of the differences between the two types of markets are as follows:

1. Terminal markets are larger and more costly to construct.
2. Terminal markets operate the year-round, whereas many concentration facilities transact business only during the season of maximum production in adjacent areas.
3. Terminal markets usually have a greater total volume of sales.
4. Terminal markets handle a greater variety of products and receive these products from a much larger area.
5. Most terminal market purchases and sales are made by permanent dealers, whereas, permanent dealers are not so important on concentration markets.
6. Terminal markets are often found in areas of meager fruit and vegetable production, whereas concentration markets are located where there is a relatively heavy local production.
7. The distribution area for terminal markets is generally smaller than the area from which supplies are obtained, but the reverse is usually true of concentration markets.

The two types of facilities are related in that buyers from the terminal markets often find it convenient to purchase their supplies from the concentration markets. Also, terminal and concentration mar-

kets jointly influence prices of commodities. Altogether, there are more differences than relationships between the two market types.

In general, Florida distributes its vegetable production over a larger area and in greater quantities to more cities than South Carolina or Georgia. The much heavier Florida production, its advantages for winter growth, and the greater variety of vegetables produced contribute to the above fact.

The major distribution area for Florida and South Carolina products is to states located to the east of the Appalachian Mountains, while Georgia sells a larger portion of its production to the Middle West. Very few products from either state are shipped west of the Mississippi River. New York is the major destination of most out-of-state shipments from Florida and South Carolina, with New York City receiving the lion's share. New York does not play such a prominent role in receiving Georgia products, which usually have a more even distribution over the eastern United States. Other Middle Atlantic states and southern New England obtain major quantities of vegetables from Florida and South Carolina and also from Georgia.

The geographic distribution of Florida citrus fruits has been changing in the past few years, along with methods of marketing the crop. While production has increased enormously, there has been no corresponding increase in the amount of fresh sales since a growing percentage of the total production is being processed. As a result, Florida shipments of fresh citrus have not kept pace with growing demands for the product, and the total distribution area seems to be

shrinking. Shipments to the northeastern United States have decreased, while those to the north central and southern regions have increased.²

Florida shipments to the South will probably continue to increase as the market in that area expands. However, due to the greater distance of the north central states from Florida, there may be a decrease in shipments to that area if production for fresh sales continues to decline.

Methods of marketing Florida citrus have been changing as trucks have become a more important means of transportation. There has been an increasing tendency for citrus to be sold on the basis of price established at the shipping point rather than at the market. The numerous small quantity shipments entering into the volume can be easily handled by truck.³ If the product is to be sold by commission, however, with price being determined upon arrival at the consuming areas, the fruit is usually assembled into railroad carslots for shipment. Selling through auction markets in large cities, such as New York, has declined, since most auctions are found at rail terminals on railroad property and trucks seldom use these facilities. In other instances when sales are made privately without the aid of brokers, the receivers are often not large enough to assemble fruit in large quantities.

²Marvin A. Brooker and Kenneth M. Gilbraith, Factors Influencing the Method of Transportations Used in Marketing Fresh Florida Citrus, Florida Agricultural Experiment Station Bulletin 549 (Gainesville: University of Florida, September, 1954), p. 5.

³Ibid., p. 6.

Georgia and South Carolina are currently struggling with each other, and with other states further north, to maintain and improve the conditions of their peach industries. Whether the shifts in orchard location and attempts toward planting earlier maturing varieties will affect their relative positions as major suppliers of fresh peaches to United States and Canadian markets remains to be seen. As of now, there is no indication that any major changes will occur in marketing practices or in the location of the market area. Too little information exists, as to the marketing area for peaches, to make an intelligent analysis of the situation.

CHAPTER VII

SIGNIFICANCE OF THE ATLANTA AND COLUMBIA WHOLESALE PRODUCE TERMINAL MARKETS

Although almost every major southern city has a terminal market facility of some degree of importance, the Atlanta and Columbia markets overshadow all others in volume of fruits and vegetables sold and in the areal extent of product distribution. Because of the significance of these markets as distributing agencies to almost the entire eastern United States, and because they continue to grow in importance in a time when most terminal markets are faltering, it is deemed fitting that they be examined in this study.

A great deal of the credit for the phenomenal growth of these two markets must be given to their locations. Though found in approximately the same latitudinal position, Atlanta is some 200 miles west of Columbia and is located in the Piedmont at the southern end of the Appalachian Mountains, whereas Columbia is found on the Fall Line, where the Piedmont ends and the Coastal Plain begins. Columbia is located near the exact geographic center of South Carolina and Atlanta is found in the north central portion of Georgia. Because of the difference in their locations, Columbia is in a better geographic position for north-south trade and Atlanta enjoys a gateway situation between the South and Middle West. Being almost mid-way between New York and Miami, Columbia serves interregional trade from a north-south standpoint along the east coast, whereas Atlanta has become an east-west

interregional market, supplying large quantities of fruits and vegetables to the Middle West as well as to east coastal locations.

Neither market is found in an area of large local vegetable production. Products are assembled from points in the southeast, especially from Florida, Georgia, and South Carolina, and from most other states in the United States and several foreign countries. Both markets keep a nearly complete line of fruits and vegetables on hand at all times, although their busiest seasons correspond to the times of heaviest production in Georgia and South Carolina.

There is considerable difference in the size of the cities in which these markets are located. Columbia, in 1950 had a population of 86,914, and Atlanta, 331,314. Largely for this reason, only five per cent or less of the products traded on the Columbia Market are sold within the city of Columbia, whereas approximately 20 per cent of the volume handled on the Atlanta Market is sold to local stores.¹ This is further evidence of the regional importance of the two markets and an indication of the reason for their success, for while most terminals serve only one city and the normal trade area for that city, the Atlanta and Columbia markets have a much larger trade area than their parent cities.

Both markets have access to excellent transportation facilities, although Atlanta has better facilities and connections for products moving by rail. Because of the barrier aspect of the Blue Ridge Moun-

¹Letter from Mr. Sam Steele, Market Manager, Atlanta State Farmers' Market, June 25, 1959.

tains most east-west railroads in the southern United States have been constructed around their southern end, passing through Atlanta, and resulting in Atlanta having the reputation of being one of the major rail centers in the United States. Railroads radiate from the city in all directions except northward through the Blue Ridge. Both cities are major highway centers, with Atlanta having the same relative locational advantage as a highway center as for railroads. Columbia has become a focal point for highway transport, since most major north-south routes found to the east of the mountains either pass through or very close to the city.

Despite the reputation of Atlanta as a rail center, by far the larger percentage of products handled on the market is transported by truck. In 1958 trucks accounted for 86 per cent of all fruit and vegetable receipts on the market and for approximately 80 per cent of the product distribution.² A sharp decline in the importance of rail transportation is noted since 1945, when 39.5 per cent of the total volume received was by rail.³ Trucks are even more dominant as means of transporting products handled on the Columbia Market, for approximately 90 per cent of all products are shipped in and out by truck.

²"Atlanta Unloads of Fruits and Vegetables - 1958," A Report Prepared by the Federal-State Market News Service on Fruit and Vegetables (Forest Park: Georgia State Farmers' Market, March 20, 1959), p. 1.

³William H. Elliott, et al., The Wholesale Markets for Fruits, Vegetables, Poultry, and Eggs in Atlanta, Georgia (Washington: United States Department of Agriculture, Production and Marketing Administration, August, 1947), p. 3.

As in other areas where different kinds of facilities exist for handling fruits and vegetables, the speed and flexibility of trucks gives them an advantage over railroads.

Modern facilities for handling, storing, and packing fruits and vegetables exist on both markets. Both occupy relatively new facilities, with the Columbia Market moving to a completely new location in 1951 and the Atlanta Market in 1958. Facilities for the new Columbia Market were valued at approximately \$1,000,000 in 1951, and the new facilities on the Atlanta Market cost nearly \$10,000,000. The difference in size of the two markets is not as great as the difference in cost, for numerous facilities have been constructed on the Columbia Market since 1951 and costs of construction from 1951 to 1958 have increased enormously.

Permanent wholesale dealers account for most of the sales transactions on both markets, although each has facilities available for the farmer to display and sell his own merchandise. Many farmers, however, find it more profitable to sell their products to one of the permanent dealers rather than spend considerable time on the market attempting to dispose of their products to non-permanent buyers. The dealers, on the other hand, send trucks and buyers to many areas in Georgia, South Carolina, Florida, and elsewhere, to obtain a constant and adequate supply of all types of fruits and vegetables.

The new Atlanta Market has nine buildings for permanent dealers, each 585 feet long by 100 feet wide, with a total of 510,750 square feet of enclosed space and covered dock area (Figure 70). Rail facilities

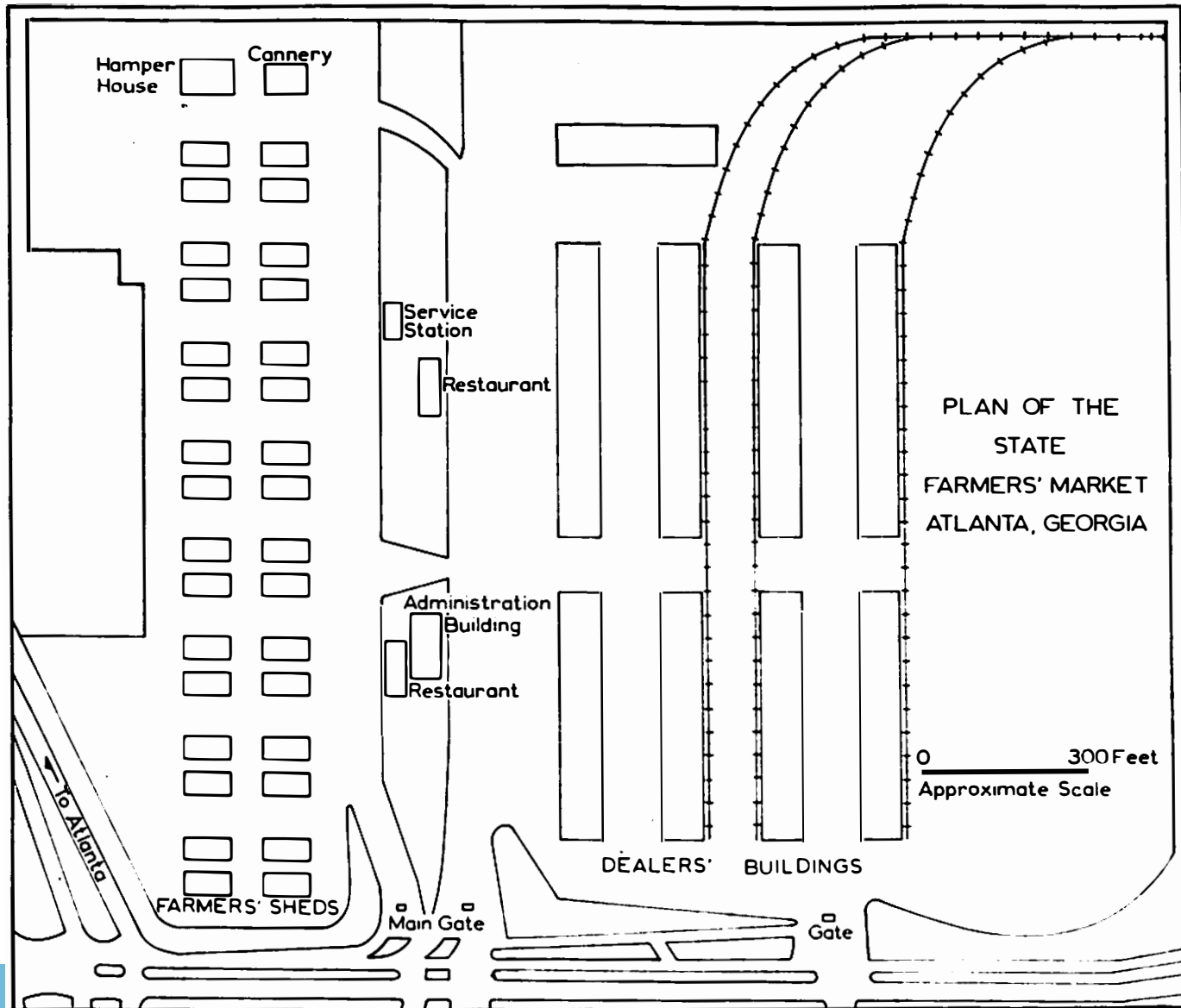
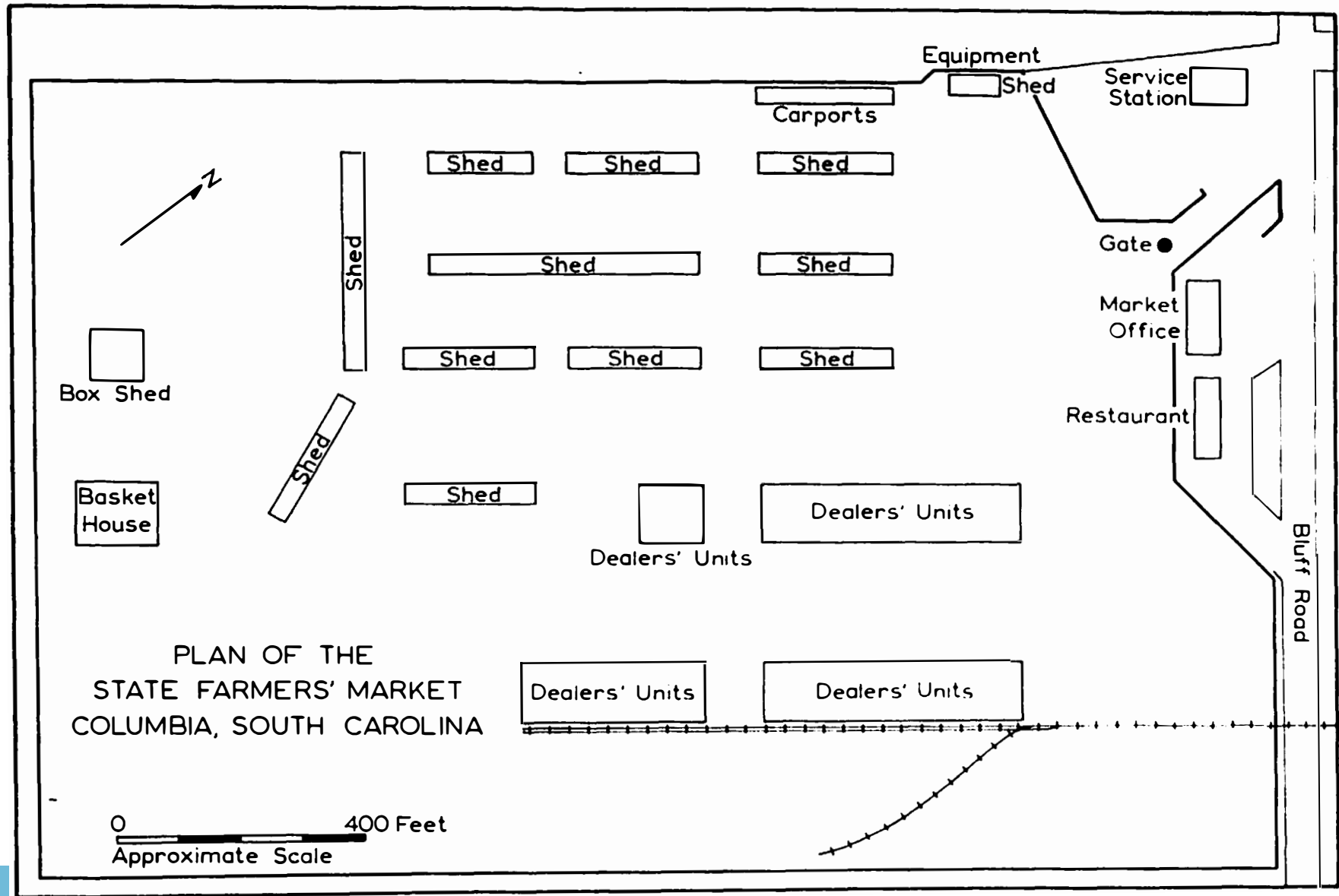


FIGURE 70

are available for six of these buildings and all have modern refrigeration facilities, storage space, and offices. Dealers' buildings totaling 1,372 feet in overall length and 96 feet in width are found on the Columbia Market, with double track rail facilities existing for 810 feet of the units (Figure 71). Storage, refrigeration, and office facilities are comparable to those on the Atlanta Market. Wide avenues are found between the dealers buildings, providing adequate space for trucks to load and unload without interfering with a free flow of traffic.

Farmers' sheds, designed primarily to protect loads of produce from the elements, occupy a considerable space on both markets. These sheds are open structures, with truck-bed height platforms on which farmers may display their produce. The Columbia Market has several sheds of a less permanent nature without the truck-bed height platforms, but all sheds on the Atlanta Market are concrete structures meeting the same specifications. A total of 32 farmers' sheds has been constructed on the Atlanta Market, offering a covered dock and loading and unloading area of 389,120 square feet with 32 truck parking spaces under each shed. Sheds on the Columbia Market are less numerous and somewhat less modern, but a total of 11 sheds have been constructed plus the installation of numerous structures resembling carports, side by side; these provide some protection from searing summer sun and rain. Wide streets similar to those that exist between the dealers buildings are also found between the farmers' sheds. Modern administration buildings,



PLAN OF THE
STATE FARMERS' MARKET
COLUMBIA, SOUTH CAROLINA

0 400 Feet
Approximate Scale

FIGURE 71

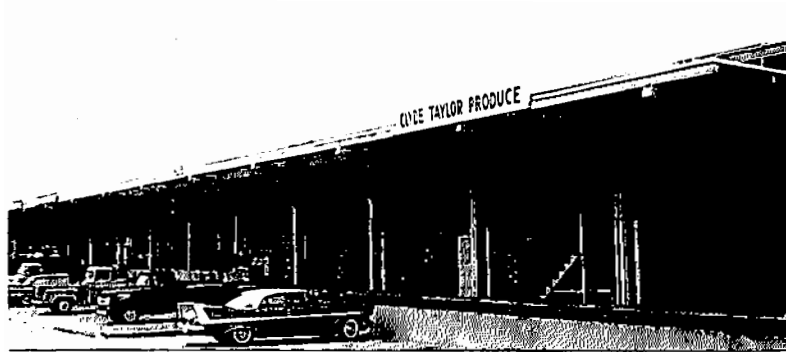


FIGURE 72

DEALERS' STORE UNITS, ATLANTA STATE FARMERS' MARKET



FIGURE 73

DEALERS' STORE UNITS, COLUMBIA STATE FARMERS' MARKET



FIGURE 74

FARMERS' SHED, ATLANTA STATE FARMERS' MARKET



FIGURE 75

FARMERS' SHED, COLUMBIA STATE FARMERS' MARKET

eating facilities, barber shops, and filling stations designed to service large trucks are found on both markets.

Products offered for sale on the Atlanta and Columbia markets originate in nearly all states in the United States and several foreign countries. The Atlanta Market handles a total volume of approximately \$40,000,000 in fruits and vegetables annually, while the Columbia Market accounts for sales of over \$20,000,000. These products are distributed to nearly all of the eastern United States, with the Atlanta Market having a larger total distribution area than Columbia.

A great variety of products is available on the markets during all seasons (Tables XVIII and XXIX). Some products, such as watermelons, cantaloupes, and peaches, are not available during the winter months, but others, such as potatoes, bananas, and cabbage, are to be found on the markets at all times. Peak volumes coincide with peak regional harvests. Although there are some differences in relative values of different products handled, generally speaking the same products are of major importance on both markets. In 1958, for example, the ten leading products by value sold on the Atlanta Market were in order of their importance: Irish potatoes, bananas, tomatoes, apples, onions, lettuce, sweet potatoes, cabbage, lemons, and peaches. During the same year the ten big items handled by the Columbia Market were: bananas, Irish potatoes, tomatoes, apples, lettuce, snap beans, watermelons, cabbage, oranges, and green corn. Six of the items listed above are in the top ten products handled by both markets and nearly

TABLE XXVIII

COLUMBIA STATE FARMERS' MARKET VOLUME REPORT, 1958*

PRODUCT	OUT OF STATE		SOUTH CAROLINA	
	Volume	Value	Volume	Value
Apples	590.6	\$1,219,181	11.2	\$ 18,779
Artichokes	0.4	1,332	0.1	82
Asparagus	0.9	3,750	3.5	8,172
Avocado	6.2	25,584	--	--
Bags & Boxes	0.8	1,159	12.7	16,766
Bananas	1,548.3	3,485,818	--	--
Baskets & Hampers	9.7	25,967	51.6	107,629
Beans, L.	38.4	103,262	139.9	218,251
Beans, S.	385.0	770,389	182.3	247,661
Beets	2.0	3,786	0.9	1,455
Broccoli	1.9	3,738	--	--
Cabbage	798.06	730,636	108.7	54,089
Cantaloupes	289.8	436,642	322.8	231,957
Carrots	76.8	168,222	--	--
Cauliflower	14.8	26,449	--	--
Celery	135.5	234,784	--	--
Christmas Trees	6.7	45,686	3.3	13,932
Coconuts	27.7	45,665	--	--
Collards	7.7	18,751	84.3	93,031
Corn	238.0	685,793	65.3	65,232
Cucumbers	97.2	185,588	71.7	55,485
Eggplant	9.1	19,871	1.6	1,751
Eggs	--	---	1.7	12,467
Endive	14.4	18,021	--	--
Escarole	8.9	10,592	--	--
Grapes	106.3	418,974	4.9	17,815
Grapefruit	58.5	131,755	--	--
Honeydews	2.5	9,099	4.9	3,531
Ice Box Melons	0.7	1,395	36.6	15,922
Lemons	105.2	384,000	--	--
Lettuce	620.7	1,028,955	0.8	1,435
Mustard Salad	1.5	2,581	33.5	35,487
Okra	33.4	121,107	32.2	67,302
Onions	415.9	645,567	0.5	630
Onions, Gr.	5.1	16,292	18.5	53,872
Onion Sets	1.9	10,011	--	--
Oranges	282.8	763,520	--	--
Parsley	3.6	11,065	--	--

TABLE XXVIII (continued)

PRODUCT	OUT OF STATE		SOUTH CAROLINA	
	Volume	Value	Volume	Value
Peaches	24.5	\$ 35,656	439.8	\$376,507
Peanuts	19.1	165,393	9.6	26,126
Pears	15.5	62,397	3.2	3,410
Peas, F.	60.2	105,246	97.1	94,054
Peas, G.	8.6	20,210	8.0	12,709
Peppers	61.0	217,278	15.5	23,043
Pineapple	4.6	9,336	--	--
Cabbage Plants	8.6	14,942	11.0	18,847
Eggplant Plants	0.1	80	0.7	1,400
Onion Plants	3.3	2,278	3.8	2,663
Pepper Plants	5.6	11,601	2.7	5,509
S. Potato Plants	0.8	1,665	10.4	26,667
Tomato Plants	49.7	71,445	10.7	13,727
Potatoes, I.	2,152.7	2,340,484	233.1	98,669
Potatoes, S.	75.6	128,912	167.5	240,407
Radishes	6.6	13,363	0.3	391
Rutabagas	68.0	90,319	--	--
Spinach	4.0	6,635	3.1	4,645
Squash	61.7	137,860	45.1	56,219
Strawberries	2.1	8,108	0.2	2,914
Tangerines	32.5	90,536	--	--
Tomatoes	977.3	1,664,289	412.1	390,396
Turnip Roots	3.3	4,900	0.3	283
Turnip Salad	6.6	9,605	19.5	21,394
Turnips and Tops	37.0	91,829	21.3	30,654
Watermelons	1,199.0	658,096	1,194.2	241,078
Canned Goods & Misc.	184.4	226,293	13.0	23,799
TOTALS	10,989.9		3,915.6	

*Source: Annual Report, Columbia State Farmers' Market, 1958
(Truck volume converted to rail carlots).

TABLE XXIX

ATLANTA, GEORGIA, STATE FARMERS' MARKET
VOLUME REPORT, 1958*

COMMODITY	UNIT	NO. UNITS SOLD	GROSS VALUE
Apples	Box	839,820	\$ 3,210,387.00
Apricots	Box	1,038	5,247.00
Artichokes	Box	1,128	6,344.00
Asparagus	Crt.	1,580	14,335.00
Avocados	Crt.	37,980	123,510.00
Avocados	Flat	1,121	2,400.50
Bananas	Lb.	44,765,715	4,189,712.75
Beans, Cranberry	Bu.	658	2,934.00
Beans, Lima	Bu.	105,037	340,801.00
Beans, Pole	Bu.	175,950	804,866.00
Beans, Snap	Bu.	237,454	750,064.00
Beets	Bu.	103	375.00
Beets	Dz.	6,572	11,059.50
Blackberries	Crt.	283	1,840.00
Black Walnuts	Bu.	6	24.00
Blueberries	Crt.	1,620	7,240.00
Brazil Nuts	Case	1,290	12,174.00
Brazil Nuts	Lb.	600	270.00
Broccoli	Crt.	2,417	11,726.00
Brussel Sprouts	Drum	938	7,819.00
Cabbage, Chinese	Box	275	1,053.00
Cabbage	50# Bag	668,225	1,099,480.00
Cabbage, Red	Bag	2,080	8,346.00
Cabbage, Savoy	Crt.	40	160.00
Cabbage-plants	"M"	52,907	95,191.00
Cantaloupes	Bu.	198,577	314,064.50
Cantaloupes	Crt.	49,711	43,808.00
Carrots	Bu.	14,553	41,205.00
Carrots	Crt.	69,856	256,009.00
Cauliflower	Crt.	8,525	31,680.00
Celery	Crt.	91,853	382,353.50
Celery-cabbage	Crt.	2,137	5,938.00
Cherries	Box	426	3,502.00
Chestnuts	Keg	430	10,225.00
Chestnuts	Case	637	7,888.00
Chicken, fryers	Lb.	48,863	14,896.00
hens	Lb.	602	235.00
Chives	Crt.	1,082	2,993.00
Cider	Case	11,125	33,637.00

TABLE XXIX (continued)

COMMODITY	UNIT	NO. UNITS SOLD	GROSS VALUE
Coconuts	Bag	17,140	\$ 81,297.50
Collards	Dz. Bunches	201,392	427,380.00
Collard-sprouts	Bu.	2,581	3,934.00
Corn, Green	Dz.	1,829,806	936,992.00
Corn, Green	Crt.	8,828	19,099.00
Cornmeal	Bu.	3,164	8,413.50
Cucumbers	Bu.	46,972	211,092.00
Cranberries	Ctn.	3,638	17,266.50
Dates, Fresh	Case	150	735.00
Dill	Bundles	15	36.50
Eggplants	Bu.	18,960	62,820.00
Eggplant plants	"M"	120	330.00
Eggs	Case	135,571	1,863,408.00
Endive	Basket	3,341	5,480.00
Endive	Crt.	6,370	17,064.50
Escarole	Basket	2,868	4,803.00
Escarole	Crt.	4,721	13,666.00
Flowers	Pot	115	287.50
Garlic	Case	439	4,872.50
Garlic	Ctn.	85	76.50
Garlic	Sack	44	1,002.50
Gourds	Bu.	825	3,981.50
Gourds	Flat	150	375.00
Grapefruit	Crt.	112,738	303,482.50
Grapes	Basket	790	948.00
Grapes	Bu.	65	239.00
Grapes	Lug	219,096	991,919.50
Ham	Lb.	1,553	1,214.00
Hay	Bale	300	300.00
Holly	Box	20	100.00
Holly	Spray	552	828.00
Honey	Case	1,852	15,282.00
Honeydew Melons	Crt.	14,074	62,330.00
Kale	Bu.	1,161	1,667.00
Kumquats	4/5 Bu.	185	1,410.00
Leaf Lettuce	Basket	362	1,072.00
Leek	Crt.	23	37.00
Lemons	Box	264,552	1,051,579.00
Lemon/Lime Juice	Ctn.	45	214.00
Lettuce	Crt.	493,534	1,707,761.00
Limes	Box	1,627	7,207.00
Margarine	Lb.	5,000	1,000.00

TABLE XXIX (continued)

COMMODITY	UNIT	NO. UNITS SOLD	GROSS VALUE
Mangoes	Lug	328	1,067.00
Muscadines	Bu.	625	2,152.50
Mushrooms	Crt.	254	2,161.00
Nuts, Mixed	Case	108	1,074.50
Nuts, Mixed	Lb.	3,000	1,230.00
Okra	Bu.	70,606	332,151.00
Okra	Crt.	207	1,138.50
Onions, Dry	50# Bag	612,374	2,133,248.00
Onions, Green	Dz.	115,970	119,350.50
Onion-plants	"M"	27,680	26,902.00
Onion-plants	Crt.	12,960	48,600.00
Onion-sets	Bag	8,819	31,660.00
Oranges	Bu.	159,791	510,209.00
Oranges	Crt.	99,478	381,965.00
Oranges, Temple	Box	450	1,762.50
Papayas, Melons	Crt.	425	1,394.00
Parsley	Basket	25	50.00
Parsley	Crt.	6,898	29,871.00
Parsnips	Crt.	647	1,863.50
Peaches	Bu.	287,500	945,095.00
Peaches	Flat	5,508	45,406.00
Peanuts	Dz. Bunches	4,260	6,241.00
Peanuts	Lb.	1,500,150	345,700.00
Peanuts	100#	1,661	30,447.50
Pears	Box	34,650	194,689.00
Pears	Bu.	21,773	37,220.50
Peas, Field	Bu.	159,116	364,872.00
Peas, Green	Bu.	7,529	30,449.00
Peas, English (early)	Bu.	111	777.50
Peas	Lb.	299,328	113,083.00
Pepper	Bu.	74,071	360,209.00
Pepper-plants	"M"	11,455	53,970.50
Perisan Melons	Crt.	288	1,501.00
Persimmons	Crt.	175	1,116.00
Pineapple	Crt.	7,289	22,991.50
Plums	Crt.	16,929	86,813.00
Pomgranates	Box	1,142	5,522.50
Popcorn	Bu.	14	59.00
Potatoes, Irish	50# Bag	19,689	48,135.00
Potatoes, Irish	100# Bag	839,627	4,378,228.00
Prunes	Box	38	209.00
Pumpkins	Bu.	1,141	3,112.00
Pumpkins	Each	18,940	10,909.00

TABLE XXIX (continued)

COMMODITY	UNIT	NO. UNITS SOLD	GROSS VALUE
Radishes	Dz.	78,501	\$ 62,688.00
Radishes	Basket	350	525.00
Radishes	Crt.	1,575	9,844.00
Rape	Bu.	110	165.00
Rhubarb	Box	23	61.00
Romaine	Basket	266	495.00
Romaine	Bu.	2,519	7,844.00
Romaine	Crt.	282	1,967.00
Rutabagas	Bu.	75,349	144,821.00
Satsumas	Box	100	450.00
Souppernongs	Bu.	268	1,040.00
Spinach	Bu.	8,432	19,190.50
Squash	Bu.	98,348	350,768.00
Straw	Bale	935	1,102.00
Strawberries	Crt.	28,457	243,785.00
Strawberries	Flat	15,088	57,196.00
Strawberries, Select	Tray	343	3,514.00
Sugar Cane	Dz.	7,466	7,249.00
Sweet Potatoes	Bu.	371,282	1,555,919.00
Sweet-potato plants	"M"	47,658	285,698.50
Syrup, Sorghum	Gal.	9,500	30,751.00
Tangelos	Box	736	3,324.00
Tangerines	4/5 Bu.	38,400	136,841.00
Tomatoes	Bu.	509,977	4,074,994.50
Tomato-plants	"M"	72,594	275,427.00
Turkeys	Lb.	18,403	7,319.00
Turnips	Dz. Bunches	130,147	307,744.00
Turnips, Cut-off	Bu.	2,328	3,855.00
Turnip-salad	Bu.	156,080	417,352.00
Walnuts, English	Case	290	2,784.00
Walnuts, English	Lb.	3,100	1,255.50
Watermelons	Each	2,188,329	1,002,248.00
Watermelons, Icebox	Crt.	710	2,795.50
Miscellaneous sales:			
Butter	Lb.	6,740	4,453.50
Ainse	Crt.	1	3.50
Cheese	Lb.	37,112	15,310.50
Christmas Melons	Crt.	107	577.50
Christmas Trees	Each	78,438	313,476.00
Bacon	Lb.	1,800	900.00
Nectarines	Ctn.	2,004	12,151.50

TABLE XXIX (continued)

COMMODITY	UNIT	NO. UNITS SOLD	GROSS VALUE
Ponkans	Box	140	\$ 630.00
Salad Mix, Cello-pk.	Box	364	962.50
Shrubs, mixed	Each	3,763	12,297.00
Mustard Greens	Bu.	28,856	50,429.50
TOTAL			\$39,835,695.75

*Source: Georgia State Farmers' Markets (Volume Report, 1958. Atlanta: Georgia Department of Agriculture), pp. 4-7.

every product of importance on one market has almost equal relative importance on the other.

The source of the various products handled on the two markets varies with the season, depending on the months of greatest commercial fruit and vegetable production in the different states (Figures 76 and 77). From November through May Florida supplies the major share of produce coming to the markets; not including bananas, which arrive from the Caribbean Islands and Central and South America. New York ships large quantities of potatoes to the market during this period and for several months is the second leading source state. From Florida come tomatoes, cabbage, beans, celery, green corn, potatoes, peppers, squash, citrus, and other items in large quantities. Grapefruit and oranges continue to be important Florida items on the markets throughout most of the year.

Georgia and South Carolina vegetables begin appearing in significant quantities during May, but do not become dominant until June. These two states are ordinarily the major sources of vegetables through October. Generally speaking, major Columbia sales are of South Carolina products, while the Atlanta Market handles primarily Georgia commodities. Major products originating in Georgia and South Carolina are watermelons, tomatoes, peaches, beans, cabbage, potatoes, corn, cantaloupes, and cucumbers.

During August, September, and October, large volumes of vegetables and apples arrive from New York, New Jersey, Delaware, Virginia, and Michigan. Among the vegetables supplied by these states are: beans,

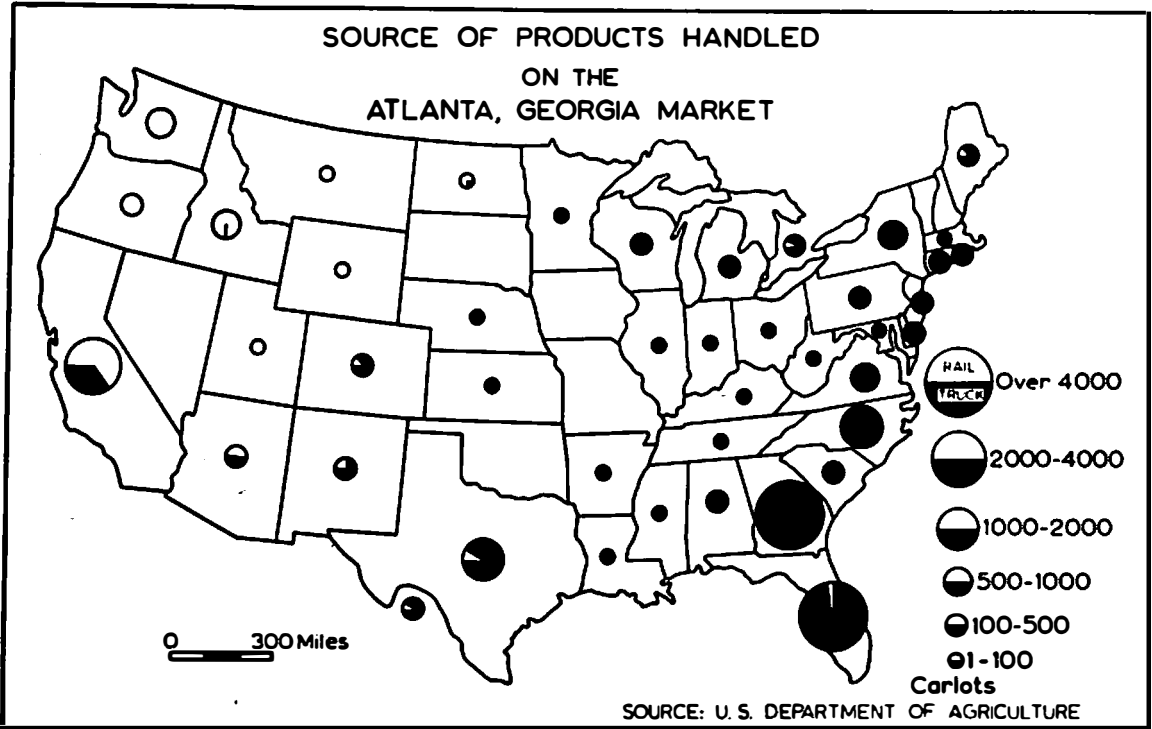


FIGURE 76

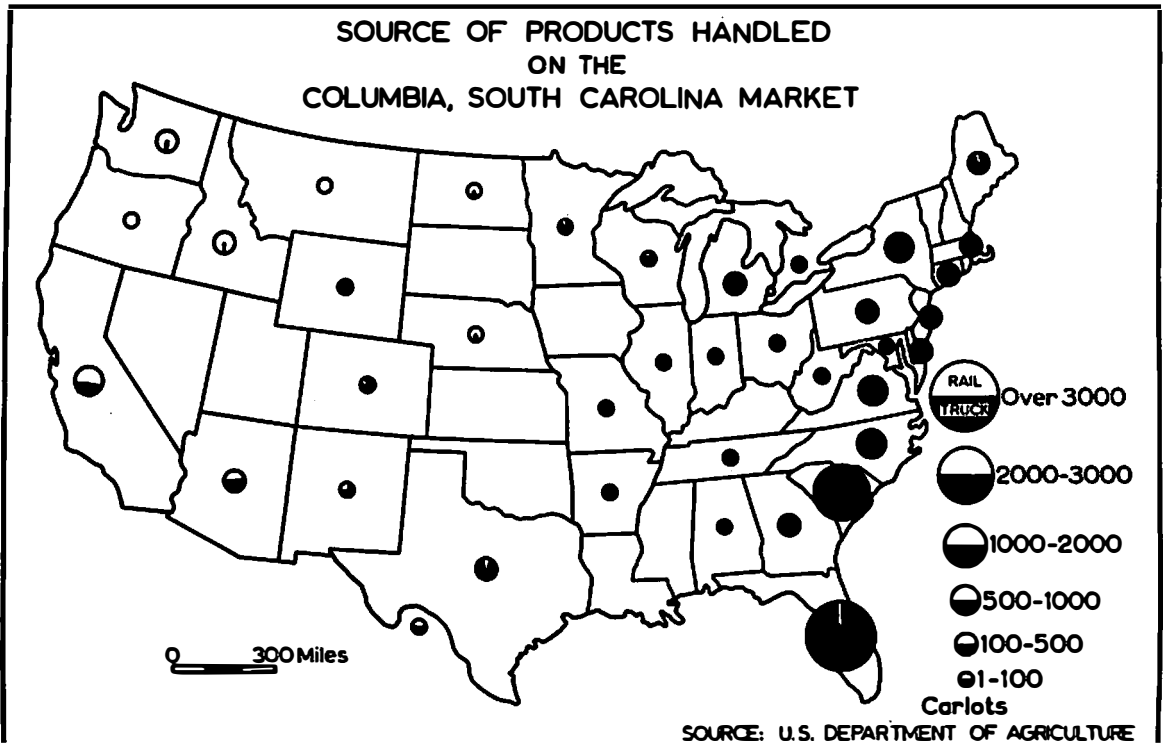


FIGURE 77

beets, cabbage, cantaloupes, carrots, celery, cranberries, lettuce, peppers, potatoes, and tomatoes. Washington apples appear on the markets most of the year, although during June and July shipments are small. California contributes to the market throughout the year, with heaviest shipments during the summer and fall months.

An accurate picture of the distribution of products from the Atlanta and Columbia markets is difficult to obtain, since neither market attempts to keep records of outgoing load destinations (Figure 78). Truckers departing from the market prefer to keep their destinations secret in order to avoid any chance of competitors discovering the source of their sale. A survey of product distribution was made by the United States Department of Agriculture, Marketing Research Division, in the latter 1940's and a map was published indicating the results of that survey.⁴ In addition, a 36 hour survey of produce leaving the Columbia Market was made in 1952. There is no reason to believe that the distribution area of the market has changed appreciably since these surveys.

Most products leaving both markets follow a generally northward direction. The Columbia selling area is limited primarily to Atlantic Seaboard states, whereas most of Atlanta's sales are to the west of the Blue Ridge Mountains. Three states--North Carolina, South Carolina, and Virginia--purchase the major portion of all products distributed

⁴Otto Rauchschalbe, et al., The Raleigh, N. C. Produce Market (Washington, D. C.: United States Department of Agriculture Production and Marketing Administration, June, 1950), p. 6.

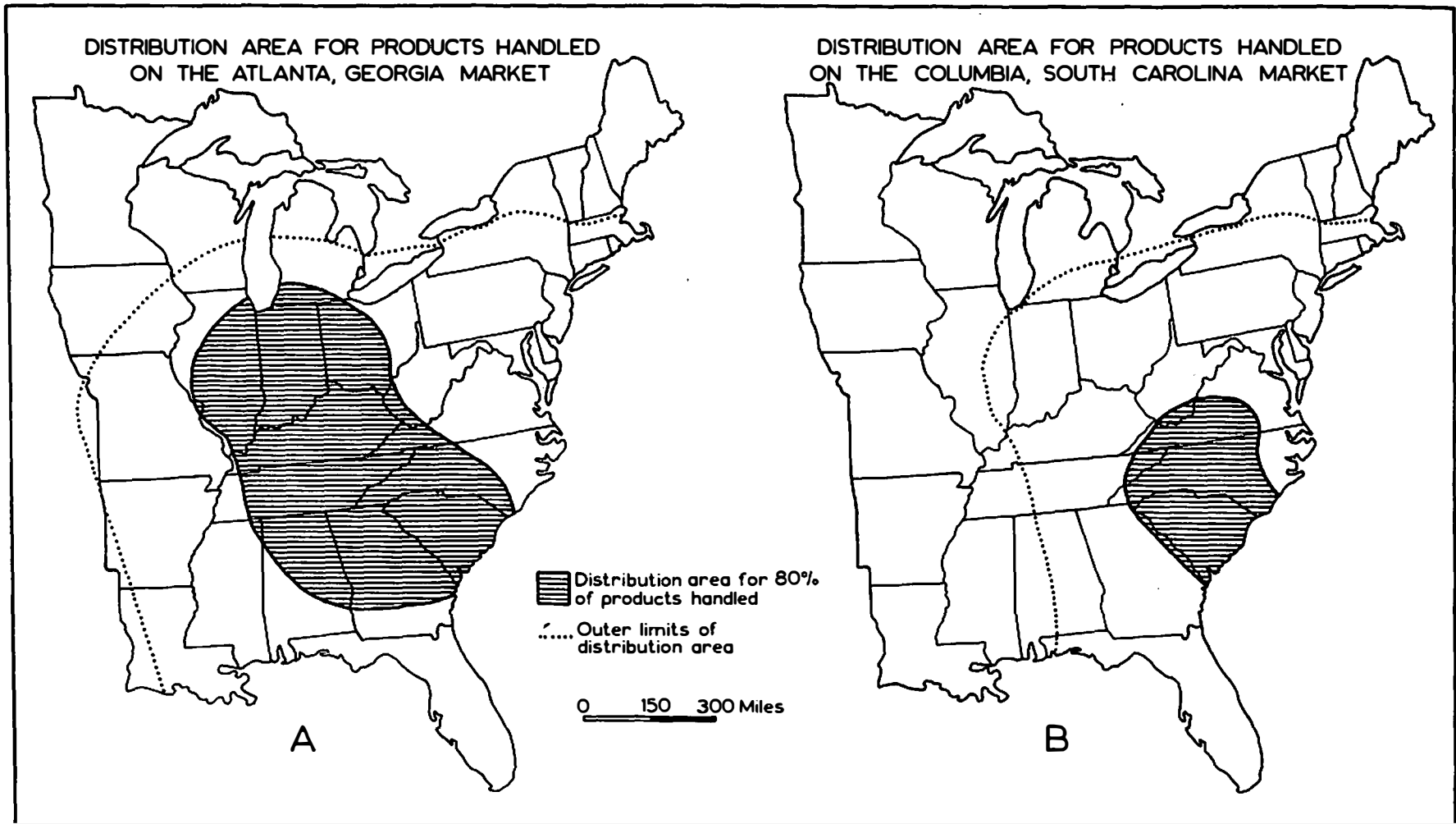


FIGURE 78

from the Columbia Market, with North Carolina probably taking the largest quantity, South Carolina second, and Virginia third.⁵ Atlanta distributes the major portion of its products to Georgia, Tennessee, South Carolina, North Carolina, Kentucky, Indiana, Illinois, Ohio, and Michigan. During watermelon and cantaloupe season the distribution area for both markets becomes considerably enlarged, with Atlanta making some shipments to areas west of the Mississippi River, to Wisconsin, New York, Massachusetts and states in between. The Columbia Market extends its distribution area primarily northward, to include New York and Massachusetts, and also as far west as Indiana. During July, August, September, and October major quantities of vegetables are shipped southward into Florida.

Thus, is indicated the interregional nature of the Atlanta and Columbia markets and their outstanding importance in the marketing of fruits and vegetables. Considering the far reaching trade areas and wide reputation of the markets, the modern facilities, excellent location, well trained men to manage the market operations, and the continued wise support of their state governments and farmers, these markets should be able to continue past records of growth and service.

⁵Survey made by the author in conjunction with Columbia Market personnel of all buyers leaving the Columbia Market from 12:01 A. M., April 30, 1952, to 12:01 P. M., May 1, 1952, indicated that North Carolina received 45.8 per cent of all produce distributed and South Carolina 32.5 per cent. Another survey conducted by the author on July 9, 1952 found 35.5 per cent of the produce being sent to North Carolina, 27.7 per cent to South Carolina, 14.5 per cent to Virginia, and the remainder going to Indiana, Ohio, West Virginia, Tennessee, and Pennsylvania, in that order.

CHAPTER VIII

CONCLUSIONS

The fresh fruit and vegetable industry of the southeastern United States has been undergoing rapid changes since its development on a large scale in the latter 1800's, and especially during the past three or four decades. At present, it seems that the rate of change will certainly not diminish, but may be accelerated due to the constant stream of new innovations in the fruit and vegetable industry and also in related activities. Geographic, governmental, and economic factors, plus the great influence of advertising on the American public, must all be recognized as to their various effects on the future of one of the nation's greatest, and most important industries.

The housewife, the ultimate consumer of most fruits and vegetables today, is as much interested in the style of jackets worn by the potato, peach, orange, or squash that she purchases as she is in the fashion of her own clothing. She does her shopping largely in supermarkets, and her buying habits are geared toward appearance and convenience of preparation rather than quality and price. This fact has encouraged production in areas that can produce a better looking vegetable and where marketing facilities are so organized that the vegetables can be cleaned, packaged, and placed on the supermarket vegetable counter within a few hours after they come from the fields. Areas that are unable or unwilling to go to the necessary expense and difficulty to please the housewife, must inevitably and sometimes disastrously

face enormous consequences. Those fruit and vegetable producers that are as successful in catering to feminine nature and influencing their desires as the clothing manufacturers, should enjoy great prosperity, whereas the less competitive folk may be ruthlessly eliminated.

Producing areas must constantly be vigilant for new and better varieties of fruits and vegetables, plus new, faster, and more economical methods of marketing. This probably means more equipment, larger investments, larger farms, and the failure of old style markets that attempt to sell goods without the most modern wrappings.

Heavier demands placed on the farmers by consumer preferences, and the inability of small farmers to compete in a viciously competitive industry, have resulted in a decline in the number of farms, while the average size farm has been increasing. Farmers with small acreages and little capital are also frequent victims of the weather, especially if they depend upon the profits of one crop in order to produce another. In addition, supplies of labor are more difficult to obtain and more expensive than ever before and for many crops only the large farmers, with sufficient capital to mechanize every possible aspect of production, can survive. Corporation and other types of large scale farming are certain to advance steadily in the future unless drastic and unexpected changes occur.

In Georgia and most of South Carolina many farmers produce vegetables as a sideline, with their major income being derived from the production of other crops. This type of vegetable farming is inefficient, and often produces vegetables of poor quality. Knowledge of

modern methods of grading, packing, and marketing are frequently unknown. It is reasonable to assume that "sideline" vegetable production will be largely discontinued, as Georgia and South Carolina farmers find themselves less able to compete with vegetables from other areas and from scientific farmers in their own states.

As it becomes more and more necessary to practice scientific farming, the tendency toward specialization is also increasing. Farmers normally cannot amass the necessary amount of information or equipment to properly produce and remain well-informed about a large number of crops, just as markets cannot ordinarily provide modern equipment for properly processing a number of different vegetables for fresh shipment. Therefore, specialization in production and marketing should be further emphasized in the future.

Fruit producing areas as well as vegetable regions are trending toward larger farms, more scientific farming, and greater preparation of the fruit for marketing. Florida citrus orchards are coming increasingly under the domination of the citrus processing plants, since the fresh fruit industry occupies a constantly reduced role. With the relative decline in fresh fruit sales a larger portion of the citrus crop is being devoted to those types of citrus that are best for processing.

The peach orchards of Georgia and South Carolina are moving away from the older Piedmont producing areas toward the Fall Line and the Coastal Plain in an effort to get their products on the market prior to early maturing varieties further north. Today's emphasis is on reaching the consumer first with the best looking product available.

In marketing speed is paramount, and, as a result, trucks should increase their already dominant position in hauling fruits and vegetables to consumers. Rates are of secondary importance to speed in the transporting of most fruits and vegetables and unless the railroads find some method of decreasing time of vegetables in transit from producing areas to markets, their future in this industry would appear unpromising. The new highway systems now being constructed to all parts of the United States should allow trucks to deliver goods at an even faster pace. There is a possibility that truck-trains, whereby truck trailers are hauled on railroad freight cars, will aid the railroads in more rapid marketing. This type of transportation is still in the experimental stage, however, and is practically untried in moving fruits and vegetables.

Many fruit and vegetable concentration markets in the area studied are without the most modern packaging, cooling, and storage facilities. Furthermore, in south Georgia, and possibly in parts of South Carolina and Florida, these markets are too closely spaced. Some private markets will fail and unless the state governments are willing to pay for losses sustained by closely spaced state markets some of these facilities will also have to be eliminated. It is the consensus of several market managers that state markets should not be spaced closer than 100 miles. Any farmer, then, would be able to reach a market in from one to two hours time. With less numerous facilities more buyers could be brought to each market, resulting in more competitive bidding for products and, in all probability, higher prices to the

producer. The increased volume of products handled by each market would allow these facilities to obtain more modern equipment for handling and packaging, and more adequate standards of sanitation and quality could be enforced.

Terminal markets in most cities should decline in importance and some may disappear during the next few years. Chain supermarkets buy most of their fruit and vegetable supplies from concentration markets or growers, acquiring only small quantities from terminals. The Atlanta Market, and to a much lesser extent the Columbia Market, sell to some chain organizations, but this sales outlet should slowly decrease in Atlanta as it has in Columbia. Even independent grocers are often pooling their purchasing power (sometimes through large wholesale distributors) and by-passing the terminals in favor of concentration markets and direct purchases from growers. In many instances terminals are today considered as unnecessary and expensive middlemen in the marketing of fruits and vegetables. Additional handling of produce on terminal facilities, and the deterioration in quality caused by the resulting delays in being able to place the products before the public, are problems that terminals must overcome. The function of terminals as places for farmers to display and sell their own products is rapidly becoming a part of the past, as well as the practice of housewives visiting terminals to purchase supplies for the home. Some terminal market dealers are currently purchasing large quantities of their produce directly from growers in many different areas at all times during the year, and this practice, if expanded, may

effect a partial solution to the ills of terminal facilities. Other terminals that depend only upon locally produced fruits and vegetables, failing to import out-of-season products from other states, are doomed to positions of minor importance or outright failure.

Currently, state-owned concentration and terminal markets are of considerable importance in marketing vegetables, but not fruits. State markets are of greatest importance in Georgia, reflecting the fact that most Georgia vegetables are produced on small farms. In Florida, state markets have been holding their own from the standpoint of volume of produce handled, but are declining in relative importance when compared to the expansion of the vegetable industry in the state. This circumstance has developed as a result of the declining influence of small farmers in the production of Florida vegetables. Due to the central location of the Columbia Market in South Carolina, other state-owned concentration facilities have usually developed only as specialty markets to handle one or two commodities. Even these markets may find it difficult to continue operations, however, for a large percentage of South Carolina vegetable farmers can reach Columbia in from one to two hours, where they will generally find a larger number of buyers for their products.

The distribution area for vegetables produced in Florida, Georgia, and South Carolina appears to be relatively stable, although it changes from time to time as a result of crop failures in this or other producing regions. Florida, apparently, has the best opportunity for expanding its market area, if agriculturalists are able to develop

strains of vegetables that are superior in quality but lower in price than the same vegetables from other sections, especially California. Beyond this, vegetables such as butter beans and pole beans, that can be sold currently only in the South, may be introduced to consumers in other portions of the country. Vegetable growers, marketing agencies, and state and local governments are becoming increasingly aware of the possibilities of advertising and demonstrating the use of these products as a means of expanding their market areas.

Frozen foods industries have become increasingly important in supplying vegetables to housewives in recent years. Convenience of preparation is an excellent advertising point, as may be observed from the virtual elimination of the production of lima beans for sale on the fresh market. Southern vegetable growers are fearful that the same development may occur with other vegetables, especially since many vegetables produced in the South are not suitable for the fresh frozen market and since it would be possible for frozen food companies to make purchases from any part of the country at any time during the year for supplying winter and early spring demands. For this reason, elaborate advertising programs are being prepared to persuade housewives as to the advantages of purchasing fresh, unfrozen vegetables. Research into plant varieties has also been expanded so that, in the event the advertising program fails, vegetables may be grown that are suitable for canning and freezing. Certain bulky vegetables, such as cabbage and celery, have not proved suitable for the fresh-frozen industry, and should continue in their importance on the fresh market for the immediate future.

In contrast to the vegetable industries of the state, Florida citrus has found its principal market to be more and more the frozen concentrate companies. As a result, the distribution area for Florida citrus is changing, this being especially true for oranges. The relative decline in fresh citrus sales may mean that in the near future Florida oranges will dominate those from other sections only in the South, although Florida will probably continue to supply the major portion of the nation's grapefruit and domestic lime production.

Georgia and South Carolina should be able to maintain their distribution area for peaches. New methods of marketing and packaging are constantly being introduced and recent experiments with air transportation to northern markets give indication that steps are being taken to assure the arrival of the perishable peach to consumers in a fresh condition.

The future of the fruit and vegetable industry in Florida, Georgia, and South Carolina, as a whole, appears to be excellent. As long as the national population continues to increase, urban areas sustain their present growth, real incomes are perpetuated at current levels or are allowed to rise, and the producing areas unceasingly strive to surmount the great problems that face them, there should be room for periodic expansion in production. After witnessing the hazards of weather, price, competition, and other discomfiting aspects of the industry, however, one is led inescapably to the conclusion that it is much better to be writing about the production and marketing of fresh fruits and vegetables than to be actively engaged in the business.

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