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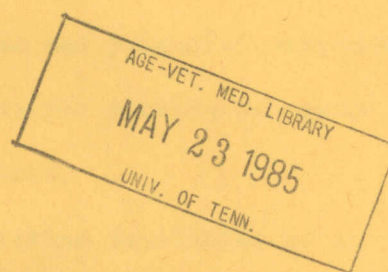
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An Assessment of the Structure of Fruit and Vegetable Marketing in Tennessee

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Foreword

This project was initiated at the request of the Tennessee Commissioner of Agriculture for information to assist in development and implementation of feasible, long-run marketing programs that would support expansion of Tennessee's fruit and vegetable industry. In order to support consideration of selected development activities, information was synthesized from several sources to facilitate the description of Tennessee's fruit and vegetable marketing system and potential programs. A quantitative methodological based analysis was not considered appropriate due to data, time, and resource constraints.

While economic analysis of individual marketing facilities is a researchable issue, such research is based on many rigorous assumptions. Conflicts of opinion may arise over the assumptions, and if assumptions are changed then the results of the economic analysis may change. Also, the reader must recognize the fact that feasibility studies do not insure success of a project. Feasibility studies help to identify opportunities and problems, but success may ultimately rest upon the dedicated efforts of concerned individuals and other uncontrolled circumstances.

Acknowledgements

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An Assessment of the Structure of
Fruit and Vegetable Marketing in Tennessee

by

John R. Brooker*

INTRODUCTION

Marketing is a common term to all Tennessee producers of fruits and vegetables, yet the real concept of marketing may often be misunderstood. In a primitive agricultural economy, producers of farm products must perform the task of selling their products directly to final consumers [3, p. 41]. The farmer harvests his crop, prepares the product for sale, transports the product to where buyers are located, and then personally negotiates the sale of the product to the consumer. As an agricultural economy develops, farmers expand production and find it expedient to hire workers to harvest, package, transport, and even negotiate the sale of the product. This production-marketing system in major production areas of the United States has progressively grown in efficiency and complexity. The evolution of such a production-marketing system naturally gravitate towards the most efficient participants. This was a major factor contributing to the adjustment of fruit and vegetable production away from growers close to consumption centers to distant regions where growers are highly efficient in production [22]. Development of relatively low-cost transportation and in-transit refrigeration also contributed to this adjustment.

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Large scale production is matched, and often exceeded, by the supply requirements of large volume buyers [19].¹ Hence, in many situations the agricultural marketing system has evolved into a procurement system where the farmer doesn't really "market" his product to the buyers [27]. The buyer has bargaining power in his favor, so he takes the initiative and procures products from growers (shippers). The large scale buyers, either independent wholesalers or chain store buyers, prefer to purchase supplies from as few sellers as possible [10]. Phenominal growth of fruit and vegetable production in states such as California, Florida and Texas and growth of retailer-wholesalers such as Safeway, Inc., The Kroger Company, and the Great Atlantic and Pacific Tea Company contributed to development of a marketing system that made it difficult for small quantity producers in nonmajor production regions to gain access to this commercial marketing channel.

Rapidly rising transportation costs during the 1970s, coupled with relatively higher cost of labor and land in California vegetable production regions, have led to considerable interest and optimism for expanded production of vegetables in Southeastern States [12]. Thus far, the adverse effect of these cost factors on California's competitive position does not seem that apparent, as revealed by the overall acreage and production statistics. California's share of total United States acreage of vegetables increased from 16 percent in 1970 to 20.4 percent in 1980, while the combined acreage of eight Southeastern States (AL, AR, GA, LA, MS, NC, SC, TN) declined from 9.2 to 8.0 percent over the same period (Table 1). Only North Carolina and Tennessee

¹ A glossary of terms used by the fruit and vegetable industry is located at the end of this manuscript. Several terms in the glossary are not used in the text; however, the intent is to provide the reader with a fairly complete list.

Table 1. Share of total United States acreage and production of vegetables accounted for by eight Southeastern States and California, 1960-1980

Year ^b	STATE									Eight South- eastern States combined
	AL	AR	GA	LA	MS	NC	SC	TN	CA	
	Total vegetable acreage ^a									
	percent									
1960	1.3	0.9	1.9	1.8	0.9	2.6	1.8	0.8	15.4	12.0
1965	1.3	0.6	1.7	1.6	0.7	2.4	1.5	0.7	14.3	10.5
1970	1.3	0.5	1.3	1.3	0.7	2.4	1.2	0.5	16.0	9.2
1975	1.3	0.4	1.1	0.8	0.6	2.6	1.2	0.6	19.5	8.6
1980	1.0	0.2	1.2	0.7	0.4	2.9	1.0	0.6	20.4	8.0
Total vegetable production ^a										
percent										
1960	0.9	0.4	1.0	0.8	0.3	1.7	0.8	0.4	23.5	6.3
1970	0.6	0.2	0.6	0.7	0.4	1.4	0.5	0.2	25.3	4.6
1980	0.4	0.1	0.5	0.3	0.2	1.4	0.4	0.2	32.0	3.5

^aFresh and processed, 24 vegetable and melon crops, including white potatoes and sweet potatoes.

^bMore recent years were not included because 15 vegetable crops were eliminated from this series after 1980.

Source: Agricultural Statistics [43].

increased their percentage share of total U.S. vegetable acreage over this 10 year period. With respect to total vegetable production by weight, California's share increased more during the 1970s than in the 1960s. On the other hand, output from six of the eight Southeastern States each accounted for a smaller share of total U.S. vegetable production in 1980 than in 1970 (Table 1). North Carolina and Tennessee accounted for the same percentage share in both years, 1.4 and 0.2 percent, respectively. Since total U.S. production of vegetables increased from 37.5 million tons in 1970 to 39.6 million tons in 1980,

Tennessee's absolute production level increased over the 1970 volume, even though the relative share of total U.S. production remained at 0.2 percent [43]. However, California growers captured more of the expanded U.S. production than these eight Southeastern States combined, in both absolute and relative terms.

A reasonable inference from this production information is that factors other than the cost of energy, labor, water, and land are having a stronger than anticipated effect on long run supply response. Some of these additional factors would probably represent noncost related, market access barriers. These access barriers exist for many production regions in Tennessee because smaller volume growers and shippers have difficulty entering major commercial markets due to insufficient quantities, inconsistent grading and packing, and inadequate production over a sufficient time period to satisfy supply requirements of buyers [6]. Perhaps these "smaller growers and shippers will increasingly orient their activities towards the needs of smaller supermarket buyers, terminal market operators and brokers, all of whom can typically make use of seasonal products and smaller volumes" [20, p. 460].

OBJECTIVES

Since Tennessee producers of fruits and vegetables are confronted with an extremely competitive marketing environment where most of the bargaining power is with the buyer, public marketing assistance may be necessary for growth, or perhaps, eventual survival. The purpose of this study is to provide information and insight regarding Tennessee's produce marketing structure in order to facilitate economically rational

decisions by individuals associated with public agencies or private firms who are concerned about long-term growth of Tennessee's fruit and vegetable industry. Specific objectives are to:

1. Describe the current structure of Tennessee's fruit and vegetable production-marketing system.
2. Identify public agency involvement in fruit and vegetable marketing facilities in several neighboring states.
3. Identify various types of marketing assistance activities available to producer groups and public agencies.
4. Delineate state-owned marketing facilities considered appropriate for supporting the extended development of Tennessee's fruit and vegetable industry.

MARKETING CHANNELS

Tennessee's fruit and vegetable industry is characterized by numerous, small scale growers who produce a large assortment of crops even though there are several large scale growers [1, 43]. However, considering any one particular crop, Tennessee is a minor supply region with respect to total United States production [43]. The diversity of crops produced, widely scattered small-scale production, and relatively minor position with respect to total U.S. production creates serious market access barriers for Tennessee's fruit and vegetable growers attempting to enter commercial wholesale markets [10].

To facilitate identification and discussion of these wholesale market access barriers, as well as other market outlet opportunities, two flow charts are used to present the variables that affect production-marketing decisions. The first flow chart emphasizes fresh

produce marketing channels. The second flow chart deals with the processing market. In both flow charts the freehand shapes represent an entrance or exit from the system, referred to as "sources" or "sinks." The solid lines represent physical product flows between stock variables identified by rectangles. Circles represent decision-making units and the house shaped figures represent exogenous variables. Informational flows are represented by dotted lines, and arrows indicate the direction of a flow. The hourglass figures represent control valves of physical product flows which are affected by the decision process.

Fresh Vegetables

When considering whether to plant a vegetable crop, let alone the acreage, growers' decisions are affected by the returns they received from a particular crop the previous year and by expectations regarding returns in the current year (Figure 1). The expectations variable may include notions about net returns for a particular vegetable crop and for other resource competing enterprises in the current year. Obviously, this one variable, expectations, reflects the interaction of many variables dealing with available resources, enterprise possibilities, opportunity costs, and risk management.

Time is a variable that affects growers' decisions to replant acreages lost due to bad weather and affects the total acreage available for harvest. Weather is indicated in the flow chart as an exogenous variable that impacts acreage lost and acreage available for harvest.

At the quantity harvested point in the flow chart, the physical product flow is separated into two groups--commercial markets and noncommercial markets. The importance or value of a particular outlet

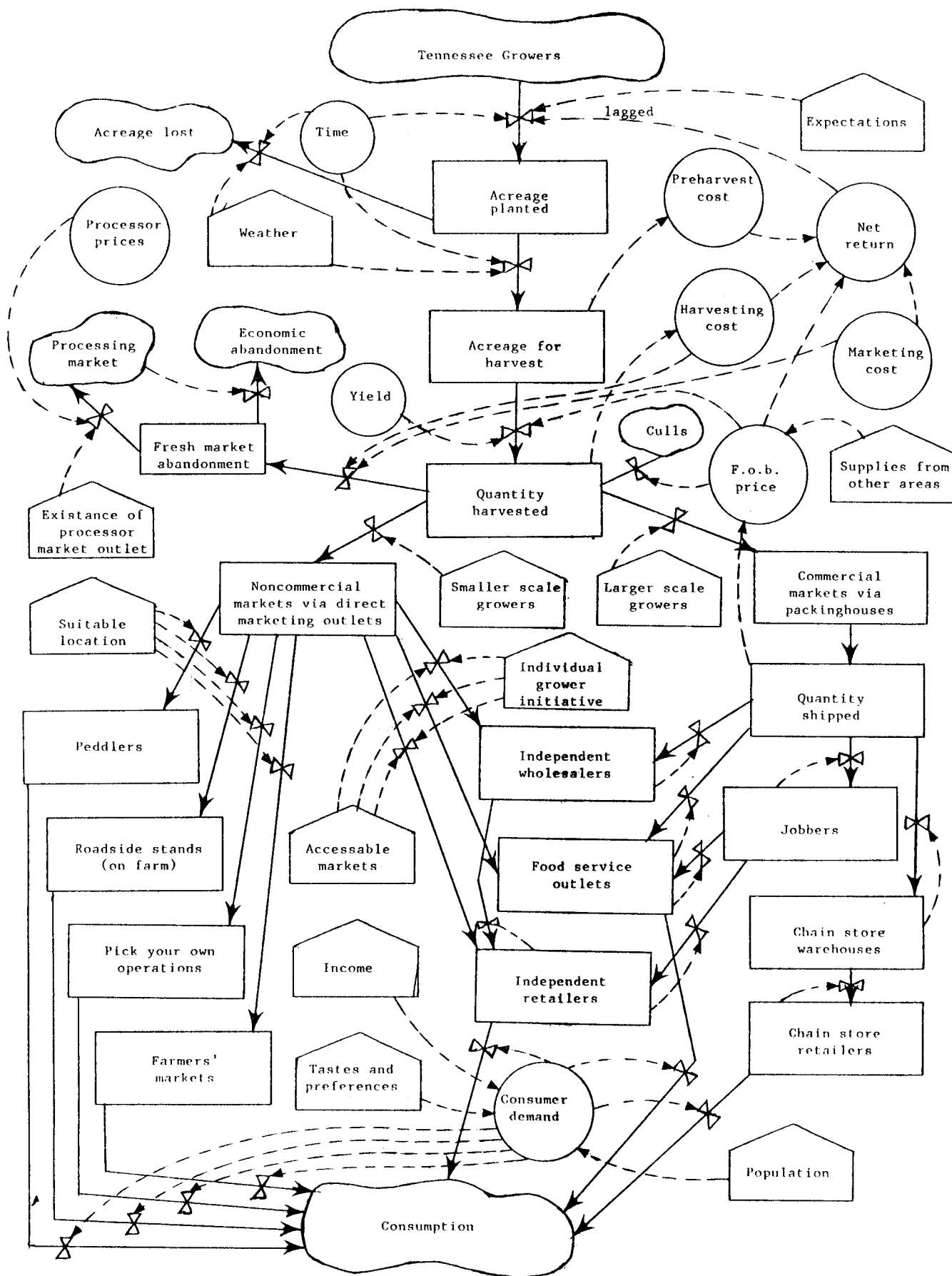


Figure 1. Flow chart of fresh vegetable marketing system.

to growers is not implied by the use of the word commercial. This term is used to characterize sales which incorporate the services of a packinghouse operation that wash, size, grade, and package products in a manner suitable for carlot sales and shipments to wholesale receivers. Because of volume requirements for this commercial outlet, it is primarily restricted to larger volume growers. Smaller volume growers could also access this commercial market by aggregating their production in a cooperative manner.

The other group of market outlets, referred to as noncommercial, contain the so-called direct marketing outlets. The obvious direct marketing outlets include off-farm outlets such as traditional farmers' markets and peddling, and on-farm outlets such as pick-your-own operations, roadside stands, and farm-house sales. These outlets are characterized by sales transactions involving personal contact by the farmer with the final consumer. Sales through these types of outlets may be at "discount" prices, yet referred to as retail because of the buyer being the final consumer. Other noncommercial marketing outlets include sales by individual growers to jobbers (truckers), independent wholesalers, independent retailers, and institutions. These wholesale type sales depend almost entirely on each growers' personal initiative and perseverance. An aggressive grower may cultivate a dependable, consistent clientele and sell substantial volumes of farm packed fruits or vegetables. The large chain store warehouses and retailers are not accessible (there are rare exceptions) because of their rigid procurement policies and the limitations placed on local store managers regarding produce purchases [1, 48].

One additional point regarding the use of the terms commercial and noncommercial, is that in the noncommercial markets the products being sold are primarily products grown in the immediate local area. In the commercial markets just the opposite would be true. This means that a negligible portion of the produce in Tennessee commercial marketing channels are Tennessee grown produce [6, 7].

The final "sink" in the fresh produce marketing system is the consuming public. The demand by consumers of fruits and vegetables depends upon income, tastes and preferences, population, and other determinants. The residence of these consumers is not limited to Tennessee, just as the sources of most fruits and vegetables are outside of Tennessee.

A secondary processor outlet for crops produced for the fresh market may exist in some instances. Generally, in these situations the cultivars grown for fresh market are not the same as those grown for processing. Also, by the time a grower realizes that his fresh market options are unavailable, there isn't time to negotiate a deal with a processor. If the fresh market channels are full, then it's quite likely that the processor's supplies are adequate, since other growers have probably experienced similar growing conditions.

While a few processors may purchase products on a salvage type basis after a field has been "picked" once or twice for fresh market sales, this is unusual. In most instances the quality requirements of processors are equal to those of the commercial fresh market, and in some instances even higher. Raw product salvage sales to processors obviously depends upon the local area existence of a processor willing to buy this type of product.

Processed Vegetables

The beginning of the processing market flow chart is similar to the fresh market flow chart, except a grower may be able to sell his crop before it's planted (Figure 2). Nationally, 85 percent of processors' raw vegetable supplies are purchased with the use of contracts and processors grow the remaining 15 percent themselves [18]. This vertical coordination and vertical integration helps to insure processors of raw produce supplies and assures growers of a market at a fixed price for these vegetable crops [11]. Each grower's decision regarding crops and acreages to plant under a forward cash contract is affected by the income received from last year's crop and the processor's current contract offer price.

Essentially, all processed products are sold through commercial type outlets. For a grower under contract who has his crop rejected by the processor, some of the crop may be sold through direct marketing outlets identified in the fresh market flow chart. Sales through these direct marketing outlets would depend upon the opportunity for such direct sales and the aggressiveness of the grower. In a few rare instances the grower may have the option of selling through a commercial fresh market outlet should the processing market outlet be unavailable.

Fresh and Processed Fruit

The marketing channels for fruit crops, both fresh and processed, are similar to those described in the flow charts for vegetables. An important difference at the beginning of these flow charts, however, does exist with respect to the time lag between planting and harvesting.

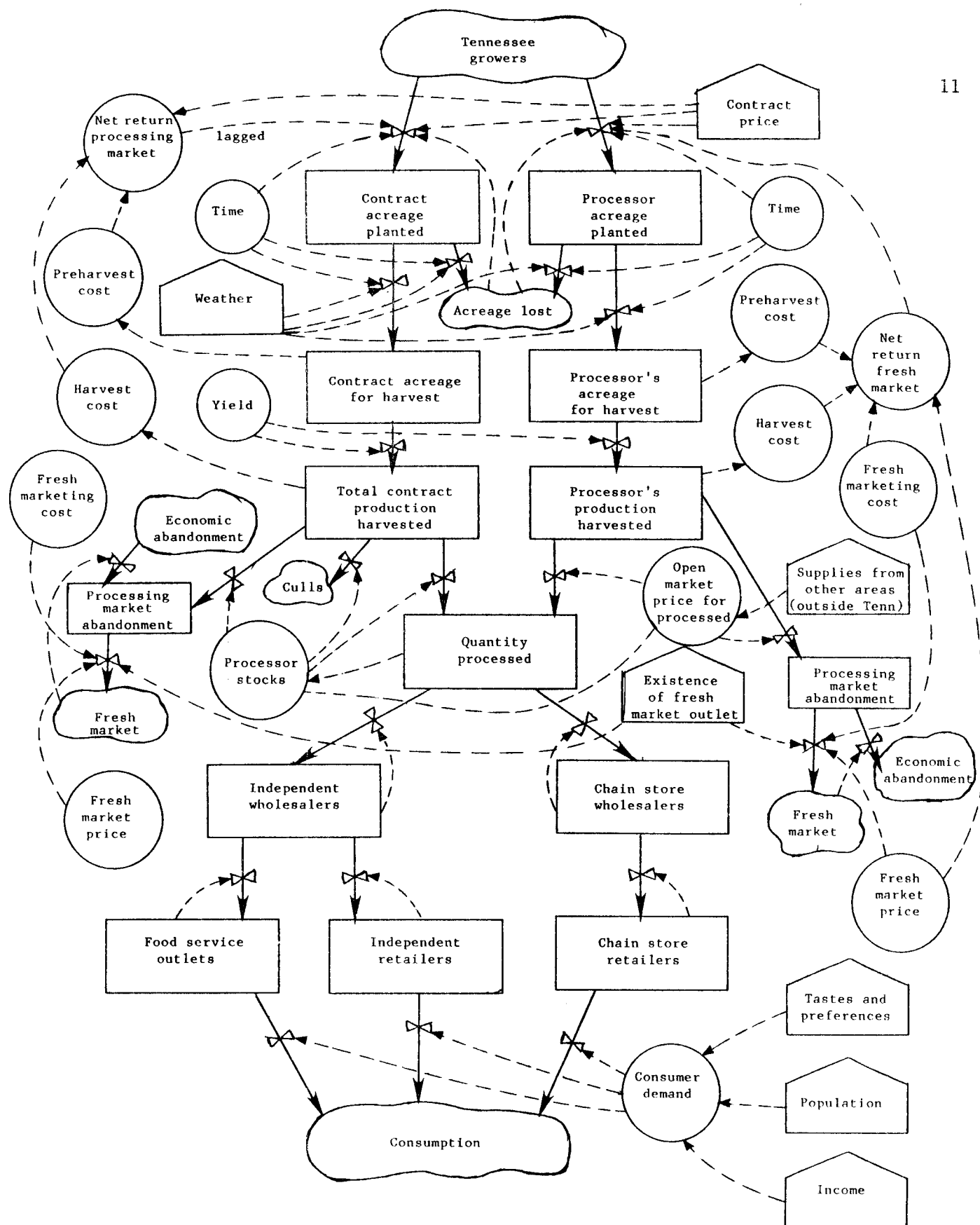


Figure 2. Flow chart of processed vegetable marketing system.

Vegetable crops are usually planted and harvested in the same year, while fruit crops are planted in anticipation of harvest beginning two to five years later. Of course, the planting decision involves a cost and returns analysis as needed with any enterprise. It is just a little more complicated with fruit crops because of the longer time lag between planting and harvesting.

INDUSTRY STRUCTURE

Crops were grown on 74,518 Tennessee farms using slightly more than 4.5 million acres of cropland and generated over \$1.2 billion in crop sales in 1983 (Table 2). Vegetables were produced for sale on 6.8 percent of these farms and fruits on 2.7 percent. The value of vegetable sales amounted to 4.3 percent of total crop sales for the state and only 0.4 percent for fruit crops.

Farms and Produce Sales

Both vegetable and fruit farms exhibited similar patterns in the relationship between the percentage of farms and percentage of sales accounted for by farms in various size categories. Only one percent of the vegetable farms had sales of \$500,000 or more in 1982. Yet 24 percent of all vegetable sales were reported for this economic class of farms (Table 3). On the other hand, 76 percent of the farms selling vegetables had farm sales of less than \$20,000 and accounted for only 18 percent of all vegetable sales. Similarly, 79 percent of the fruit farms had sales of less than \$20,000 and accounted for 29 percent of total sales. An important observation from these numbers is that a large proportion of vegetable and fruit producing farms in Tennessee

Table 2. Number of farms, harvested cropland, and value of production from all crops, vegetables, and fruits in Tennessee for 1982

Type of farm	Farms		Harvested cropland		Value of production	
	number	percent	acres	percent	\$1000s	percent
All crops ^a	74,518	100.0	4,548,895	100.0	1,227,256	100.0
Vegetables ^b	5,101	6.8	34,119	0.8	53,043	4.3
Fruits ^c	2,022	2.7	8,427	0.2	5,136	0.4

^aIncludes all crops.

^bIncluding sweet corn, melons, and potatoes.

^cIncluding nuts and berries.

Source: Tennessee Agricultural Statistics [32] and U.S. Bureau of Census [44].

Table 3. Distribution of fruit and vegetable farms and sales in Tennessee for 1982

Value of sales	Vegetables ^a		Fruits ^b	
	farms	sales	farms	sales
	percent			
Less than \$2,500	22	2	29	3
2,500-4,999	17	3	16	4
5,000-9,999	20	5	17	8
10,000-19,999	17	8	17	14
20,000-39,999	10	11	9	9
40,000-99,999	8	13	7	21
100,000-249,999	4	16	3	20
250,000-499,999	2	17	1	12
500,000 and over	1	24	1	9
Total	101 ^c	99 ^c	100	100

^aIncluding sweet corn and melons and excluding white and sweet potatoes.

^bIncluding nuts and berries.

^cDoes not equal 100 due to rounding error.

Source: U.S. Bureau of Census [44].

must be considered small-sized farms, at least with respect to vegetable and fruit production. Thirty-nine percent of the farms producing vegetables and 45 percent of the farms producing fruit crops had farm sales of less than \$5,000.

Only six percent of the farms producing vegetable crops and six percent of those producing fruit crops had 500 or more acres in total farm size in 1982 (Table 4). The proportions of all fruit and vegetable producing farms with less than 100 acres in total size were also equal, 67 percent. However, with regard to sales and acreages of fruit and vegetable crops, there is an interesting contrast. Among the farms with \$40,000 or more in crop sales, 18 percent of those producing vegetables operated on farms with less than 100 acres. None of the fruit producing farms with \$40,000 or more in sales operated on farms with less than 100 acres.

Among all farms selling fruits and vegetables in 1982, 69 and 59 percent, respectively, were full owners (Table 5). For farms with \$10,000 or more in sales, the full owner percentage was 56 percent for fruit growers and 44 percent for vegetable growers. The proportion of full owners declined even further when considering only farms with \$40,000 or more in sales. Approximately two-thirds of these larger fruit and vegetable crop farmers were identified as part owners of the acreage they managed. This is an important point to recognize when evaluating production costs and related specifications about land expense or rental rates for cropland.

Part-time farming is more prevalent among fruit growers than vegetable growers. Among all vegetable growers in Tennessee in 1982, 44 percent reported an occupation other than farming as their principal

Table 4. Distribution of fruit and vegetable farms by total size of farms in acres and level of product sales in Tennessee for 1982

Farms growing fruits or vegetables and value of sales		Size of farm in acres						Total
		1-9	10-49	50-99	100-499	500-999	1,000-1,999	
----- percent -----								
Vegetables:								
All farms:								
farms	13	33	21	27	3	2	1	100
sales	3	12	10	30	13	13	18	99 ^a
acres	2	9	7	22	13	19	28	100
\$40,000 or more:								
farms	--	6	12	39	20	13	10	100
sales	--	2	5	28	18	19	28	100
Fruits:								
All farms:								
farms	12	32	23	27	3	2	1	100
sales	3	15	10	47	15	2	7	99 ^a
acres	4	24	17	41	8	1	5	100
\$40,000 or more:								
farms	--	--	--	54	36	--	9	99 ^a
sales	--	--	--	76	24	--	--	100

^aDoes not equal 100 due to rounding error.

Source: U.S. Bureau of Census [44].

Table 5. Distribution of full owners, part owners, and tenants among producers of fruits and vegetables by all farms selling produce, farms with sales of \$10,000 or more, and farms with sales of \$40,000 or more in Tennessee for 1982

Farms and value of market sales ^a	Vegetables				Fruits			
	Full owners	Part owners	Tenants	Total	Full owners	Part owners	Tenants	Total
	----- percent -----				----- percent -----			
All farms:								
number	59	32	9	100	69	25	6	100
sales	36	53	11	100	52	44	4	100
\$10,000 or more:								
farms	44	47	9	100	56	38	6	100
sales	33	57	10	100	48	50	2	100
\$40,000 or more:								
farms	29	66	5	100	36	64	--	100
sales	28	63	9	100	37	63	--	100

^aTotal sales, not just produce sales.

Source: U.S. Bureau of Census [44].

occupation, while 66 percent of the fruit growers were considered part-time growers (Table 6). As expected, limiting the growers to those with sales of less than \$20,000 increased the percentage of part-time farmers. The distribution of the fruit or vegetable growers by acres harvested revealed that a larger percentage of part-time farmers versus

Table 6. Distribution of farms, total acreage, and harvested acreage for growers producing fruits or vegetables by principal occupation in Tennessee for 1982

Farms and acreages	Vegetables			Fruits		
	Principal occupation					
	Farming	Other	Total	Farming	Other	Total
	percent					
All farms ^a :						
farms	56	44	100	34	66	100
total acreage	83	17	100	54	46	100
acres harvested:						
.1-4.9	63	80	71	76	84	81
5-24.9	26	17	22	18	14	15
25-99.9	7	2	5	4	2	3
100 and over	<u>4</u>	<u>1</u>	<u>2</u>	<u>2</u>	<u>--</u>	<u>1</u>
Total	100	100	100	100	100	100
Less than \$20,000 ^b :						
farms	47	53	100	29	71	100
total acreage	54	46	100	40	60	100
acres harvested:						
.1-4.9	78	84	81	80	85	83
5-24.9	18	14	16	13	12	12
25-99.9	3	1	2	3	1	2
100 and over	<u>1</u>	<u>1</u>	<u>1</u>	<u>4</u>	<u>2</u>	<u>3</u>
Total	100	100	100	100	100	100

^aAll farms that produced and sold fruits or vegetables.

^bFarms with total agricultural sales of less than \$20,000 that produced and sold fruits or vegetables.

Source: U.S. Bureau of Census [44].

full-time farmers harvested less than five acres, although the difference was not substantial. Also, part-time growers are more important with respect to numbers and sales among the fruit growers than among the vegetable growers.

Among fruit and vegetable growers who are full-time farmers and those who are part-time farmers the same inverse relationship exists between percentage of farmers and share of total crop sales (Table 7). Among the full-time vegetable growers, 54 percent had vegetable crop sales of less than \$5,000, yet they accounted for only 5 percent of

Table 7. Distribution of farms with fruit and vegetable sales by principal occupation and level of product sales in Tennessee for 1982

Farms and market value of sales	Vegetables			Fruits		
	Principal occupation					
	Farming	Other	Total	Farming	Other	Total
	percent					
Less than \$5,000:						
farms	54	82	66	53	85	71
sales	5	26	9	7	41	14
\$5,000-\$19,999:						
farms	11	9	10	9	8	8
sales	7	17	9	11	29	15
\$20,000-\$39,999:						
farms	29	8	20	33	7	19
sales	20	20	20	21	30	23
\$40,000 or more:						
farms	6	1	4	5	--	2
sales	68	37	62	61	--	48
Total:						
farms	100	100	100	100	100	100
sales	100	100	100	100	100	100

Source: U.S. Bureau of Census [44].

total sales in 1982. While only six percent of the vegetable farms had sales of \$40,000 or more, they accounted for 68 percent of total sales by all full-time farmers. Among the part-time vegetable growers, 82 percent had sales less than \$5,000 and accounted for 26 percent of the total. Only one percent of the part-time growers had sales over \$40,000; however, they accounted for 37 percent of total sales. The situation was similar for the fruit growers.

Direct Produce Sales

While the census data does not present direct marketing sales for fruit and vegetable growers separately, data on the value of all agricultural products sold directly to individuals for consumption are available. An examination of this data provides some insight regarding the importance of direct marketing in Tennessee and general characteristics about the participants. According to the 1982 Census of Agriculture, 4 percent of Tennessee's growers participated in direct marketing and accounted for 0.34 percent of total sales [44].

More than half of the farmers selling products directly to individuals for consumption were classified as having occupations other than farming as their principal occupation (Table 8). The full-time farmers participating in direct marketing sales, 43 percent, accounted for 63 percent of the total sales value. For farms with sales less than \$20,000, 63 percent were part-time farmers and accounted for 57 percent of sales.

As expected, the smaller scale growers were more involved in direct marketing than the larger volume growers. A little more than one-third of the participating growers had direct marketing sales of less than

Table 8. Distribution of farms and market value of agricultural products sold directly to individuals for consumption by principal occupation in Tennessee for 1982

Farms and market value of agricultural sales	Principal occupation		
	Farming	Other	Total
	- - - - - percent - - - -		
All farms:			
farms	43	57	100
sales	63	37	100
Less than \$20,000:			
farms	37	63	100
sales	43	57	100

Source: U.S. Bureau of Census [44].

\$2,500 (Table 9). Nine percent had sales of \$40,000 or more (remember this includes direct outlet sales of all agricultural products, not just produce.)

Growers who were full owners or part owners of their farms were about equally involved in direct marketing (Table 10). Nearly two-thirds of these growers were operating on farms of less than 100 acres in size.

A survey of all Tennessee County Extension Leaders in 1981 revealed the existence of 200 pick-your-own outlets and 64 farmer operated roadside stands [4].² A total of 23 farmers' markets were identified as operating throughout Tennessee in 1981 [5]. This list excluded tail-gate markets and the 37 Food Fairs coordinated by the Agricultural Marketing Project in 1982 [2].

² Due to the dynamic nature of produce marketing, any list of farmers' markets, roadside stands, pick-your-own outlets, etc., will be out of date by the time it's published.

Table 9. Value of all agricultural products sold directly from farms to individuals for consumption by value of sales in Tennessee for 1982

Value of sales	Farms ^a		Sales ^b	
	number	percent	\$1,000's	percent
Less than \$2,500	1,375	36	746	13
2,500-4,999	673	18	654	12
5,000-9,999	724	19	943	17
10,000-19,999	454	12	790	14
20,000-39,999	230	6	810	14
40,000-99,999	211	6	757	13
100,000-249,999	100	3	523	9
250,000-499,999	16	c	38	1
500,000 and over	6	c	411	7
Total	3,789	100	5,672	100

^aAll farms with direct market sales of any agricultural product.

^bValue of all agricultural products sold through direct marketing channels.

^cLess than one percent.

Source: U.S. Bureau of Census [44].

An estimated 7 percent of Tennessee's farmers sold \$9.7 million worth of agricultural products directly to consumers in 1979 [33]. This represented approximately one-half of one percent of Tennessee's total agricultural sales. Of this \$9.7 million, vegetables and melons brought producers \$2.5 million, and fruits and nuts contributed \$1.8 million. Hence, fruit and vegetable direct marketing sales represented about one-fourth of one percent of Tennessee's total agricultural sales in 1979. Approximately 12 percent of Tennessee's total fruit and vegetable production was sold through direct market outlets in 1979.

Table 10. Distribution of farms and market value of sales of agricultural products sold directly to individuals for consumption by type of ownership, firm organization, and size of farm in Tennessee for 1982

Farms and value of direct marketing sales		Type of ownership, firm organization, and size							
		<u>Full owners</u>	<u>Part owners</u>	percent	<u>Tenants</u>	<u>Total</u>			
		- - - - -	- - - - -	- - - - -	- - - - -	- - - - -			
All products:									
farms		48	45		7	100			
sales		49	45		6	100			
		<u>Individual or family</u>	<u>Partnership</u>	<u>Family held corporation</u>	<u>Other corporation</u>	<u>Other</u>	<u>Total</u>		
		- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -		
All products:				percent					
farms		90	9	1	a	a	100		
sales		80	16	1	2	1	100		
		<u>Size of farm in acres</u>							
		<u>1-9</u>	<u>10-49</u>	<u>50-99</u>	<u>100-499</u>	<u>500-999</u>	<u>1,000-1,999</u>	<u>2,000 & over</u>	<u>Total</u>
		- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
All products:						percent			
farms		10	32	23	30	3	1	a	99 ^b
sales		5	22	19	44	7	3	a	100

^aLess than one percent.

^bDoes not equal 100 due to rounding error.

Source: U.S. Bureau of Census [44].

Compared to several other states included in USDA surveys of direct marketing activity in 1979 and 1980, Tennessee farmers had the lowest average per farmer sales value (\$1,702) for fruit and the second lowest sales value (\$1,460) for vegetables (Table 11) [16]. Illinois had the highest average sales value per farmer selling fruits and vegetables through direct marketing outlets, \$23,391 and \$14,621, respectively. The southern New England states, comprised of Connecticut, Massachusetts, and Rhode Island, had the largest proportion of all farmers who participated in direct marketing, 54.1 percent. As might be expected among all the surveyed states, these three southern New England states also received the largest share of total cash receipts from direct marketing, 10.7 percent. In contrast, Tennessee farmers received 0.5 percent of total cash receipts from direct marketing of all products. Direct marketing activity was also quite high in the northern New England states of Maine, New Hampshire, and Vermont.

Among the 16 states included in USDA's direct marketing surveys, roadside stands and farm buildings were the leading direct market outlets (Table 12). Farmers' markets were the leading outlet for vegetables in only one state, Wisconsin. In Tennessee, 63 percent of direct market vegetable sales were accounted for by roadside stands, followed by 16 percent through farmers' markets. For direct marketing sales of fruits, Tennessee growers sold 48 percent through pick-your-own outlets, 34 percent through farm building type sales, 17 percent through roadside stands, and only 1 percent through farmers' markets. Unfortunately, other southern states were not included in this USDA study. An

Table 11. Farmer participation and cash receipts from direct marketing of fruits, vegetables, and all products combined, for nine states in 1979 and seven states in 1980

State and year	Proportion of farmers selling direct			Share of total cash receipts from direct sales		Average value of direct marketing sales per farmer		Total number of farmers
	all	fruits	vegetables	all	fruits & vegetables	fruits	vegetables	all products
	products			products				1,000s
	percent					dollars		
1979:								
Colorado	7.5	1.72	1.35	0.6	0.05	1,800	2,143	26.3
Maryland ^a	24.2	2.68	5.09	1.9	0.16	8,808	938	19.2
New York	22.6	2.82	6.81	3.9	1.72	12,434	8,716	45.0
S. New England ^b	54.1	13.48	12.34	10.7	4.06	11,370	7,910	9.4
Tennessee	7.2	1.18	2.22	0.5	0.22	1,702	1,460	94.0
Wisconsin	15.9	2.81	3.50	1.4	0.20	2,518	763	95.0
1980:								
California	4.8	3.40	0.59	0.2	0.06	2,391	5,809	60.0
Illinois	7.3	0.64	0.30	0.6	0.27	23,391	14,621	105.0
Missouri	2.3	0.17	0.06	0.2	0.05	11,542	5,343	117.0
N. New England ^c	22.9	6.89	6.02	3.7	1.55	6,766	6,596	17.5
Texas	2.2	0.76	0.50	0.2	0.09	5,700	3,417	159.0

^aIncludes Delaware.

^bIncludes Connecticut, Massachusetts, and Rhode Island.

^cIncludes Maine, New Hampshire, and Vermont.

Source: Henderson and Linstrom [16, Tables 1, 30, 33, and 59].

Table 12. Distribution of direct marketing sales of fruits and vegetables by marketing outlet, for nine states in 1979 and seven states in 1980

State and year	Market outlet					Total
	Pick-your-own	Roadside stand	Farmers' market	Farm building	Other	
	percent					
1979:						
Colorado						
fruit	7	48	5	37	3	100
veg.	9	38	4	47	2	100
Maryland ^a						
fruit	30	29	8	32	1	100
veg.	3	44	2	51	0	100
New York						
fruit	31	61	3	4	1	100
veg.	7	54	20	18	1	100
S. New England ^b						
fruit	18	66	5	9	2	100
veg.	4	87	2	5	2	100
Tennessee						
fruit	48	17	1	34	0	100
veg.	9	63	16	12	0	100
Wisconsin						
fruit	53	22	3	20	2	100
veg.	6	37	39	17	1	100
1980:						
California						
fruit	16	29	11	39	5	100
veg.	19	51	18	12	0	100
Illinois						
fruit	16	17	1	66	0	100
veg.	11	74	12	2	1	100
Missouri						
fruit	46	34	1	17	2	100
veg.	1	25	14	59	1	100
N. New England ^c						
fruit	31	41	1	26	1	100
veg.	0	75	8	16	1	100
Texas						
fruit	5	31	8	51	5	100
veg.	4	47	33	13	3	100

^aIncludes Delaware.

^bIncludes Connecticut, Massachusetts, and Rhode Island.

^cIncludes Maine, New Hampshire, and Vermont.

Source: Henderson and Linstrom [16, Tables 5-10, 37-41].

interesting comparison would have been the volume and proportion of sales through farmers' markets in the southern states with established, state-owned facilities.

Wholesale Handlers

A total of 133 wholesale handlers were operating in Tennessee in 1981 [6]. One hundred of these were classified as independent produce wholesalers. Of this 100, 77 were full line distributors and 23 were limited line distributors. One important conclusion derived from the analysis of survey data obtained from these 100 independent produce wholesalers was the formidable access barrier created by the wholesalers' need for consistent high quality (which includes proper packaging) in carlot quantities over a minimum season. Buyers are hesitant to try new suppliers (or growers), especially new suppliers in relatively unknown production regions.

Several studies of wholesale produce handlers have been conducted in Tennessee regarding the need for marketing facilities [7, 9, 13, 14, 15, 30, 42, 46]. However, due to various reasons none of these feasibility studies have resulted in the construction of proposed facilities [7]. Similar studies in other states have preceded actual construction, e.g., Asheville, N.C. and Montgomery, Al. [23, 29].

Market Area

A definition of retail-wholesale market area primarily involves consideration of products being sold, rail and highway transportation, and traditional distribution patterns. The Progressive Grocer Company collects and disseminates marketing data for 55 market areas of the

United States [25]. Three of these market areas have Tennessee cities as their major distribution center -- Knoxville, Memphis, and Nashville (Figure 3). The Memphis market area includes 159 counties, which contain 2.4 percent of the total U.S. population, and is eleventh in the ranking of the 55 market areas by share of U.S. population. Nashville's and Knoxville's market areas are ranked 47th and 48th, each with 0.9 percent of the U.S. population. The Nashville market area includes 70 counties and the Knoxville market area includes 45 counties. The four leading firms, in terms of share of the defined market area's retail food store sales, accounted for 61.8 percent in the Memphis market area, 61.1 percent in the Nashville market area, and 46.0 percent in the Knoxville market area (Appendix Tables 1, 2, & 3).

Another method used to delineate logical marketing areas is referred to as ADI or Area of Dominant Influence [26]. The ADI market areas are based exclusively on television viewing patterns. According to this technique, Tennessee has three ADI markets that encompass Memphis, Nashville, and Knoxville (Figure 4). Using this market area classification, the share of the retail food store sales accounted for by the four leading firms is considerably lower in Memphis and Nashville than in the Progressive Grocer's classification of market areas (Table 13). The share of food sales accounted for by the four leading firms was higher in Knoxville's ADI than for either Memphis or Nashville. An interesting observation is that chains account for close to three-fourths of the sales volume for all commodities. In Nashville and Memphis the distribution between chains and independents was fairly close to 50 percent for each group.

Counties by state:

TN-18

AR-57

LA-16

MS-66

MO-2

Total population:

5,610,914

Counties by state:

TN-44

KY-26

Total population:

2,167,205

Counties by state:

TN-33

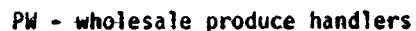
GA-3

NC-1

VA-8

Total population:

2,089,043



Source: Progressive Grocer [25] and Brooker [6].

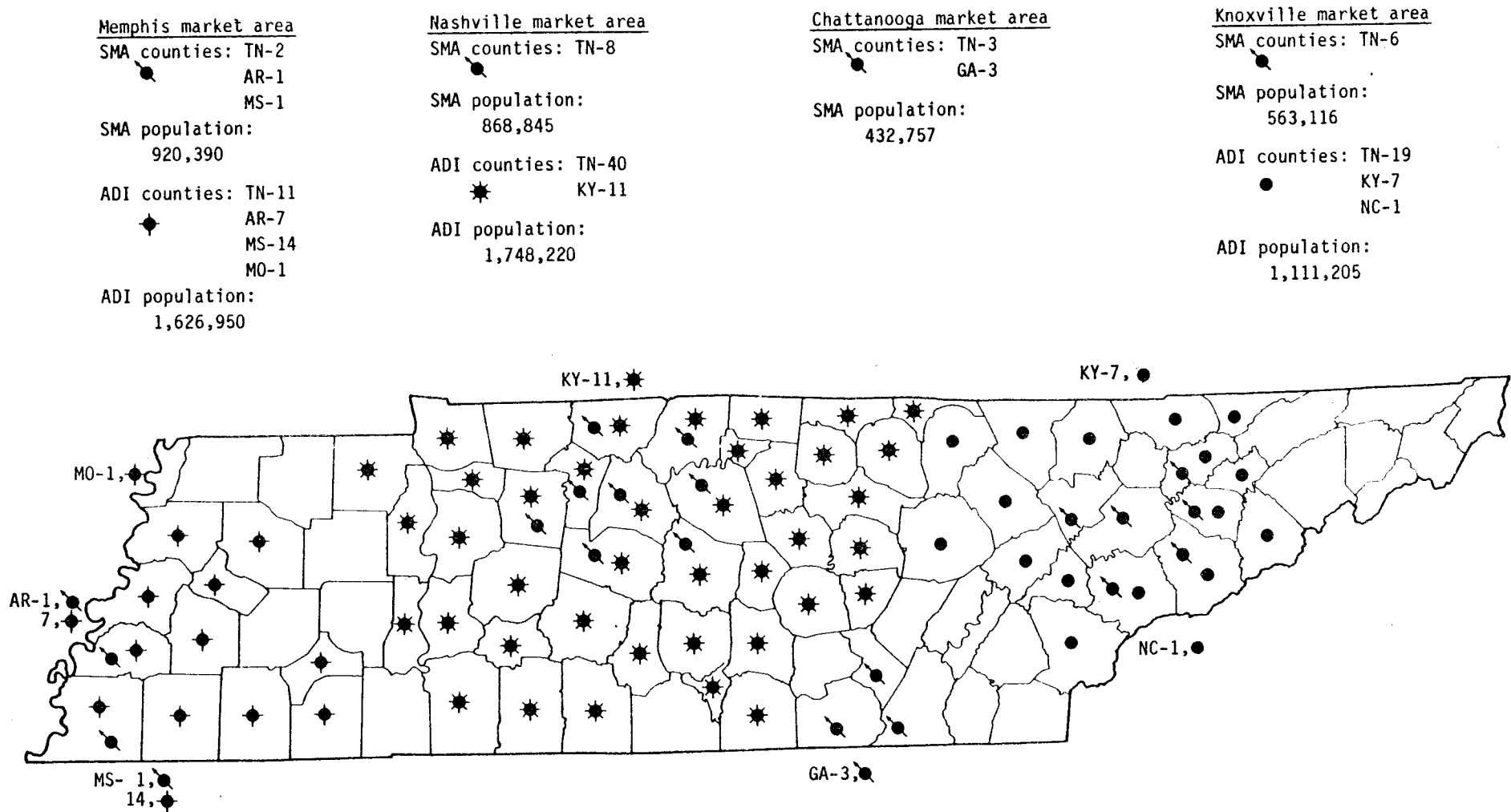


Figure 4. Food distribution market areas in Tennessee as defined by Area of Dominant Influence (ADI) and by Standard Metropolitan Area (SMA), 1983.

Source: Market Scope [26].

Table 13. Share of all commodity sales accounted for by chains and independents and the share of retail markets accounted for by four and eight leading firms, Areas of Dominant Influence in Tennessee for 1983

Firms	Knoxville ^a	Memphis ^a	Nashville ^a
	- - - - -	percent - - - - -	
All commodity sales:			
Chains	72.6	48.1	55.2
Independents	27.4	51.9	44.8
Total	100.0	100.0	100.0
Detail market share:			
4 leading firms	50.3	39.5	47.1
8 leading firms	69.4	49.3	55.8

^aSee Figure 4 for counties in each market area. ADI market areas based exclusively on television viewing patterns.

Source: Market Scope [26].

A final method of examining market shares is based on the Standard Metropolitan Area (SMA), as defined by the U.S. Bureau of Economic Analysis. Based on SMA classification criteria, Tennessee has four market areas (Figure 4). Within these smaller market areas, the 4-firm market share in Knoxville, Memphis, and Nashville increased over the ADI market values (Table 14). The Chattanooga SMA had a reported 4-firm market share of 85.8 percent, substantially above the 4-firm share in the other three Tennessee SMAs. Chattanooga also appears to be more dominated by chain stores than any of the other three Tennessee markets. These statistics emphasize the point that chain stores are a dominant food distribution factor in Tennessee.

Table 14. Share of all commodity sales accounted for by chains and independents and the share of retail markets accounted for by four and eight leading firms, Standard Metropolitan Areas in Tennessee for 1983

Firms	Chattanooga ^a	Knoxville ^a	Memphis ^a	Nashville ^a
	- - - - - percent - - - - -			
All commodity sales:				
Chains	89.2	85.1	59.1	66.1
Independents	<u>10.8</u>	<u>14.9</u>	<u>40.9</u>	<u>33.9</u>
Total	100.0	100.0	100.0	100.0
Retail market share:				
4 leading firms	85.8	65.6	56.9	63.9
8 leading firms	91.9 ^b	80.9	65.6	70.4

^aSee Figure 4 for counties included in each market area. SMA areas defined by U.S. Office of Management and Budget.

^bSix leading firms.

Source: Market Scope [26].

While chains can provide excellent prices and services to customers due to economies of size, this centralized purchasing and distribution of food from an organization's headquarters creates serious access barriers for small volume suppliers and new suppliers. Independents, with localized produce buying offices, provide a viable target for small volume suppliers [48]. This is one of the key considerations for supporting the survival and growth of independent produce wholesalers. In a recent study, the following statement was part of the discussion regarding shippers' marketing strategy -- "... a corporate chain, with consistent displays required in each retail store has large and uniform volume needs, and thus, may be unable to use a shipper's small load, odd sized lot, or unusual variety. In contrast, a voluntary or cooperative

wholesaler with a wide spectrum of different affiliates, and therefore, a wide spectrum of store types, may offer greater, or at least different, possibilities of coordinating such activity with shippers" [20, p. 353]. The market shares controlled by the retail-wholesale organizations (R-W) versus the voluntary (W-V) and cooperative (W-C) organizations are presented in Appendix Tables 1, 2, and 3.

Another interesting feature of the data presented in Appendix Tables 1, 2, and 3 is that most of the organizations have their own buying office and personnel for purchasing produce. At least the existence of produce buying headquarters within Tennessee's market distribution areas provides growers with geographic proximity to potential buyers of produce. If these organizations are headquartered in another state, as some of them are, it makes it more difficult for Tennessee producers to contact and work personally with buyers in adjacent market distributional areas. Within Tennessee's three food marketing areas, the major food companies located in Tennessee account for 67.2 percent of the retail market in Knoxville, 44.5 percent in Memphis, and 60.1 percent in Nashville. This would seem to imply that growers in central and east Tennessee have a better opportunity for making direct sales to retailers and wholesalers than do growers in the Memphis area.

STATE SUPPORTED FACILITIES

Marketing activities and programs of successful organizations can be examples for others considering additional opportunities in an industry. Within the context of this report, the fruit and vegetable industry of Tennessee has created some interest regarding public

involvement in marketing facilities. While not intended to be exhaustive, state supported activities in North Carolina, South Carolina, Georgia, Florida, and Alabama will be outlined in this chapter to illustrate public involvement at the state government level. The emphasis is on farmers' markets, assembly markets, and wholesalers' markets.

North Carolina

There are three state owned marketing facilities in North Carolina. The oldest market is located in Raleigh and houses both wholesalers and a retail farmers' market (Appendix Table 4). The market's manager estimated that 2,200 farmers sold produce to 750,000 customers during the year. A USDA study released in 1984 recommends the construction of a new wholesale and farmers' market facility to serve central North Carolina [24].

Asheville's market was established in 1975, following a USDA feasibility study similar to those conducted by the USDA for Knoxville (1959), Memphis (1973), and Nashville (1949) [46, 30, 42]. The Asheville market houses 20 wholesalers dealing in produce and other food products, plus a retail marketing building for direct sales. Permanent year round mini-retailers (and/or pin hookers) operate in a portion of the retail sales area, and an estimated 1,400 farmers used this market during the past year. The number of customers was estimated at 778,000.

The newest North Carolina market is in Charlotte and at the present time is strictly a retail farmers' market operation with no wholesalers

located on the site. The market is open four days per week, and the manager did not provide an estimate as to the number of participating farmers and customers.

None of the three markets had a "home" canning facility on the market or held auction type sales. While packinghouses were located within an hour's drive of a market, none of the three markets had a packinghouse on the market site.

South Carolina

Three state-owned markets in South Carolina are located in the cities of Columbia, Florence, and Greenville. Columbia's market is the oldest and largest. Seventeen wholesalers are located on this market site, and there is also a privately owned packinghouse operation (Appendix Table 5). The number of participating farmers was estimated to be 1,200, utilizing the 400 rental stalls available for farmers, and selling to an estimated 364,000 customers during the course of a year.

The market at Florence was first opened for business in 1983. At present this market does not have any wholesalers, so it is functioning strictly as a farmers' market. The number of participating farmers was estimated at 200. The total area of the market property is 59 acres, the second largest acreage of any state market in the study area.

The market at Greenville was purchased from private owners in 1980. There are three wholesalers on the site, and during the previous year an estimated 150 farmers sold fruits and vegetables to 250,000 customers.

Georgia

There are 15 state-owned markets operating in Georgia. The largest of these is the Atlanta market, operating on 146 acres and housing 51 food product wholesalers (Appendix Table 6). There are 810 stalls for farmers to use for direct sales to consumers. No estimate was available as to the number of participating farmers and shoppers. Atlanta functions as a receiving-distribution market for all food products and as an assembly-shipping point market for fruits and vegetables going to other areas.

Eleven of the other 14 markets have produce wholesalers located on the market site. Eight markets have packinghouse operations located on their markets. Three of the markets do not have any direct marketing activity, but function strictly as assembly, shipping-point markets. Two of the Georgia markets still have some auction sales of produce.

Florida

There are 15 state-owned vegetable markets in Florida. The first market in Florida, and the first state-owned farmers' market in the United States, was constructed at Sanford in 1934 [3, 4]. The other markets are scattered over most of the state, from Florida City in the south to Bonifay on the north.

Most of the markets in central and southern Florida are dominated by packinghouse operations. These markets are primarily assembly and shipping point markets, although some retail farmers' market activity may be present. A few of the markets have wholesaler tenants, but most

of the activity is oriented towards assembly for shipment to distant consumption centers, rather than assembly for distribution to local wholesalers and consumers.

Alabama

Construction of the first state-owned terminal farmers' market in Alabama began in September, 1984 [40]. This market, on a 26 acre site in Montgomery, will contain facilities for direct sales of produce from farmers to consumers and will lease building space to an estimated 12 produce wholesalers. A study of the proposed Montgomery market noted that "the proposed Montgomery terminal and farmers' market appears to have a reasonable chance of success if the initial investment is subsidized from public sources" [29]. Construction of this \$5 million market should be completed by the fall of 1985 [40].

Other States

Numerous examples could be presented to further illustrate the current support and interest being given to produce markets around the United States. Only a few situations will be briefly presented to emphasize this point.

- "Every once in a while, we hear that terminal markets are dead. In actuality, they are more competitive than ever," [37].
- A new Los Angeles Wholesale Produce Market is currently under construction. Expectations are for 27 produce wholesaler tenants [28].
- Market expansion and redevelopment of Philadelphia's Fresh Food Terminal market is in progress [21].

- New location for farmers' market in St. Paul, Minn., is ... "an unqualified success There is a waiting list for its 167 open-air stalls" [38].
- The St. Charles Parish Council, La., passed a resolution on Jan. 7, 1985 to support development of a regional food distribution and processing center [41]. A feasibility study of the New Orleans area was conducted by USDA in 1972 [31].

MARKETING ASSISTANCE PROGRAMS

Public involvement in food marketing, whether it's at the state, county, or city level, may be meaningful in several possible arenas. While the emphasis in this report is on facilities, public agencies could become involved in product promotion, market news, inspection service activities, and recruitment. Each of these areas is discussed briefly, and then, market facilities discussed last.

Product Promotion

The promotion programs of product organizations in the major production areas of the United States are fairly well known by the general public, e.g., Sun Kist and Seald Sweet. Several states have recently initiated compaigns similar to a Minnesota program that advertises "Minnesota Grown" fresh fruits and vegetables [36]. However, the more effective advertising programs seem to be those directed by commodity groups such as the establishment of a quality logo in 1984 by the South Carolina peach industry and the 1984 in-store promotional campaign of the North Carolina apple growers [35, 39].

Empirical research regarding evaluation of benefits from generic advertising within a state is not available. A research study in progress at the Tennessee Agricultural Experiment Station is examining the question of consumer acceptance and/or preference for Tennessee grown products. The results of this research project should be of benefit to retailers considering in-store advertisement of Tennessee grown products and to growers considering product oriented advertising to expand demand for particular products.

Market News

The collection and distribution of commodity supply and price information is a key element in a market oriented economy. For states such as Tennessee which are considered minor producers of fruits and vegetables, this information is not directly available. The Market News Service section of the USDA does not have a market news office in Tennessee. The three closest market news offices are in Asheville, NC, Atlanta, GA, and Cincinnati, OH. These offices collect and disseminate wholesale market prices for selected fruits and vegetables being traded in sizable volumes on terminal markets in these cities.

In order for Tennessee producers of fruits and vegetables to be knowledgeable about current, daily supply and price data, a market news system needs to be established. Initially, such a program would need to be subsidized, hence the need for state governmental agency involvement. Once established and proven beneficial, perhaps the services of this market news agency could be sold to the users at a level adequate to make the operation self supporting.

Inspection Service

While sales to buyers via the noncommercial outlets are not hindered by the absence of inspection certificates, sales opportunities to many commercial buyers are virtually eliminated [8]. Perhaps, this barrier could be removed if shippers could develop a consistent 'pack', so buyers would become confident purchasing the product without personal inspection. A recent study of the produce industry concluded that "... buyers in this research were unanimous in attaching more importance to the shipper label as an indicator of certain quality standards, than the USDA grade nomenclature" [20, p. 290]. However, the transition from a relatively small, unproven packinghouse in a new shipping area to having a recognized shipping label is difficult. In order to gain access to certain commercial buyers, the use of USDA grades and certified shipments may be necessary.

Within Tennessee there are three federal fruit and vegetable inspectors who are legally authorized to grade produce and sign inspection certificates. These federal employees are headquartered in Knoxville, Memphis, and Nashville. They primarily work with the independent wholesalers and retailer-wholesalers in these metropolitan areas. Individual loads at packinghouses are graded on a 'request' basis, and the cost includes the grading fee plus travel expense. Some shippers may consider this expense an insurance premium, protecting them against arbitrary rejection by the buyer upon delivery. At this time about the only loads officially graded in Tennessee are shipments with Canadian destinations.

During the harvest seasons a few shipping areas, such as Ripley, have secured the services of a federal-state inspector for the summer. The expenses for the services of these inspectors include salary and living expenses, so only a large operation or a group of packinghouses sharing an inspector could justify this expense. The federal and federal-state (cooperative) inspection services are intended to be self supporting and neither an expense to the general tax paying public nor a source of general revenue funds for the governments involved.

Recruitment

Grower organizations and governmental agencies have the opportunity to contact and encourage buyers with food chains, wholesalers, processors, and exporters to purchase Tennessee products. Not merely through promotion as discussed earlier, but rather, by searching out individual buyers and discussing with them products and availability. This is relatively expensive for one grower or packinghouse to justify. Large industry groups or state departments of agriculture can engage in such activity based on the benefits derived from increased sales and production of Tennessee products which, in turn, increase personal incomes and state tax revenues.

Another recruitment effort could be directed towards processing organizations. Additional processing plants in Tennessee would have product supply requirements for which Tennessee producers would at least have a transportation advantage over those producers in more distant locations. Processors may also be attracted to Tennessee for reasons other than expectations of large, locally produced crops, e.g., plant labor, utilities, taxes, living conditions, etc. While Tennessee

growers presently sell crops to processors in Arkansas, Georgia, and North Carolina, they are at a transportation disadvantage to growers in those states who are closer to the plants. When a processor constructs a plant in Tennessee for whatever reasons, the essential point is that at least a market is more geographically available than before, and growers have a closer market, if they can meet the production requirements.

Facilities

The final objective of this project is to make recommendations regarding locations for facilities the Tennessee Department of Agriculture could provide as part of a long-run commitment to assist the marketing of fruits and vegetables. Obviously, a system is working now. The question is whether the current system's efficiency and/or Tennessee producers' share of the market could be enhanced by public involvement. In this chapter various developmental projects are presented that appear constructive given the existing environment. Each project would need to be studied (preferably by independent consultants) on a case by case basis before proceeding with actual construction.

Regional Food Distribution Centers are probably the most viable area for the state to consider regarding involvement in produce marketing. Arguments dealing with the rationale for public involvement in such facilities are presented in an earlier report [7]. Based on the market areas defined by The Progressive Grocer and illustrated in Figures 3 and 4, it would seem logical to enhance the produce wholesalers' and possibly other food wholesalers' marketing efficiency by developing regional food distribution centers in the market areas

encompassing the metropolitan areas of Knoxville, Memphis, and Nashville. The exact location within these three areas, just as the size, breadth of activity, financing arrangements, and other such details, must be determined by interaction of local officials, state officials, wholesalers, and growers.

Farmers' Markets are the only segment of direct marketing activity that are suitable for collective or public involvement in facilities. The variety of successful farmers' markets is such that a simple absolute formula for success cannot be specified [5, 17]. One comment repeatedly heard from managers of markets in other states is that farmers' markets, as individual business activities, are frequently not self supporting. The income generated from the rental rates charged farmers may be adequate to cover operating expenses, but not the sizable capital expenditure required for land and buildings [17]. This is one reason that a retail facility for farmers to sell directly to consumers has been part of the proposals regarding food distribution centers in Knoxville and Memphis [7, 9, 30].

Other than the three major metropolitan areas, state involvement in farmers' markets could, perhaps, be best determined on an individual request basis. That is, since local involvement is so critical to the success of farmers' markets, only when the city or county governments can be persuaded by growers to assist them should they, in turn, seek assistance from the state. There is no empirical evidence available to determine the minimum size city that can support a farmers' market. Murfreesboro with a 1980 population of 32,845 has an active, viable farmers' market, while Knoxville with a population of 175,030 and 476,517 in its Metropolitan Statistical Area does not. A Virginia

based study suggested that 1) a "community" farmers' market could be located in a community of 5,000 to 50,000 population, operate seasonally, and be open 1 to 2 days per week; 2) a "city" farmers' market could be located in a city with a 50,000 to 300,000 population, operate year-round, and be open 6 or 7 days a week during the peak season; and 3) a "metropolitan" farmers' market could be in an urban area of 300,000 or more population, operate year-round, and be open 6 or 7 days a week [17]. The metropolitan and city markets could also serve smaller communities in their immediate area. Following this criterion, with a slight modification, Tennessee's population could support five metropolitan markets, one city market, and thirteen community markets (Figure 5). The modification was to exclude cities with 1980 populations of less than 10,000. The five metropolitan markets would be serving all the cities included in the MSAs³ except Clarksville, which was designated as a location for a city farmers' market (Appendix Table 7). A community farmers' market was designated for every city with a population greater than 10,000 that was outside of the six MSAs.

According to the 1982 data, there were existing farmers' markets in 12 of the counties designated as potential sites for a farmers' market (Figure 5). Another 10 counties with a farmers' market were not targeted as potential locations. Once again, this emphasizes the point that success of such activities may often be vitally related to local input and initiative.

³ Formerly referred to as SMSAs or Standard Metropolitan Statistical Areas [47]. Also referred to as SMAs by The Progressive Grocer Company [26].

- RFDC - Regional Food Distribution Center, with farmers' market
- MFM - Metropolitan farmers' market (MSA's > 300,000)
- CFM - City farmers' market (MSA's < 300,000)
- FM - Community farmers' market (cities outside MSA's > 10,000)
- ⬮ - Metropolitan Statistical Area counties (See Appendix Table 7)
- - Existing farmers' market - as of 1982

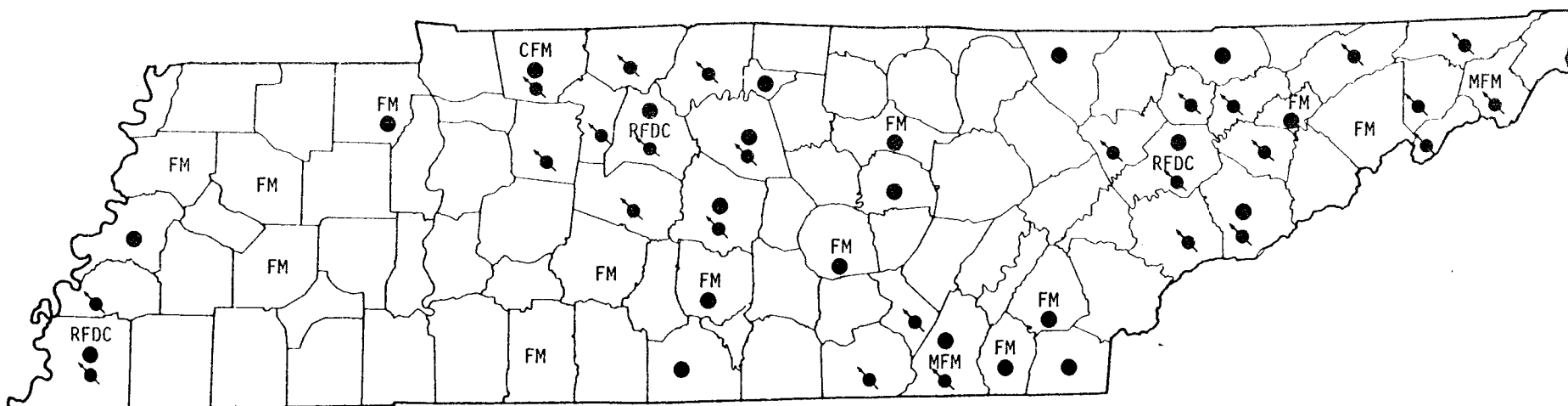


Figure 5. Proposed area for location of three regional food distribution centers in Tennessee and possible locations of metropolitan, city, and community farmers' markets.

The two factors most frequently examined regarding potential farmers' markets are consumer population and supply situation. Potential market locations, identified in Figure 5, were based on consumer population. The assurance of adequate fruit and vegetable supplies at these markets to satisfy the demands of consumers is usually based on the existence of small farmers [19]. The number of farmers in each county involved in fruit or vegetable production for sale through all outlets are shown in Figure 6, and the acreages by county are shown in Figure 7. The existing and potential locations for farmers' markets are also indicated on these two maps. The same research report that was used as a guide to help determine potential farmers' market locations also suggested the number of participating farmers needed for the three different sized markets. During the peak of the season, the community markets would need the participation of at least 20 farmers, the city markets 80 farmers, and the metropolitan markets 40 farmers or mini-retailers on a year-round basis plus 60 to 70 more during the peak season [17]. Obviously, there are more than enough farmers in the designated and contiguous counties to meet these requirements. Examining acreage values and number of farmers per county also reveals consistency with the specification that most of the farmers considered candidates for direct marketing through farmers' market be fairly small. The only exception is the metropolitan market location in upper east Tennessee. However, this market would also be gaining supplies from farmers in the adjacent North Carolina counties, and even the near-by counties in Virginia.

CLOSING REMARKS

As noted in a direct marketing study in California, direct marketing cannot provide a general panacea for the problems of small farmers [19]. Yet, for those participating farmers such programs do provide substantial benefit. The final assessment regarding costs and benefits should include consideration of the benefits to consumers who want higher quality, and perhaps, cheaper produce than is available at other retail outlets.

The first sections of this report were designed to provide descriptive and statistical information about Tennessee's fruit and vegetable industry. Growers and concerned individuals should know how the produce industry functions and the current state-of-the-industry in Tennessee. This knowledge should help in the discussions and efforts of public and private individuals to work together for the growth of Tennessee's fruit and vegetable industry.

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GLOSSARY

Branch buying office - The official location of buying brokers who are employees of a retail chain organization and are stationed in field offices in the major produce growing regions.

Brokers, buying at selling point - Buying brokers at shipping points, usually represent a food chain or several independent wholesalers. They do not take ownership or physically handle the product. They may make arrangements for transportation as part of the buying activity.

Broker, selling at shipping point - Selling brokers at shipping points usually represent several growers or the output from a particular packinghouse. They do not take ownership of the product or physically handle the product. They may make arrangements for transportation as part of the selling activity.

Buyer (on-the-ground) - An individual employed by a retail or wholesale organization, is located in the growing region, and purchases produce for the organization.

Buyer, retail - An individual employed by a retail-wholesale food company who purchases produce for the organization.

Carlot - Usually refers to one semitrailer load (or its equivalent) of fresh produce.

Chain store - An organization with more than 10 retail stores. In addition to "regional" food chain stores in a major metropolitan area, it is also possible to have stores comprising a "local" food chain.

Commercial grower - A grower who is producing a large enough volume, or pooling his crop with other growers, to pack and sell through brokers to wholesale buyers.

Commission merchant - An individual who operates on a receiving (distribution) market and handles the sale of produce for, or in behalf of, another.

Direct buying - Refers to retail or wholesale organizations that purchase produce directly from a shipper, without the assistance of a broker or commission merchant.

Direct marketing - Refers to growers selling their products to consumers, retailers, or wholesalers without the assistance of middlemen.

Farmers' Market - A particular site with some structural facilities intended to assist in the sale of produce from farmers directly to final consumers or wholesale buyers, may be open seasonally or year round.

Federal-state inspector - Individual trained and authorized to inspect and grade designated produce products. Usually trained by federal employees and works as a state employee. Inspection fees reimburse the state for his salary and expenses.

Food buying club - May be organized as a legal cooperative according to state statutes, but often, organized as an unincorporated association. The club purchases food from wholesalers and distributes it to the members. Size may range from a few families to several hundred.

Food Distribution Center - An industrial park that is devoted to food oriented business firms -- produce, dry groceries, meats, poultry and egg, dairy, seafood, and confectionary.

Foodservice Industry - Includes all outlets, commercial and noncommercial, where meals and snacks are prepared and sold for immediate consumption; in contrast to foods eaten, or prepared for consumption, at home.

Full line distributor - A business firm that handles a complete assortment of food products. Such wholesale handlers could supply all of the food needs of a retail store or institutional outlet.

Grades and Standards - Refers to the United States Department of Agriculture's specifications regarding the interpretation and application of the U.S. standards for grades of fresh fruits and vegetables.

Grower-broker - An individual that in addition to growing fruits and vegetables is also involved in brokering his crop and perhaps the crops of some neighboring growers as well.

Grower-shipper - A grower with crop volumes large enough to support his own packing facility. Even though the grower owns the packinghouse, he may employ a plant manager and/or selling broker.

Independent Food Store - A retail food outlet that is part of an organization with 10 or fewer stores. Most independents are affiliated with a wholesaler through a cooperative effort or by a contractual arrangement.

Independent wholesaler - A food handler that is not owned by the retail outlets it supplies. Vertical coordination may be enhanced by contractual agreements.

Inspection certificate - Official document prepared by a trained federal-state inspector that specifies size and quality (grade) for a particular quantity of a fresh produce product.

Jobbers (truckers) - Individual businessmen who purchase products from growers, packers, or wholesalers and resell these products to other wholesalers or to any retail type outlet needing the produce. These businessmen take ownership of the product and distributes (handles) the product to other business firms.

Jumble pack - Produce allowed to fall into the containers without concern about a precise arrangement, usually filled by weight and not count.

Middleman - An individual who performs a service of value in the marketing chain.

Mini-retailer - Individuals selling in farmers' markets produce that they purchased from wholesalers and/or farmers, often operating year-round.

Mixed load - A semitrailer or railcar that contains more than one commodity.

Noncommercial grower - A grower who is selling his crop through direct marketing outlets, i.e., he is performing the packaging, brokering, shipping, wholesaling, and retailing functions himself. Obviously the term noncommercial is not intended to reflect value or importance, only to segregate the group of direct marketing outlets from the large-volume commercial channel.

Packinghouse - A facility where fresh fruits or vegetables are received from the field to be washed, graded, sized, and packed for shipment to wholesale buyers. Coloring (with gas), waxing, and hydrocooling may be part of the packing sequence.

Peddler - An individual selling produce to retail customers from a mobile facility, usually a truck or van customized for this activity. May not be permitted to operate in certain areas due to city or county business codes.

Pick your own - On-farm sales outlet where customers harvest the product that they purchase.

Piggyback - Shipment of semitrailers on rail flatcars.

Pin-hooker - An independent operator usually characterized as purchasing produce at distressed prices from growers at the end of a day, with the intention of selling it to retail shoppers on a farmers' market the following day.

Place pack - Precise arrangement of produce in a particular container, as opposed to jumble pack.

Precooling (Hydrocooling) - The stage of the packing process where the field heat is removed, and the product's temperature is lowered to appropriate levels to protect quality and enhance shelf life.

Processor - An organization that buys and/or grows fruits and vegetables, processes these crops by canning or freezing, and sells the products to retailers, wholesalers, and institutions.

Produce Distribution Center - An industrial park that is devoted to business firms handling fruits and vegetables.

Quality - Generally refers to value of produce resulting from appearance and size, expressed in terms of USDA grades.

Receiver - A word often used in the same context as wholesale handler. Receivers operate independently or as a member of a group of receivers who comprise a terminal market or receiving market.

Receiving (distribution) market - A location where produce wholesalers, usually in a metropolitan area, receive produce shipments from various production regions. These wholesalers distribute the products to retailers, institutional and food service outlets, and other wholesalers in the larger, geographic region surrounding the market's metropolitan location.

Repacker - A wholesale handler who receives products in large quantities from shipping point markets and repacks the product from bulk containers into retail containers or places the product in storage and sorts through this product on a daily basis to select "ripe" produce for delivery to retail outlets.

Retailer - Any individual, independent or associated with a corporation, that is interested in selling products to the final consumer.

Roadside stand - In the context of this study limited to sales operation located at the farm that is growing the products being sold.

Roller - Refers to a carlot of produce that has been shipped but is unsold. Usually occurs when supplies are plentiful and the shipper hopes to make the sale while the product is in-route.

Shipper - A businessman who is associated with a packinghouse organization or works on an assembly point market for the purpose of selling produce to distant buyers.

Shipping point (assembly) market - May range from one packinghouse in a production region that ships fresh produce into consumption regions to several packing facilities that serve as a central aggregation point for growers to bring produce for packing and shipping.

Special wholesale handler - A wholesale distributor who handles only a few items and as such is considered to be specializing, such as a tomato repacker or a banana jobber.

Tailgate Markets - Designated sites, usually parking lots or certain sections of downtown streets, where growers can park a pickup truck and sell produce directly to final consumers.

Terminal market - Similar definition to that of the receiving (distribution) market. Intended to identify markets in major consumption centers and as such, comprise the final wholesale stage of the fruit and vegetable marketing channel.

Wholesale handler - A business firm that receives products in carlot quantities from suppliers and distributes these products in mixed loads, or less than carlot quantities, to retailers, institutions and food service outlets. Usually referred to as produce handlers or wholesalers since most of these operations specialize in fruits and vegetables and perform no processing, other than repacking.

Appendix Table 1. Share of retail food sales, number of stores supplied, location of distribution warehouses, and type of organization for 12 companies operating in the Knoxville food marketing area for 1983

Food company	Retail share of market area ^a percent	Food stores ^b			Location of distribution warehouse	Organization ^c	Produce purchased
		Corporately owned	Served	Total			
		number	number	number			
The Kroger Co.	12.9	111	0	111	Nashville ^d	R-W	Yes
The Red Food Stores, Inc.	12.4	40	0	40	Chattanooga	R-W	Yes
The White Stores, Inc.	21.0	47	0	46	Knoxville	R-W	Yes
Giant Food Markets, Inc.	8.7	46	0	46	Kingsport	R-W	Yes
Total - 4 firms	46.0						
Pay Cash Grocery Co., Inc.	7.1	0	150	150	Knoxville	W-V	No
Quality Foods, Inc.	6.0	18	0	18	Greenville	R-W	Yes
Ragland Brothers Co.	5.0	9	191	200	Huntsville, AL	W-V	Yes
Winn-Dixie	5.0	105	0	105	Greenville, SC ^e	R-W	Yes
Total - 8 firms	69.1						
Piggly Wiggly Mid-Mountain	4.9	0	29	29	Abington, VA	W-C	No
Giant Wholesale Corp.	4.8	0	300	300	Johnson City	W-V	No
Merchants Distributors	4.1	0	650	650	Hickory, NC	W-V	Yes
Dixie Saving Stores, Inc.	3.3	6	244	250	Chattanooga	W-C	Yes
Total - 12 firms	86.2						
Other	13.8						

^aShare of 1983 retail food store sales in this market area accounted for by the 12 largest food companies. See Figure 1 for counties included.

^bStores in this market area supplied from the distribution warehouse locations listed in the next column. The number of stores may be greater than the number within this market area.

^cR-W means retail food company with its own distribution warehouses. W-V means wholesale food distribution company that services retail stores voluntarily affiliated with this wholesaler.

^dSome stores in this market area serviced from warehouse in Salem, Virginia.

^eSome stores in this market area serviced from warehouse in Charolette, North Carolina.

Source: Progressive Grocer [25].

Appendix Table 2. Share of retail food sales, number of stores supplied, location of distribution warehouses, and type of organization for 12 companies operating in the Memphis food marketing area for 1983

Food company	Retail share of market area ^a percent	Food stores ^b			Location of distribution warehouse	Organization ^c	Produce purchased
		Corporately owned	Served	Total			
		number					
Malone and Hyde, Inc.	26.1	15	820	835	Memphis ^d	W-V	Yes
The Kroger Co.	18.4	129	0	129	Memphis ^e	R-W	Yes
Safeway Stores, Inc.	11.2	65	0	65	Little Rock, AR	R-W	Yes
Jitney Jungle Stores	6.1	50	0	50	Jackson, MS	R-W	Yes
Total - 4 firms	61.8						
Affiliated Food Stores, Inc.	3.6	0	179	179	Little Rock, AR	W-C	Yes
Associated Wholesale Grocers	4.0	0	315	315	Springfield, MO	W-C	Yes
Piggly-Wiggly Alabama	2.2	0	115	115	Birmingham, AL	W-C	Yes
Atlantic and Pacific Tea Co.	2.0	82	0	82	New Orleans, LA	R-W	Yes
Total - 8 firms	73.6						
Winn-Dixie -- Louisiana, Inc.	1.6	114	0	114	New Orleans, LA	R-W	Yes
Brookshire Grocery Co.	1.4	66	0	66	Tyler, TX	R-W	Yes
Wetterau Food	1.2	0	82	82	Scott City, MO	W-V	Yes
Fleming Foods of Alabama	1.0	55	134	189	Geneva, AL	W-V	Yes
Total - 12 firms	78.8						
Other	21.2 ^f						

^aShare of 1983 retail food store sales in this market area accounted for by the 12 largest food companies. See Figure 1 for counties included.

^bStores in this market area supplied from the distribution warehouse locations listed in the next column. The number of stores may be greater than the number within this market area.

^cR-W means retail food company with its own distribution warehouses. W-V means wholesale food distribution company that services retail stores voluntarily affiliated with this wholesaler.

^dSome stores in this market area serviced from warehouses in Monroe, Louisiana and Tupelo, Mississippi.

^eSome stores in this market area serviced from warehouses in Little Rock, Arkansas.

^fIncludes the Lewis Grocery Co., Indianola, Mississippi, which is a voluntary wholesale organization servicing 354 stores.

Source: Progressive Grocer [25].

Appendix Table 3. Share of retail food sales, number of stores supplied, location of distribution warehouses, and type of organization for 10 companies operating in the Nashville food marketing area for 1983

Food company	Retail share of market area ^a percent	Food stores ^b			Location of distribution warehouse	Organization ^c	Produce purchased
		Corporately owned	Served	Total			
		- - - - - number - - - - -					
The Kroger Co.	25.1	73	0	73	Nashville	R-W	Yes
Malone and Hyde, Inc.	15.3	6	354	360	Goodlettsville	W-V	Yes
Winn-Dixie	10.8	69	0	69	Louisville, KY	R-W	Yes
Wetterau, Inc.	9.9	0	114	114	Greenville, KY	W-V	Yes
Total - 4 firms	61.1						
Houchens Industries, Inc.	7.6	50	0	50	Bowling Green, KY	R-W	No
Bi Rite Foods, Inc.	6.0	0	179	179	Nashville	W-V	Yes
C. B. Ragland Company	5.7	1	184	185	Nashville	W-V	Yes
H. G. Hill Stores, Inc.	5.1	20	0	20	Nashville	R-W	Yes
Total - 8 firms	85.5						
The Red Food Stores, Inc.	2.9	40	0	40	Chattanooga	R-W	Yes
The Lewis Grocery Co.	1.7	146	208	354	Indianola, MS	W-V	Yes
Total - 10 firms	90.1						
Other	9.9						

^aShare of 1983 retail food store sales in this market area accounted for by the 10 largest food companies. See Figure 1 for counties included.

^bStores in this market area supplied from the distribution warehouse locations listed in the next column. The number of stores may be greater than the number within this market area.

^cR-W means retail food company with its own distribution warehouses. W-V means wholesale food distribution company that services retail stores voluntarily affiliated with this wholesaler.

Source: Progressive Grocer [25].

Appendix Table 4. State owned and managed fresh fruit and vegetable marketing operations in North Carolina for 1983

Market activities and facilities ^a	Location		
	Asheville	Charolette	Raleigh
Direct sales:			
Farmers (1,000s)	1.4	-- ^b	2.2
Customers (1,000s)	778.0	--	750.0
Pin-hookers (number) ^c	30	yes	yes
Total sales (\$1,000) ^d	6,670.0	--	--
Building (1,000 sq. ft.)	5.0	none	12.5
Operating season	yearly ^e	4 days/wk. ^f	yearly ^e
Canning facility	no	no	no
Auction sales	no	no	no
Wholesalers (number)	20	no	12
Packinghouses:			
On site:	none	none	none
- products ^g	--	--	--
- ownership	--	--	--
In area	yes	none	yes
- products ^g	A,T	--	SP
- distance (miles)	20	--	30
Total area (acres)	10	23	17

^aFacilities and activities associated with direct sales of produce from growers to final consumers.

^bHyphen used where market manager could not provide the information requested or a response is not applicable.

^cPin-hooker is common term used in the industry to identify mini-retailers that rent space on farmers' markets for selling produce they have purchased from growers and/or wholesalers.

^dEstimate of direct sales activity, does not include wholesalers or packinghouses.

^eOpen every week of the year.

^fOpen only during the harvesting period.

^gProducts: A = apples, SP = sweet potatoes, R = Tomatoes.

Source: Telephone interviews with market managers conducted by J. T. Ingram, Research Assistant, during summer of 1984.

Appendix Table 5. State owned and managed fresh fruit and vegetable marketing operations in South Carolina for 1983

Market activities and facilities	Location		
	Columbia	Florence	Greenville
Direct sales ^a :			
Farmers (number)	1,200	200	150
Customers (1,000s)	364	-- ^b	250
Pin-hookers ^c (number)	100	6	no
Total sales ^d (\$1,000)	3,000	400	--
Building (1,000 sq. ft.)	400 stalls	45	14
Operating season	yearly ^e	yearly ^e	yearly ^e
Canning facility	no	no	no
Auction sales	no	no	no
Wholesalers (number)	17	no	3
Packinghouses:			
On site			
- products ^f	BP, O, T	--	--
- ownership	private	--	--
In area	no	yes	yes
- products ^f	--	Pe, T	Pe
- distance (miles)	--	40-150	25
Total area (acres)	52	59	10

^aFacilities and activities associated with direct sales of produce from growers to final consumers.

^bHyphen used where market manager could not provide the information requested or a response is not applicable.

^cPin-hooker is common term used in the industry to identify mini-retailers that rent space on farmers' markets for selling produce they have purchased from growers and/or wholesalers.

^dEstimate of direct sales activity, does not include wholesalers or packinghouses.

^eOpen every week of the year.

^fProducts: T = tomatoes, Pe = peaches, O = onions, BP = bell peppers.

Source: Telephone interviews with market managers conducted by J. T. Ingram, Research Assistant, during summer of 1984.

Appendix Table 6. State owned and managed fresh fruit and vegetable marketing operations in Georgia for 1983

Market activities and facilities ^a	Location							
	Athens	Augusta	Blue Ridge	Cairo	Columbus	Cordele	Glennville	Macon
Direct sales:								
Farmers (number)	--b	400	100	5	2	--	--	483
Customers (1,000s)	--	--	--	--	20	--	--	--
Pin-hookers (number) ^c	no	71	no	2	20	--	--	28
Total sales (\$1,000) ^d	--	215	60	2,500	15,000	--	--	3,900
Building (1,000 sq. ft.)	none	8.8	4.0	145	5	--	--	20,000
Operating season	yearly ^e	yearly	seasonal ^f	yearly	yearly	yearly	seasonal	yearly
Canning facility	no	no	yes	no	no	no	no	no
Auction sales	no	no	no	no	no	no	no	no
Wholesalers (number)	none	4	2	4	4	no	no	2
Packinghouses:								
On site	no	no	yes	yes	yes	no	yes	no
- products ^g	--	--	BP	T	WP, O	--	0	--
- ownership	--	--	state	private	private	--	private	--
In area	yes	yes	yes	yes	no	yes	yes	no
- products ^g	A, Pe	A, Pe	T	G	--	Pe	0	--
- distance (miles)	<50	<40	20	85	--	20	1	--
Total area (acres)	6	9	--	5	2	--	--	13

Market activities and facilities	Location						
	Moultrie	Pelham	Savannah	Thomasville	Tifton	Valdosta	Atlanta
Direct sales:							
Farmers (number)	none	270	60	--	none	70	--
Customers (1,000s)	none	--	--	130	none	--	--
Pin-hookers (number) ^c	no	no	6	200	no	no	yes
Total sales (\$1,000) ^d	none	1,500	1,500	--	none	600	--
Building (1,000 sq. ft.)	none	145	12.7	6	none	8	810 stalls
Operating season	yearly	yearly	yearly	yearly	seasonal	seasonal	yearly
Canning facility	no	no	no	no	no	no	yes
Auction sales	yes	no	no	yes	no	no	no
Wholesalers (number)	4	2	4	24	3	1	51
Packinghouses:							
On site	yes	no	yes	no	yes	yes	no
- products ^g	C	--	WP, O	--	B, Cn, P, S	WP	--
- ownership	private	--	private	--	private	private	--
In area	yes	yes	no	no	no	yes	yes
- products ^g	C, BP	T, G	--	--	--	AV	--
- distance (miles)	3	<10	--	--	--	<5	--
Total area (acres)	--	5	7	--	--	--	146

^aFacilities and activities associated with direct sales of produce from growers to final consumers.

^bHyphen used where market manager could not provide the information requested or a response is not applicable.

^cPin-hooker is common term used in the industry to identify mini-retailers that rent space on farmers' markets for selling produce they have purchased from growers and/or wholesalers.

^dEstimate of direct sales activity, does not include wholesalers or packinghouses.

^eOpen every week of the year.

^fOpen only during the harvesting period.

^gProducts: A = apples, C = cabbage, G = greens, B = beans, Cn = corn, P = peas, S = squash, WP = white potatoes, SP = sweet potatoes, T = tomatoes, Pe = peaches, O = onions, BP = bell peppers, AV = assorted vegetables.

Source: Telephone interviews with market managers conducted by J. T. Ingram, Research Assistant, during summer of 1984.

Appendix Table 7. Area location of potential regional food distribution centers, metropolitan farmers' markets, city farmers' markets and community farmers' markets, based on 1980 populations, Tennessee

Market facility and MSA location ^a	1980 population	Market facility and city location	1980 population
Regional Food Distribution Centers ^b : (MSA's > 500,000)		Community Farmers' Markets: (pop. > 10,000)	
Memphis ^c	913,472	Athens	12,080
Nashville-Davidson ^d	850,505	Cleveland	26,415
Knoxville ^e	565,970	Columbia	26,372
Metropolitan Farmers' Markets: (MSA's > 300,000)		Cookeville	20,535
Johnson City-Kingsport-Bristol ^f	433,638	Dyersburg	15,856
Chattanooga ^g	426,540	Greenville	14,097
City Farmers' Markets: (MSA < 300,000)		Humboldt	10,209
Clarksville-Hopkinsville ^h	150,220	Jackson	49,131
		Lawrenceburg	10,184
		McMinnville	10,683
		Morristown	19,683
		Paris	10,728
		Shelbyville	13,530

^aFormerly referred to as SMSA's or Standard Metropolitan Statistical Areas.

^bIncludes a metropolitan farmers' market.

^cIncludes: TN - Shelby, Tipton. AR - Crittenden. MS - De Soto.

^dIncludes: TN - Davidson, Cheatham, Dickson, Robertson, Rutherford, Sumner, Williamson, Wilson.

^eIncludes: TN - Anderson, Blount, Knox, Union, Grainger, Jefferson, Sevier.

^fIncludes: TN - Carter, Hawkins, Sullivan, Unicoi, Washington. VA - Scott, Washington, Bristol City.

^gIncludes: TN - Hamilton, Marion, Sequatchie. GA - Catoosa, Dade, Walker.

^hIncludes: TN - Montgomery. KY - Christian.

Source: Tennessee Statistical Abstract 1983/84 [47] and U.S. Bureau of Census [45].