

Vegetable Section

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REGIONAL TERMINAL MARKET GROWTH POTENTIAL FOR NORTH FLORIDA PRODUCED VEGETABLES

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Abstract. Vegetable production can be considered a high income alternative for farmers in North Florida only if markets are available for their produce. Price and quantity trends for 5 vegetable crops (cabbage, cucumbers, eggplant, peppers, and tomatoes) shipped to the Atlanta, Birmingham and Miami terminal markets are analyzed to identify potential markets for spring and summer production. Entry into the markets appears difficult due to: 1) the relatively small quantities of some of the vegetables i.e., cucumbers, eggplant, peppers which flow through the market; 2) the low prices received during the summer months; and 3) the depressing effect additional quantities have on prices.

North Florida agriculture is characterized by a large number of relatively small farms which produce low incomes. More than 80% of the farms in North Florida have gross sales of less than \$20,000 annually. Primary agricultural enterprises include tobacco, timber, livestock, and field crops. Production of vegetables has declined in importance as acreages planted to vegetable crops have decreased over the past several years. This decline can be attributed to below average output levels and low returns from vegetable production.

Since agriculture is the main source of income for most counties in North and West Florida, increased vegetable production is looked to as a method of improving farm income and providing employment. Vegetable production is an intensive activity which, under proper management, can produce high revenues and large net returns per acre. On the other hand, the return per acre from livestock and field crop alternatives is generally very low. Therefore, with limited farm size, vegetable production is still one of the best alternatives for producing a higher level of income. Trials conducted by the Vegetable Crops Department of the University of Florida in 1974 and 1975 demonstrate that the technology is available for producing high yields of several vegetable crops for marketing during the summer season when Florida has historically been unable to compete in regional and national markets (2-5). Since the technical feasibility has been demonstrated, the next step is to evaluate the economic feasibility. This includes the identification of existing market outlets, estimation of the price level that could be expected by a producer, and the determination of the unit cost of production. In order to make a profit, production costs must be less than the price producers can reasonably anticipate receiving. This paper addresses the existence of regional markets within reasonable hauling distance of North Florida and gives an indication of the

effect that forcing additional quantities on the market would have on the price received.

Five vegetable crops, cabbage, cucumbers, eggplant, green peppers, and tomatoes are selected for market evaluation. These crops are evaluated in 3 regional markets, Atlanta, Birmingham, and Miami.

The availability of regional markets where large quantities of produce can be sold is important in order to evaluate the potential for increasing vegetable production in North Florida. The population of North Florida is not large enough to utilize all of the seasonal production presently taking place in North Florida (1). Therefore, any expansion of production would require that the produce be shipped to markets outside of the local area. Since most vegetable production takes place in the spring season, the spring and summer production seasons are of primary interest in evaluating markets for North Florida produced fresh vegetables.

Methodology

Market and price information on 5 of the vegetable crops studied by Halsey and Kostewicz (2-5) is presented for the 3 regional terminal markets in Atlanta, Birmingham and Miami. Linear trends on the weekly quantities unloaded in the regional markets are used to indicate relative volumes and expansion of the markets over the time period from 1965 through 1975. Price-quantity relationships are estimated from weekly price and unload data in the Atlanta market to evaluate the changes in price which result from changes in the quantity supplied. This relationship expressed as a price flexibility indicates the relationship between the percentage change in price related to a percentage change in quantity.

Expansion of the market occurs as population increases and the additional people require fresh produce. It can also expand if producers are willing to provide additional quantities of produce and accept a lower price. Since accurate information on population changes is not available for the entire region, a simple trend analysis is used to estimate the changes in the market over time. The Atlanta market is the only regional market with both weekly price and quantity information, therefore, the price flexibility reflects only conditions in the Atlanta market.

Unloads data and prices for the market potential studies are obtained from the U.S. Department of Agriculture Market News Service Report. Consumer and wholesale price indexes published by the U.S. Department of Commerce are used to adjust prices.

Results

Cabbage

The Hastings area in North Florida is the major cabbage producing region in the state. Although the main marketing season is from December through April, Halsey and

Kostewicz (3) have determined that almost year round cabbage production may be obtained if planting schedules are extended in North Florida. High yields can be achieved in the summer harvesting period of July, August, and September if insect and disease pests are controlled. Over the 10 years between 1966 and 1975 only slight changes in the monthly unloads occurred in the summer season. The average monthly unloads of cabbage in Atlanta was 105.8 truckloads per month, Table 1. Birmingham averaged 56.6 truckloads and Miami 40.3 truckloads per month. Monthly average unloads in Birmingham and Miami increased at the rate of 0.7 and 3.7 truckloads annually.

A price decline in the Atlanta market was evident as real prices declined at a rate of 12¢ annually from 1969 through 1974.

During the spring season the Atlanta market handled an average of 130.7 truckloads of cabbage each month. Birmingham received an average of 61.9 truckloads and Miami an average of 30.8 truckloads monthly. Monthly unloads in Atlanta decreased at the rate of 3.2 truckloads each year. Monthly unloads in Birmingham and Miami increased at the rate of 2.4 and 1.6 truckloads annually. During the summer season the price received for cabbage shows very little change in response to quantity changes.

Cucumbers

North and West Florida produces approximately 11% of the cucumber production in Florida. Three-fourths of this is spring planted and one-fourth of the acreage fall planted. The established spring and fall production seasons bracket a well defined summer period in which Florida has not historically competed in the major regional markets. According to the work by Halsey and Kostewicz (5), extended planning periods in North Florida can make possible the production of sufficient quantities of cucumbers to break into the July and August marketing period providing they can compete on a cost of production and marketing efficiency basis.

Quantity trends. The monthly average shipment of cucumbers to the Atlanta market during the summer season between 1965 and 1975 is 15.3 truckloads. The trend analysis indicates that the market is expanding slowly at an annual rate of 0.8 truckloads per month, Table 1. The Birmingham market has received an average of 10 truckloads per month during the summer season. Each year the market absorbs an additional 0.7 truckloads per month. Monthly unloads in Miami average 17.6 truckloads over the time period. The Miami market shows the greatest expansion over the 10 year period. Average monthly unloads during the summer season

increased at a rate of 2.8 truckloads annually. Although the total market has increased, Florida cucumber shipments to Miami show a decline in market share. Florida's market share shows a decrease from 36% in 1965 to 7% in 1974.

During the spring season, the Atlanta market unloads an average of 23.6 truckloads of cucumbers monthly. Total monthly unloads have increased by 1.3 truckloads annually over the study period.

When adjusted for inflation, the price trend for cucumbers in the Atlanta market shows a slight decline in price over time. Real prices for both the spring and summer season have not changed significantly over the 1969-1974 time period. The price flexibility of -0.36 during the summer indicates that the percentage reduction in price would amount to only one-third the percentage increase in quantity, Table 2. On the other hand, the price flexibility of -1.55 for the spring season indicates that the percentage decrease in price would be much greater than the percentage increase in quantity.

Table 2. Seasonal price flexibilities for five vegetable crops sold in the Atlanta Terminal Market between 1969 and 1974.

Crop	Season	
	Spring	Summer
Cabbage	-0.38	-0.05
Cucumbers	-1.55	-0.36
Eggplant	-1.09	-0.07
Peppers	-1.53	-1.55
Tomatoes	-1.48	-0.20

Eggplant

Florida eggplant is produced during well defined fall, winter and spring seasons. The spring marketing season usually begins in April and ends in July. The fall season begins in October. Florida production of eggplant during August and September is insignificant. During August and September monthly unloads of eggplant at Atlanta averaged only 3.1 truckloads per month. Birmingham averaged 2.3 and Miami 5.7 truckloads per month. Very little change in the average amount unloaded is apparent over the 10 year period studied.

During the spring season the Atlanta market absorbed an average of 3.3 truckloads of eggplant each month. Birmingham averaged only 1 truckload and Miami 4 truckloads per month. It is very difficult to evaluate the responsiveness of prices to quantity changes when total shipments are so small.

Table 1. Average monthly unloads for five vegetable crops and annual trend for the spring and summer seasons at the Atlanta, Birmingham and Miami Terminal Markets from 1965-1975.

Pounds/Truckload	Atlanta		Birmingham		Miami		
	Average	Trend	Average	Trend	Average	Trend	
(Truckloads)							
Spring Season							
Cabbage	31,800	130.7	-3.2	61.9	+2.4	30.8	+1.6
Cucumbers	34,800	23.6	+1.3	—	—	—	—
Eggplant	25,575	3.3	+0.1	1.0	0.0	4.0	+0.6
Peppers	21,250	22.4	+1.3	9.9	+0.4	16.7	+3.3
Tomatoes	40,500	142.2	-7.0	62.9	-3.9	42.8	+6.6
Summer Season							
Cabbage	31,800	105.8	0.0	56.6	+0.7	40.3	+3.7
Cucumbers	34,800	15.3	+0.8	10.0	+0.7	17.6	+2.8
Eggplant	25,575	3.1	0.0	2.3	0.0	5.7	0.0
Peppers	21,250	24.2	+1.8	12.7	+0.9	22.9	+3.5
Tomatoes	40,500	93.3	-1.9	4.5	-1.8	50.4	+5.4

North Florida produces 8% of the green pepper production in Florida. This production takes place primarily for the spring season which runs from April until the last week in July. Between 1966 and 1974 monthly unloads of green peppers during the spring in the Atlanta market averaged 22.4 truckloads per month. Birmingham received an average of 9.9 truckloads and Miami received an average of 16.7 truckloads per month (Table 1).

The Miami market expanded most rapidly with monthly unloads increasing by 3.3 truckloads annually. Atlanta monthly averages increased at the rate of 1.3 truckloads while monthly unloads in Birmingham increased by only 0.4 truckloads each year.

During July and August the Atlanta market handled an average of 24.2 truckloads monthly. The monthly average increased at the rate of 1.8 truckloads annually. Miami averaged 22.9 truckloads per month but expanded rapidly with the monthly average increasing by 3.5 truckloads each year. Birmingham averaged 12.7 truckloads monthly and expanded average monthly unloads at the rate of 0.4 truckloads annually.

A definite downward trend in real prices was evident between 1969 and 1974. The price flexibilities for both spring and summer indicate that prices decrease rapidly in response to additional quantities. Average weekly summer prices were less than one half the average weekly spring prices.

Tomatoes

During the spring season of April, May and June, Florida shipments account for nearly 60 percent of the tomato unload in the Atlanta market, 66 percent of the shipments to Birmingham and 82 percent of all tomato shipments to Miami. Of the three markets only Miami shows an increasing trend in the unloads of tomatoes. Both Atlanta and Birmingham exhibit downward trends.

During the summer season which includes the months, July, August and September, Florida has not recorded any tomato shipments into the Atlanta market since 1965. No unloads from Florida have been reported in the Birmingham market since 1969. Shipments to the Miami market during the summer have occurred only during the month of July and represent approximately 10 carloads annually. The potential for increasing or initiating shipments into the Atlanta and Birmingham markets is very small since the quantity of tomatoes handled by these markets is decreasing over time. Only the Miami market shows an increasing trend in unloads of tomatoes during the summer months.

Tomato prices have not been very responsive to small changes in quantities offered on the market. The price flexibility indicates that during the spring season, an increase in unloads of 1 truckload per month would result in only a 2¢ reduction in the price of tomatoes. During the summer season, an increase of 1 truckload per month into the Atlanta market would result in a decrease of only 1¢ in the price per box of tomatoes.

Potential markets for North Florida produced vegetables are evaluated on the basis of the expansion of existing markets and the effect increased quantities will have on market prices. Although shipments are referred to in truckload lots, smaller units can enter the marketing stream as long as the produce meets the packing, grading and handling requirements of the buyers.

Trend analysis of the shipments to the 3 terminal markets during the 1965-1975 period indicate which markets are expanding. As markets expand, it becomes easier for more producers to "get a piece of the action." During the spring season, average monthly shipments of cabbage show significant increases in Birmingham and Miami, cucumber shipments are increasing in Atlanta and Miami, and tomato shipments show a significant upward trend in Miami. During the summer season, increasing trends in average monthly shipments of cabbage, cucumbers, green peppers and tomatoes are observed in Miami. Green pepper shipments show an upward trend in the Atlanta market.

Price flexibilities in the Atlanta market during the spring season indicate that introducing additional quantities results in a more than proportional decrease in price. Prices react quickly to quantity changes. Trying to force excess quantities on the market would force prices down so that all producers selling in the market would receive lower revenues. Price flexibilities during the summer season are very low for all crops except green peppers. This indicates that prices do not decrease rapidly in response to quantity increases during the season. However, since average weekly summer prices are much lower than average weekly spring prices many producers may not be able to compete profitably.

The market potential in the 3 regional markets closest to North Florida is not sufficient to maintain a major vegetable production industry in North Florida. However, there is sufficient volume for individual producers or small groups of producers to find outlets in these markets. How profitable these enterprises would be depends upon the relative cost and marketing efficiencies of these firms compared with other producing areas.

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