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**IMPROVING THE WHOLESALE MARKETING
OF LOCALLY GROWN VEGETABLES
IN THE NIAGARA FRONTIER REGION**

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IMPROVING THE WHOLESALE MARKETING OF LOCALLY GROWN VEGETABLES IN THE NIAGARA FRONTIER REGION

Introduction

The Niagara Frontier region of western New York consists primarily of the cities of Buffalo and Niagara Falls and the urban and rural areas of Niagara and Erie Counties. This region has served as the hub of a major transportation network, a center of heavy manufacturing, and the source of significant agricultural production. In recent years, the region has suffered severe economic blows. The completion of the St. Lawrence Seaway, the construction of the interstate highway system, and foreign competition in steel and automobile manufacture have had a tremendous impact. Railroad traffic has declined, steel production has been curtailed, automobile assembly has been reduced, and several fruit and vegetable processing plants have been closed. The unemployment rate has risen sharply, and people have been moving out of the area. Adjustments are being made to these developments, but economic activity is still generally depressed.

The development of a strong local agricultural industry can offer many advantages to the surrounding area. Agricultural production provides a market for goods and services of many kinds, and employment for persons with a wide range of skills. The packaging, processing, storage, and distribution of locally produced foods provides additional employment and markets for goods and services.

Many changes are taking place locally and nationally in the production, distribution, and consumption of food. Consumers are showing increased interest in the use of fresh fruits and vegetables. Costs of production in other areas and transportation charges to local markets are increasing. These changes may provide opportunities for local farmers to profitably expand production of fruits and vegetables.

The objective of this study has been to obtain current information on the wholesale marketing of fresh vegetables in the Niagara Frontier region of western New York and to recommend changes that could be made to help local growers increase their share of the market.

The Niagara Frontier Food Market

The Niagara Frontier, consisting of Niagara and Erie Counties, New York, had a population of 1.24 million in 1980 (table 1). Of this total about 40 percent lived in Buffalo, Niagara Falls, and adjoining cities while the rest lived in towns, villages, and rural areas. Population in the major cities has declined rather sharply in recent years, being offset partly by an increase in suburban and rural areas.

Table 1. POPULATION OF ERIE AND NIAGARA COUNTIES
1970 and 1980

	1970	1980	Percent Change
Niagara County			
Niagara Falls City	85,615	71,344	- 16.7
North Tonawanda City	36,012	35,717	- 0.9
Towns and villages	114,093	119,447	+ 4.6
Total	235,720	226,508	- 4.0
Erie County			
Buffalo City	462,768	357,384	- 22.8
Lackawanna City	28,657	22,730	- 20.7
Tonawanda City	21,898	18,701	- 14.6
Towns and villages	600,168	616,111	+ 2.6
Total	1,113,491	1,014,926	- 8.9

SOURCE: 1980 Census of Population and Housing Preliminary Report, February 1981.

If food expenditures in the region are typical of the U.S. pattern, the total retail value of food sales would have amounted to about \$1.35 billion in 1979 (table 2). About 70 percent of this represents food consumed at home and the remainder the quantity eaten in public eating places or institutions.

Table 2. ESTIMATED EXPENDITURES FOR FOOD IN THE NIAGARA FRONTIER, 1979

Where Consumed	U.S. Total	U.S. Per Capita	Niagara Frontier Total
	billion		million
At home	\$166.3	\$ 761	\$ 944
Public eating places	59.6	272	337
Institutions	12.9	59	73
Total	\$238.8	\$1,092	\$1,354

SOURCE: Developments in Marketing Spreads for Food Products in 1979, U.S.D.A., A.E.R. No. 449, March 1980.

Precise estimates of the proportion of total value that fresh fruits and vegetables constitute in sales for home or away from home consumption are not available. By approximation, the retail value of fresh fruits and vegetables consumed in the Niagara Frontier in 1979 is placed at \$125.8 million with a wholesale value of \$74.8 million (table 3). The wholesale value of fresh fruits and vegetables consumed at home in the region is estimated at \$61.4 million, or 82 percent of the total.

Table 3. ESTIMATED WHOLESALE VALUE OF FRESH FRUITS AND VEGETABLES CONSUMED IN THE NIAGARA FRONTIER, 1979

Where Consumed	Retail Value	Retail Margin	Wholesale Value
	million	percent	million
At home	\$ 94.4	35	\$61.4
Public eating places	27.0	60	10.8
Institutions	4.4	40	2.6
Total	\$125.8	41	\$74.8

Supermarket sales of fresh produce have increased in recent years. Trade sources report that U.S. retail sales of fresh produce increased from \$7.7 billion in 1975 to \$11.6 billion in 1978. Per capita consumption of fresh vegetables and melons, according to the U.S. Department of Agriculture, rose from 119 pounds in the early 1970s to 124.5 pounds in 1979. Impressive gains in sales were recorded for such vegetables as lettuce, broccoli, peppers, cauliflower, eggplant, and garlic.

The trend toward eating away from home has had an important impact on the demand for fresh as well as processed fruits and vegetables. Fast food restaurants initially broadened the market for such products as frozen french fried potatoes and tomato catsup. The addition of salad bars at many eating establishments then helped increase sales of lettuce, tomatoes, and other fresh vegetables. The away from home market is demanding in terms of both quality and quantity. Specifications are quite exact in terms of size and other physical attributes. Quantities required are relatively inflexible and in times of short supply the prices offered can rise substantially.

The public eating place market has expanded rapidly in recent years but there are indications it may be levelling off at about one-quarter of the total food market. Whether this is simply a temporary condition or a longer run trend is difficult to determine. Certainly rising fuel prices and depressed economic conditions are having an impact on this market currently.

Sources of Supply

The Buffalo market, according to the U.S. Department of Agriculture, received a total of 174,500 tons of fresh produce in 1979 (6). This consisted of more than 75 different types of fruits and vegetables from 29 states and 5 foreign countries. Trucks brought in more than 90 percent of the total, the remainder coming by rail. Receipts by air and water were negligible. California supplied 29.1 percent of the total quantity, New York 25.2 percent, and Florida 14.0 percent. Canada ranked fourth with 5.2 percent of the volume.

Changes in reporting procedures make it difficult to compare current data with earlier reports, but certain trends are apparent. In 1969 unloads on the Buffalo market amounted to 10,282 carload equivalents, of which 58 percent were received by truck and 42 percent by rail. New York supplied 24.2 percent of the receipts, California 24.0 percent, Florida 16.2 percent, and Canada 3.2 percent. Receipts vary from one year to the next, but there have been minor changes in the shares coming from New York and Florida, and increases in the shares coming from California and Canada.

Sources of supply for different commodities have changed (table 4). In 1979, during the local cabbage marketing season from June through April, New York supplied a larger share of the cabbage unloaded in the Buffalo market than in 1969, and Florida and Texas smaller proportions. In contrast, there has been a sharp drop in the proportion of lettuce coming onto the Buffalo market from New York from June through September, a substantial increase in receipts from California, and a significant market penetration by Canada in 1979.

From July through October 1979 New York and California each supplied 42 percent of the tomatoes unloaded on the Buffalo market. This represented an increase in the market share for New York and a decline for California. No tomatoes were reported from Ohio in 1979, compared to 20 carloads in 1969.

Receipts of produce from Canada increased sharply in 1979, primarily carrots, lettuce, and celery. Canada has been supplying the Buffalo market with carrots for many years, but has shipped lettuce in volume only since 1971. Shipments from Canada of apples, turnips, strawberries, and green onions were much lower in 1979 than in 1969.

Market unload statistics do not include the fresh produce sold by farmers directly to consumers and to independent retailers. There has been a substantial increase in volume of fruits and vegetables sold at roadside markets, farmers' markets, or pick-your-own operations although the exact quantities are not known. Different proportions of each crop

are sold direct to consumers. During the local growing season direct sales are especially important for strawberries, sweet corn, and tomatoes. This must be taken into consideration when comparing published market receipts for 1969 and 1979.

Table 4. UNLOADS OF SELECTED VEGETABLES AT BUFFALO DURING LOCAL GROWING SEASON, 1969, 1979

Commodity	Season	1969 ¹		1979	
		Source	Quantity	Source	Quantity
			1,000 cwt.		1,000 cwt.
Beans	July-Sept.	NY	5	NY	3
		NJ	1		
Cabbage	June-April	NY	73	NY	55
		Florida	26	Florida	13
		Texas	7	Other	11
		Other	15		
Cantaloups	Aug.-Sept.	Calif.	47	Calif.	21
		NY	4	NY	4
Carrots	Aug.-Dec.	NY	6	Canada	73
		Canada	78	Calif.	19
		Calif.	11		
		Texas	1		
Cauliflower	July-Nov.	NY	20	NY	9
		Calif.	1	Canada	2
		Michigan	1	Calif.	1
Celery	Aug.-Oct.	NY	14	Canada	15
		Calif.	19	Calif.	7
		Michigan	1	NY	1
Sweet Corn	July-Oct.	NY	29	NY	16
		NC	4	Other	3
		NJ	4		
		Other	6		
Cucumbers	July-Oct.	NY	17	NY	12
		NJ	4	Florida	3
		SC	2	Other	2
		Florida	2		
		Other	8		
Eggplant	Aug.-Sept.	NY	1	NY	2
		NJ	1		
Greens	June-Oct.	NY	3	NY	5
		NJ	1		

Table 4. UNLOADS OF SELECTED VEGETABLES AT BUFFALO
(contd.) DURING LOCAL GROWING SEASON, 1969, 1979

Commodity	Season	1969 ¹		1979	
		Source	Quantity	Source	Quantity
			1,000 cwt.		1,000 cwt.
Lettuce					
Iceberg	June-Sept.	NY	73	NY	15
		Calif.	66	Calif.	87
		NJ	5	Canada	37
		Arizona	5	Other	7
		Other	1		
Romaine and other	June-Sept.	incl. above		NY	4
Onions, Dry	Aug.-June	NY	64	NY	79
		Texas	21	Calif.	19
		Colo.	17	Idaho	16
		Idaho	21	Texas	6
		Other	23	Other	9
Peas, Green	July	NY	1	NY	1
				Calif.	1
Peppers	Aug.-Oct.	NY	12	NY	7
Bell		Calif.	3	Texas	4
		Texas	1	Calif.	1
		NJ	2		
Potatoes	July-June	NY	455	NY	543
		Calif.	163	Calif.	112
		Idaho	102	Idaho	68
		Florida	38	Wash.	37
		ND	11	VA	26
		VA	37	Florida	22
		Wash.	25	Other	20
		Other	22		
Radishes	June-Sept.	NY	3	Ohio	2
		Ohio	3		
		Canada	1		
Spinach	May-Oct.	NY	4	NY	6
		Colo.	2	Colo.	11
		NJ	1	NJ	4
				VA	3
				MD	1
Squash	July-Nov.	NY	9	NY	5
		NJ	2		
		Florida	1		
		Other	1		

Table 4. UNLOADS OF SELECTED VEGETABLES AT BUFFALO
(contd.) DURING LOCAL GROWING SEASON, 1969, 1979

Commodity	Season	1969 ¹		1979	
		Source	Quantity	Source	Quantity
Strawberries	June-July	NY	3	Calif.	3
		Michigan	4	NY	1
		NJ	1		
		Canada	4		
Tomatoes	July-Oct.	NY	15	NY	13
		Calif.	20	Calif.	13
		Ohio	8	SC	5
		Other	4		
Mushrooms	Jan.-Dec.	NY	1	Canada	8
		PA	6	PA	3

1. Carlot receipts in 1969 converted to 1,000 hundredweight units on the basis of comparable weights in 1977.

SOURCE: U.S.D.A. Fresh Fruit and Vegetable Unloads in Eastern Cities, Calendar Years 1969, 1979, Washington, DC.

Retail Distribution

Trade sources report that in 1980 Erie and Niagara Counties together contained 1,083 food stores with estimated total sales (food and nonfood) of \$1.3 billion. Of these stores, 140 were classed as supermarkets (more than \$1 million in sales annually), and 155 as convenience stores. Sales per supermarket averaged \$6.2 million a year, and supermarkets had 65.3 percent of the food store business. Retail chains (more than 10 stores under one owner) owned 44 of the supermarkets.

Three firms directly or indirectly controlled two-thirds of the retail food store sales in the two-county area. These firms owned or franchised 136 of the 140 supermarkets and 104 of the 155 convenience stores which they supplied from wholesale warehouses. The next largest firm operating in the area had 4 supermarkets and 3.7 percent of total food store sales.

Food service operations ranging from fast food chains to restaurants, hospitals, prisons, mental institutions, schools, and colleges handle about 30 percent of the total food consumed in the region. For ease in handling, storage, and preparation institutions often use a higher proportion of processed than fresh fruits and vegetables. Fresh produce purchases are generally made on the basis of bids for large quantities of standardized product so this market is seldom available to local growers.

Growers sell considerable volume of fresh produce directly to consumers. There are no accurate estimates of the volume of produce sold directly in the region, but in 1979 Cornell Cooperative Extension Agents reported that Chautauqua, Erie, and Niagara Counties together had 175 commercial-size farm roadside markets (up from 70 in 1974), 105 pick-your-own operations (up from 61 in 1974), and 10 retail farmers' markets (up from 6 in 1974).

The organization and structure of food retailing firms has been changing in the region along with the growth in direct marketing. In 1970 three major regional chains, Acme, A&P, and Loblaws all operated in the area. Since then Acme and A&P sold their stores and warehouses while Loblaws bought the Peter J. Schmitt Company and that firm continues to operate as a subsidiary.

The distinction between the corporate food chain and the voluntary franchised or cooperative wholesale organization is no longer clear-cut. In the Niagara Frontier, the three major food distribution firms operate wholesale distribution centers and own outright or hold a controlling interest in some of the retail stores they serve. They franchise other operators. The franchise agreements call for certain services to be provided in return for specified fees.

The trend toward fewer and larger supermarkets is continuing, but appears to be progressing at a slower pace. Supermarkets have gained from two-thirds to 90 percent of the retail food business in many markets. Capital investment and operating costs continue to increase, and more supermarkets are being kept open 24 hours a day and 7 days a week.

A recent change in food retailing has been the opening of many new convenience stores, partly in response to the heavy fixed costs of supermarket operation. These low-volume low-overhead stores are replacing the mom-and-pop stores of earlier years. Some are being established at self-service gas stations, and carry a limited supply of fresh produce.

Specialty fruit and vegetable stores are springing up in some areas. These operate year-round, buying at the wholesale market in the winter, and from local growers when supplies are available.

There are still many independent retailers in the region who buy from private wholesalers. Some operate fairly substantial businesses but their total volume of business is not large.

Retailers' Concerns and Recommendations

Interviews were held with the head produce buyers and top management of all three major retailer firms in the Niagara Frontier region. All agreed on the desirability of expanding sales of locally grown produce, and generally were in agreement on the ways this might be accomplished.

Large retailers receive much of their produce requirements directly from shippers in major production areas, often using brokers to locate supplies. Perishable items handled in volume, such as lettuce, are generally bought direct, while local wholesalers or growers may be approached to supply items needed in smaller volume, to fill in unexpected demands at short notice, or to supply less perishable storable commodities. The larger retailers are geared to a weekly cycle that requires them to receive and ship a large volume of fresh produce. The paper work involved in ordering, paying, invoicing, and shipping is effectively handled through the use of computers.

The retail stores operated by these firms may be owned or under franchise agreement. Generally these firms prefer to buy and centrally handle all produce for both corporate and franchised stores. Local produce may be bought centrally but delivered by growers direct to individual stores. Sometimes local store managers or owners may buy directly from growers or wholesalers. The managers of corporately owned stores are usually restricted in the amount of local buying they may do, but some owners of franchised stores like to take advantage of opportunities to buy local produce directly. The items often sought locally are highly perishable such as sweet corn or bulky like potatoes.

The large retail firms have tended to set up working relationships with selected local growers who have demonstrated ability to supply the quantity and quality of product the retailer wants. Such growers tend to specialize in a certain crop or group of crops such as tomatoes, cabbage, sweet corn, or leafy vegetables. The retail chain often deals primarily with the same small group of growers each year, only doing business with other growers when supplies are short. Once retailers develop good relationships with specific growers they tend to stay with the same ones. Occasionally one hears that a retailer is looking for a grower who is willing to supply a certain commodity on a continuing basis, but this happens infrequently.

The major retail firms said they were generally satisfied with the local produce they have been receiving and the service they get from their growers, but they do have suggestions for improving the market for local produce. These could be listed as follows:

1. Better grading and packaging. Items like peppers or cucumbers are often not uniformly sized. The case or carton being used is not strong enough or the right size. New fiberboard containers are preferred.
2. Cooperation on specials. Growers fail to supply sufficient product to satisfy the market on advertised specials, even with advance warning.
3. Local promotion. Other areas promote their products with advertising and point of sale material. The Grown in New York program is helpful but it would be useful to have more local promotion.
4. Longer shelf life. Shelf life is critical to the retailer, so better methods of removing field heat would help, as would any other practices that would extend the life of the product. Vacuum or hydro cooling facilities are needed.
5. Extend the season. The short season for many crops works against the local growers. Practices that extend the season but were formerly considered too expensive may now become economical and should be reconsidered.

Independent Wholesale Operations

Independent wholesalers fall into several different categories. Primary or carlot receivers handle rail car or truckload quantities of a large number of commodities. They may purchase product outright or handle on consignment. Wholesale jobbers buy and sell in smaller quantities. Commodity specialists store and ripen bananas or tomatoes, or put up consumer packages of potatoes or salad vegetables. Other wholesalers, generally called purveyors, specialize in serving the hotel, restaurant, and institution trade. Produce brokers find markets for sellers or sources of supply for buyers for a fee but do not take title to the commodity or handle it physically.

Many of the produce wholesalers in the Buffalo area are located on the Niagara Frontier Food Terminal near the corner of Clinton Street and Bailey Avenue, just off the New York State Thruway extension. The terminal was built in the early 1930s and consists of facilities for receiving, storing, and shipping fresh produce as well as office space for produce firms and allied industry. There are railroad team tracks adjacent to the terminal. The terminal is owned and operated by the Buffalo Produce Exchange, a private company organized by wholesalers on the market. Although the facilities are almost 50 years old they are in good condition and reasonably well adapted to current receiving and handling methods, considering the widespread use of tractor trailers and palletized loads. Whether new facilities would be justified by improvements in storage and handling is an open question.

Farmers' market facilities are located across Bailey Avenue from the food terminal. This market consists of several open sheds and platforms and a small administration building. The facilities are owned and operated by the Niagara Frontier Growers Marketing Cooperative, an organization of farmers who use the market facilities. In addition to the wholesale farmers' market early in the morning, a retail market is held during the day during the growing season where hucksters and part-time growers retail produce they have grown or have purchased on the wholesale farmers' market. The number of commercial growers using the market has declined in recent years and the costs of operation are increasing.

There were about five primary wholesale receivers on the Buffalo market in 1980, all located on the Food Terminal. These wholesalers service retailers and jobbers not only in the Niagara Frontier region but in nearby cities of western New York and southern Ontario. At least one wholesaler distributes into western Pennsylvania and northern Ohio. There are also 8 to 10 other wholesalers on the Food Terminal who handle smaller volumes often on a job lot basis. Two or three firms specialize in certain commodities such as bananas, wine grapes, or watermelons.

At least three produce wholesalers primarily serve the hotel, restaurant, and institutional trade. Those selling to this specialized market must deliver high quality produce of uniformly even size and condition.

Three firms are involved in the brokerage business in the market area. The use of brokers by shippers and retailers appears to be on the increase throughout the country.

Farmers in the Eden Valley south of Buffalo have organized the Eden Valley Growers Cooperative to market part of their vegetable production. The Cooperative receives products from members and sells to wholesalers and retailers in the region as well as shipping out loads to other areas. The Cooperative operates in competition with some members who sell in the same market.

Wholesalers' Concerns and Recommendations

Locally grown produce was a relatively minor although important item for the larger wholesalers on the market. They usually bought some lettuce and other greens as well as tomatoes and salad vegetables locally. They tended to deal with a few growers regularly, but would occasionally handle product from other growers on consignment.

Wholesalers all emphasized the need for greater uniformity in grading and packing, along with better packages. One wholesaler believed that a better 20 pound container for tomatoes would lead to increased local sales. They reported that California lettuce not only had longer shelf life than New York product but also was cleaner than local iceberg lettuce. New York iceberg lettuce was only handled in response to specific requests.

Locally grown produce is very important for some of the smaller wholesalers or jobbers on the Buffalo market. They handle sales mainly on a consignment basis, and market to independent stores and roadside markets. They do not like to be caught in a surplus situation, and would prefer that growers use restraint in planting crops such as peas and strawberries for the local wholesale market. Leaf lettuce and other greens are the major local crops handled. Quality is generally considered to be adequate.

The purveyors, particularly those selling to the better restaurants and hotels, buy little local produce except to fill in orders on special requests. Stringent requirements for quality and uniformity limit their purchases to the larger shipping areas.

Repackers handle a large volume of produce in the Buffalo area and distribute over a wide territory. One firm alone receives and bags retail packages for a large proportion of the potatoes distributed in the Niagara Frontier region. Two firms packaging salad vegetables and other fresh produce items ship to retailers and food service institutions in the region and also to other markets. Carrots, spinach, and cole slaw are their most important commodities. The carrots come mainly from California or Canada, and spinach from Colorado or New York. Much of the cole slaw is made from New York cabbage. An increasing volume of lettuce is being brought from California already shredded or chopped. Carrots often are brought in by rail, but deregulation is causing problems with local rail service, and cars sometimes have to be unloaded at other sidings and the produce trucked across the city.

Some repackers depend on distressed merchandise for supplies but this is not a reliable or dependable market for growers. Repackers handling larger volumes need a steady supply of substantial quantity. Buffalo repackers would be willing to handle more local spinach but this would require considerable commitment on the part of the grower. About two or three carlots of carrots a week are repacked in Buffalo, and this would take a substantial acreage to provide.

Farmers' Market Wholesale Prices

Fresh vegetables vary so widely in quality and are sold under so many different types of transactions that it is difficult to determine the typical prices paid or received at any one time. Wholesale prices as reported on the farmers' market can be taken as reasonably representative although they may not include extremes and may be biased upward since they are generally obtained from sellers rather than buyers.

Analysis of prices for the past three years indicates that there tends to be a seasonal pattern for prices of most fresh vegetables, with considerable variation from one season to the next as well as within the season. Typically prices start out each year at relatively high levels and then drop as the season progresses and supplies become more plentiful. Late in the season prices may recover somewhat, although this does not always occur.

Within this general pattern of price movement there may also be abrupt changes from one week to the next due to temporary gluts or shortages. Local market supplies may shift from a deficit to a surplus due to the arrival of a shipment from another area or to a change in weather that brings on a crop faster than expected. The Niagara Frontier market is not large enough to accommodate small changes in supplies without a significant impact on prices.

Average prices for the season also vary from one year to the next largely depending on changes in local, regional, or national supplies of the particular commodity, or the prices of close substitutes. Prices, for example, of leafy green vegetables tend to follow similar patterns, while sweet corn prices usually move independently of other vegetable prices.

Prices also vary from one transaction to another due to differences in quality. Many factors apparently enter into the determination of quality differentials. The appearance and condition of the product are important but so also is the uniformity of size and the type of container. Price differentials due to quality tend to be relatively wider when the product is in surplus supply than when shortages exist. Lower quality produce is hard to move during periods of oversupply.

Table 5. BUFFALO WHOLESALE FARMERS' MARKET
PRICES FOR VEGETABLES

Item & Unit	Month	1977	1978	1979
Strawberries-large 8 quart flat	June	6.00- 7.00	6.00- 8.00	7.00- 7.50
Cantaloupes, 14-16 bushel basket	Sept.	3.50- 5.50	7.00-10.00	8.00
Beans-green bushel basket	Aug.	6.00-10.00	7.00-10.00	8.00-10.00
Beets-bunch dozen bunches	July	2.50- 3.50	2.50- 3.50	3.50- 4.00
Cabbage-green 1 2/3-1 3/4 bu.	Aug.	2.25- 3.00	2.50- 5.00	2.75- 3.00
Carrots-medium bushel basket	Sept.	6.50- 7.00	7.00- 8.00	7.00
Cauliflower 1 2/3 crate	Sept.	5.50- 6.00	5.00- 6.50	6.00- 6.50
Celery 24s and 36s	Aug.	4.00- 6.00	7.00- 8.00	6.50
Corn approx. 5 doz.	Aug.	1.75- 2.50	2.50- 4.00	3.00- 3.50
Cucumbers, medium	Aug.	4.00- 5.25	5.00- 6.00	7.00-10.00
Dill-bunch dozen bunches	Aug.	--	2.00- 4.00	3.00- 4.00
Eggplant-medium	Sept.	2.75- 4.00	4.00- 6.00	4.00- 5.00
Endive/Escarole 12-14s crate	Sept.	3.00- 3.50	3.00- 4.00	4.50
Greens-doz. bunches 1 1/9 bu. crate	Aug.	2.50- 3.00	2.50- 3.00	3.50
Lettuce-leaf 12s	Aug.	2.00- 2.50	2.75- 3.00	3.50- 4.50
Onions-green dozen bunches	July	1.50- 1.75	2.00	2.00
Peas bushel basket	June	10.00-11.00	7.00-14.00	10.00-12.00
Peppers-wonder type 1 or 1 1/9	Sept.	5.50- 6.00	5.50- 7.00	6.50- 7.50
Potatoes-white US 1A 50 lb.	Sept.	2.75- 3.25	3.00- 3.50	2.75- 3.25

Table 5.
(contd.)

BUFFALO WHOLESALE FARMERS' MARKET
PRICES FOR VEGETABLES

Item & Unit	Month	1977	1978	1979
Radishes doz. bunches	July	1.75- 2.00	2.00- 2.25	2.00- 2.25
Spinach bu. basket	June	2.50- 3.00	5.00- 6.00	6.00- 7.00
Squash-summer green 8 quart	July	1.00- 1.75	1.00- 2.00	1.50- 3.00
Squash-butternut	Sept.	--	4.00- 4.50	5.00- 6.00
Tomatoes-medium 8 quart	Sept.	1.25- 2.00	1.50- 2.00	1.50- 1.75

Local Vegetable Production and Marketing

The Census of Agriculture, the only source of information on farm numbers and vegetable crop acreages by counties in New York, reported that in 1978 Chautauqua, Erie, and Niagara Counties had 3,507 farms with sales of \$2,500 or more (table 6). These farms operated a total of 429,171 acres of cropland and had gross sales of \$159 million. There was a modest increase in the number of farms, cropland operated, and gross sales since 1974 when the Census counted 3,431 farms, 407,201 crop acres, and farm sales of \$124 million.

Table 6. FARMS WITH SALES OF \$2,500 OR MORE
Census of Agriculture, 1978

	Chautauqua		Erie		Niagara		Total	
	1974	1978	1974	1978	1974	1978	1974	1978
Farms	1,656	1,734	1,014	987	761	786	3,431	3,507
Sales (\$000)	50,819	64,288	47,010	58,703	26,554	36,014	124,383	159,005
<u>Potatoes</u>								
Farms	13	20	46	35	35	17	94	72
Acres	57	49	1,141	995	387	135	1,585	1,179
<u>Vegetables</u>								
Farms	89	82	145	160	165	170	399	412
Acres	4,278	3,590	14,407	13,365	3,065	3,191	21,750	20,146
<u>Sweet Corn</u>								
Farms	47	46	89	106	107	96	243	248
Acres	454	394	1,633	1,574	507	559	2,594	2,527
<u>Direct Sales</u>								
Farms	NA	147	NA	161	NA	226	NA	534
\$1,000	NA	738	NA	2,311	NA	1,401	NA	4,450

NA - not available.

Information available on vegetable production in the 1978 Preliminary Census Report is very limited. The number of farms growing vegetables, sweet corn, and melons in the three counties in 1978 is set at 412 farms with 20,416 acres, compared to 398 farms with 21,750 acres in 1974. Seventy-two farms grew potatoes in 1978 on 1,179 acres, compared to 94 farms with 1,585 acres of potatoes in 1974. Farms growing sweet corn numbered 248 with 2,527 acres in 1978 compared to 243 farms with 2,594 acres in 1974. There has been a decline in potato acreage and farms growing potatoes, but no significant change in number of farms or acreage of other vegetable crops.

In 1978 for the first time, the Census counted the number of farms selling and the value of products sold directly to individuals for human consumption. For the three county area, 534 farms sold direct to consumers products with a value of \$4.45 million.

Information was obtained from a sample of vegetable farms in the region to learn more about the volume of vegetable production, marketing channels, grower concerns about local wholesale vegetable marketing, and their recommendations for improvement. From a list of 60 vegetable growers who sold at wholesale, a random sample of 30 was selected and each was interviewed. The sample included 3 farms in Chautauqua County, 17 in Erie County, and 10 in Niagara County.

The 30 farms grew an average of 85 acres of vegetables for fresh market in 1979. One-third of the farms had less than 40 acres of vegetables, one-third had between 40 and 80 acres, and one-third had more than 80 acres in vegetable crops including potatoes. Seventeen of the farms had greenhouses with an average of 10,830 square feet per farm. Tomatoes for processing were grown on 10 of the farms, while 9 had a substantial acreage in tree fruit and 5 had vineyards. A small number raised livestock, mainly beef cattle, sheep, or hogs, while about half reported growing grain or forage crops.

The 30 farms reported an average of almost 2 operators per farm. This is quite common on commercial vegetable farms where there are considerable management responsibilities. In addition, 64 members of the operators' family contributed time equivalent to 21 year-round workers, and another 51 persons were employed full-time. Help hired for the full growing season numbered 197, with another 317 hired for shorter periods of the year. In total, these 30 farms provided employment for 688 persons at least part of the year.

Vegetable acreage in 1979 on these farms is shown in the accompanying table. No single farm grew all the 27 individual vegetables and small fruits reported. The most commonly grown items were cabbage, sweet corn, tomatoes, peppers, cauliflower, melons, snap beans, winter squash, cucumbers, and summer squash. Three farms in Erie County specialized in potatoes, and 4 in Niagara County in cabbage. Only 3 farms grew greens or any substantial quantity of endive/escarole.

Table 7. MARKET VEGETABLE ACREAGE, NUMBER OF FARMS GROWING,
AND ACRES PER FARM, 30 Market Vegetable Farms,
Chautauqua, Erie, Niagara Counties, 1979

Vegetables	Market Vegetable Acres	Farms Growing	Acres Per Farm Growing
Cabbage	711.2	21	33.9
Potatoes	472.0	7	67.4
Sweet corn	462.0	20	23.1
Tomatoes	164.7	21	7.8
Peppers	123.5	17	7.3
Cauliflower	117.0	15	7.8
Melons	71.2	19	3.7
Strawberries	64.7	9	7.2
Lettuce, iceberg	50.8	9	5.6
Snap beans	47.7	10	4.8
Winter squash	42.7	15	2.8
Cucumbers	34.9	15	2.3
Spinach	34.5	3	11.5
Greens	22.1	3	7.4
Asparagus	20.0	3	6.7
Peas	20.0	11	1.8
Endive/Escarole	19.0	3	6.3
Lettuce, leaf	18.5	8	2.3
Eggplant	14.9	9	1.7
Summer squash	10.5	14	0.7
Carrots	3.3	3	1.1
Beets	3.2	4	.8
Other ¹	<u>14.7</u>	<u>5</u>	<u>2.9</u>
Total	2,543.1	30	84.8

1. Broccoli, dill, raspberries, sweet Spanish onions, watermelon.

The vegetable growers were asked the proportion of their crops sold direct to consumers, sold in wholesale quantities locally, shipped out of the area, or sold through other channels (mainly through the grower marketing cooperative). Local sales in wholesale quantities included sales made to roadside market operators as well as to independent stores, restaurants, or chain store buyers. Of the 2,543 acres in vegetables on these farms, about 377 acres or 15 percent was used for crops sold directly to consumers, 1,457 acres or 57 percent was devoted to crops wholesaled locally, 533 acres or 21 percent was shipped out of the region. About 177 acres (7 percent) of vegetables were moved through other channels.

Initial market distribution varied from one commodity to another. A little more than half (53 percent) of the cabbage was shipped out, with almost all the remainder sold wholesale locally. Almost all (94 percent) of the potatoes were sold to local wholesale buyers, and the remainder direct to consumers. Strawberries were mostly (84 percent) sold direct to consumers, the remainder at wholesale locally.

In addition to cabbage, the major crops shipped out of the area were tomatoes, peppers, and sweet corn. Leading crops in terms of acreage sold directly to consumers were sweet corn, strawberries, tomatoes, potatoes and asparagus.

Table 8. INITIAL MARKET FOR FRESH VEGETABLES
 30 Market Vegetable Farms
 Chatauqua, Erie, Niagara Counties, 1979

Market Vegetable	Total Acres	Acres Direct to Consumer	Acres to Local Wholesale	Acres Shipped Out	Acres to Other
Beans	47.7	7.0	36.8	2.5	1.7
Beets	3.2	0.2	2.0	--	1.0
Cabbage	711.2	6.4	300.0	378.0	27.2
Carrots	3.3	0.3	3.0	--	--
Cauliflower	117.0	6.6	57.1	8.8	44.5
Corn	462.0	151.7	261.2	22.0	27.1
Cucumber	34.9	3.8	25.8	1.4	3.9
Eggplant	14.9	2.4	10.5	0.4	1.6
Endive/Escarole	19.0	--	18.0	--	1.0
Greens	22.1	0.1	22.0	--	--
Lettuce, iceberg	50.8	1.4	45.3	--	4.1
Lettuce, leaf	18.5	0.7	16.3	--	1.5
Peas	20.0	7.3	11.9	0.3	0.5
Peppers	123.5	10.2	69.6	19.4	24.3
Potatoes	472.0	29.7	442.3	--	--
Spinach	34.5	1.4	33.1	--	--
Squash, summer	10.5	1.2	6.8	0.1	2.5
Squash, winter	42.7	11.7	23.1	0.3	7.6
Strawberries	64.7	54.4	10.3	--	--
Tomatoes*	164.7	30.0	20.0	100.0	14.7
Broccoli	5.0	5.0	--	--	--
Melons	71.2	17.4	40.3	--	13.5
Asparagus	20.0	20.0	--	--	--
Watermelon	0.5	0.5	--	--	--
Dill	0.7	--	0.5	--	0.2
Onions	1.5	--	1.5	--	--
Raspberries	7.0	7.0	--	--	--
Total	2,543.1	376.4	1,457.4	533.2	176.9

* Partially estimated.

Growers' Concerns

Growers interviewed in the survey differed in their attitude toward local wholesale sales of fresh vegetables. The larger growers who either specialized in production of a few crops or who were diversified were generally satisfied with the local wholesale market and felt there was room for expansion. These growers had, in most cases, developed good market outlets with several alternatives that enabled them to move their products at reasonable prices most of the time and not be seriously affected by local surplus situations.

Many growers with smaller acreages mainly sold direct to consumers or to other growers who had roadside markets. Several were aware of the growth of direct sales in recent years and believed this market to have considerable potential. Some growers felt that they were limited in expansion by lack of suitable land and so were turning to greenhouse crops such as bedding plants or potted flowers.

A significant number of growers, perhaps half the total, were heavily dependent on the local wholesale market and concerned about the difficulties they faced in selling vegetables profitably to local wholesalers. These growers and others expressed the following concerns:

1. Unstable prices. Buffalo is known by many as a price market where other factors such as quality are not given much weight by buyers. Buyers sometimes even bring in produce that saturates the market and depresses prices for the rest of the season.
2. Canadian competition. Produce from Ontario often floods the market, especially lettuce, carrots, and cabbage, the production of which is believed to be subsidized by the government. The current exchange rate provides considerable incentive to Canadian exporters.
3. Advertised specials. The retail chains feature specials to draw customers while the growers must share in the price reduction without the prospect of increasing total sales over the season. Growers often find difficulty in filling the requirements generated by special sales.
4. Centralized buying. Growers argue that it is hard for them to adequately service individual super-markets, even the independents, who require frequent deliveries.

5. Commission selling. Many wholesale houses will only handle on a commission or net return basis. Growers have little idea of what they will receive for the product until the wholesaler has sold it. Often the return is much lower than was expected.
6. Grading and packaging. Many growers agree they should be doing a better job of grading and packaging fresh produce and that this has given the region a bad reputation, but others argue that buyers are asking too much in requiring new expensive containers without explicitly paying for the added costs.

Summary and Conclusions

The Niagara Frontier is a major market for food, with sales of fresh produce at retail currently valued at about \$126 million annually. Based on recent trends, the sales of fresh produce in the area are likely to increase and a larger share of this market could be obtained by local growers.

California supplies the largest volume of fresh produce coming into the market area. Receipts from Canada have been increasing and Canada now ranks directly behind California, Florida, and New York in importance. New York farmers have increased their share of the local market for commodities such as cabbage and tomatoes, but have lost ground for others such as lettuce and carrots.

Three firms dominate the wholesaling and retailing of food in the Niagara Frontier region, although many of the supermarkets they serve are franchised to independent owners. Recent developments in fresh produce retailing include the expansion by farmers of direct sales to consumers and the establishment of specialty fresh fruit and vegetable stores. Convenience food stores, some at self-service gasoline stations, are increasing in importance but generally carry little produce.

The away from home food market accounts for about 30 percent of food sales in the region. The addition of salad bars in many fast food establishments and restaurants has increased consumption of fresh produce. The specific and stringent requirements of the food service industry make it difficult for local growers to gain a significant share of this market.

Larger retailers were generally satisfied with present sources of local produce, but offered several suggestions for increasing sales of locally grown products. The need for better grading and packaging was the most important suggestion.

Independent wholesalers play an important role in fresh produce marketing in the region. The Niagara Frontier Food Terminal serves a wide area including western New York, southern Ontario, western Pennsylvania, and northern Ohio. Wholesalers also supported the need for better grading and packaging. They felt that there were opportunities for increased sales of certain items such as spinach and peppers, but that growers should use restraint to avoid flooding the wholesale market.

The Niagara Frontier market is considered by many growers as a price market, with little concern given to quality factors. Small changes in supplies have had a major impact on prices, to the disadvantage of both buyers and sellers. Produce prices vary from one season to the next, from one week to the next, and from one transaction to the next.

Little change was reported by the Census in number of farms and the acreage of vegetables in the three county area between 1974 and 1978. In 1978, the Census counted 534 farms in the area selling farm products directly to consumers with a total value of \$4.45 million.

Interviews with the operators of 30 farms growing vegetables for the wholesale market found these farms to have an average of 85 acres of vegetables. Some farms also had grapes or tree fruit. A few farms were relatively specialized in growing cabbage, tomatoes, or potatoes, but most grew a wide variety of vegetable crops. The sample farms were almost equally divided between those with less than 40 acres of vegetables, those with from 40 to 80 acres, and those with more than 80 acres. Seventeen of the farms had greenhouses, with an average of 10,830 square feet per farm. The 30 farms provided employment at least part of the year for 688 persons.

Cabbage, potatoes, and sweet corn were grown on the largest acreage. About 15 percent of the acreage was used for crops sold direct to consumers, 57 percent for crops wholesaled locally, and 21 percent for crops shipped out of the region. The remainder was sold through other outlets, mainly the growers' cooperative. More than half the cabbage was shipped out of the area, almost all the potatoes were sold to local wholesale buyers, and almost all the strawberries were sold direct to consumers.

Some growers were unhappy with local wholesale markets, while others felt prospects were good especially for crops such as tomatoes and peppers. They did express concern over several factors, however, including the unstable prices, Canadian competition, advertised supermarket specials, centralized buying, commission selling, and grading and packaging requirements.

Many current problems in marketing locally grown vegetables at wholesale, and obstacles to further expansion, seem to arise from relatively ineffective marketing on the part of some growers, and the lack of necessary market information on the part of both growers and buyers.

The Niagara Frontier is a relatively unstable market for fresh produce. Nearby seasonal production is significant in relation to local demand, and the receipt of one more shipment when local supplies are becoming available can upset the market drastically. Whether this is due to Canadian competition, a delayed load from California, or a deliberate attempt to break the market, the effect is the same. Prices drop, and may not recover for the remainder of the season.

Canadian competition is considered to be a special problem. Government subsidies and direct payments to growers are believed to contribute to this situation. Many growers believe our

government should reciprocate by imposing additional tariffs or special quotas on the subsidized products. Our trade agreements provide for such action to be taken if the existence of subsidies can be authenticated and damage to our industry proved. The legal requirements are quite specific. The likelihood of government action being taken is minimal, but this possibility should still be investigated. The sharp increase in imports from Canada in recent years, however, may be due more to the change in the exchange rate than the amount of subsidy. Import competition may be eased by more rapid inflation in Canada, if not by a return of the exchange rate to previous levels.

Some growers have been able to avoid local wholesale price fluctuations by either selling direct to consumers and to other farmers who sell direct, or by shipping out to other markets when price differences make this desirable. Growers with a smaller acreage are largely dependent on direct sales, and only growers with larger acreages have the capacity to ship to other markets. Many of the medium-sized growers find themselves locked into the local wholesale market and subject to severe market fluctuations.

The Eden Valley Growers Cooperative was intended, and serves the purpose to some extent, to broaden the market and help to stabilize prices. Lack of commitment on the part of many members results in the cooperative operating almost like another wholesaler on the market rather than as the growers' marketing agent. To be effective, the Cooperative needs the full commitment of members for certain crops or certain markets.

Membership in a cooperative may be one way growers with smaller acreages could gain more effective control of markets, but they also can do this through specializing in certain crops and teaming up with neighbors. More growers should develop the ability to distribute over a wider market area and to learn when and how to take such action.

Retailers, wholesalers, and many growers recognize the need for better grading and packaging. Some growers feel, however, that in previous attempts to upgrade their containers they were not adequately reimbursed in higher prices, and also that more careful grading and closer sizing did not bring greater returns. This may be true in the short run. In the longer run, however, it may be necessary to make these changes simply to retain markets. The costs of the carton in some cases may soon approach the value of the contents but that is no reason to use cheaper cartons. For many commodities the package costs more than the contents, and the manufacturer is still able to reap a profit. Rising container costs may indicate the need to consider group buying to reduce expenses.

Recommendations

The wholesale market for locally grown vegetables in the Niagara Frontier is important to growers, wholesalers and retailers, and to public agencies, and should not be ignored. Based on information obtained in this study and from previous work it is possible to make recommendations to each group for the improvement and expansion of the local wholesale market. This study did not permit exhaustive analysis of several phases of local vegetable marketing and so some of these recommendations will require further investigation.

Recommendations to growers:

1. Find some means of broadening your market and do not depend entirely on the local wholesale market. To do this you may have to commit part of your crop to the Cooperative, team up with other growers, or specialize in production and sell to more markets.
2. Team up with your buyers and work with them closely to understand their problems and needs, and help them understand yours so that you can make adjustments without friction.
3. Improve the quality of your product and the acceptance of your container. Prompter precooling, better grading, and closer sizing may seem expensive but will pay dividends in the longer run. A good container, even a shipping carton, not only should protect the product but also make it more attractive.
4. Plan to extend your marketing season for the convenience of the buyer and for your own advantage. If you can do it, the early market may be worth aiming for. If you cannot, then better storage practices may help extend the season on the other end.
5. Keep alert to developments in the market so you can avoid surplus situations and take advantage of new demands. Follow market reports and subscribe to trade publications.

Recommendations to retailers and wholesalers:

1. Help maintain greater stability in the market by avoiding gluts or surpluses. This should be to your benefit in the longer run, even though seasonal specials can be quite attractive.
2. Give the local grower a better break on advertised specials. The purpose of the special is to draw more people into the store, but does not mean much to the grower if his sales dry up in following weeks.

3. Keep plugging for better quality and packaging by working closely with the growers that supply you. Help them to secure the best containers at reasonable prices.
4. Join in efforts to promote local produce and support the local industry.

Recommendations to public agencies:

1. Keep striving to improve information on market supplies and prices. Market news is very important especially in an unstable market like the Niagara Frontier.
2. Help growers market products over a longer season, with better shelf life, with greater uniformity of size, and with better overall quality.
3. Investigate the economic feasibility of additional investment in precooling or storage facilities for fresh produce.
4. Encourage better communication and coordination between various phases of the industry through participation at educational meetings or membership on planning and advisory committees.
5. Explore the need and possibility of restricting imports of fresh produce from Canada.

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