# A Feasibility Study of Value-Added Business: Opportunities for Agriculture and Processing Initiatives in Eastern North Carolina

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The Sparks Company of Memphis, Tennessee conducted the feasibility study that I want to discuss with you today. The study is a cooperative effort of the Craven County Government and the Global Transpark (GTP), with funding from the Golden LEAF Foundation. We were interested in finding a consulting group with experience in agricultural surveys, which proved to be a problem—we found that there were few groups who had done studies focusing on agriculture as an alternative means of production. The purpose of our study was to explore ways to improve returns to the production of agriculture in the communities in the GTP area. We wanted to analyze the economic feasibility of establishing a cold storage facility, or any other type of processing facility, located in a centralized area of Eastern North Carolina. In our study, we concentrated on counties that are within 1-2 hours of the GTP, which is located in Kinston, North Carolina. We were interested in exploring which crops could be grown and in identifying the domestic and international demand for various foods and crops with potential for production in North Carolina, particularly the eastern region of the state.

**PERCENT OF PRODUCE SALES BY CATEGORY**

| Product Category | 1987 | 1997 |
|---|---|---|
| Packaged Salads | * | 9.7% |
| Organic | * | 1.7% |
| Fresh-Cut | * | 5.2% |
| Nationally Branded | 7.2% | 18.9% |
| Private Label | * | 6.4% |
| Packaged, Bagged & Tray-Wrapped | 35.0% | 26.2% |

*Source: Economic Research Service/USDA*

**Figure 1.** Emerging Produce Trends

One of the factors we examined was emerging produce trends. Figure 1 indicates that between 1987 and 1997, there was significant growth in packaged salads. In 1987 one rarely heard of going to the grocery store and buying a pre-cut salad mixed with carrots and other vegetables—ready to open and put on a plate. By 1997 that industry had grown to almost 10% of produce sales. In our examination of areas with potential, we noted that convenience is one of the major growth areas among today's consumers. As is evident in Figure 2, fresh vegetable consumption in the United States is growing. Annual per capita consumption over the past 30 years has grown from approximately 140 pounds to 180 pounds. With respect to fruits, consumption is also growing, with an increase from approximately 90 pounds per person in 1970 to 130 pounds in 1998 (see Figure 3).

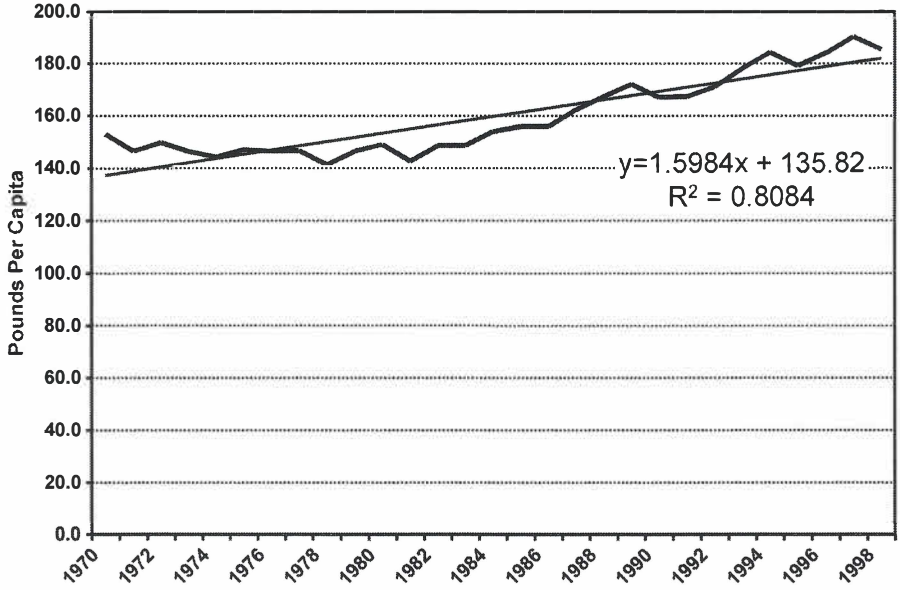


**Figure 2.** Fresh Vegetables: Total U.S. Per Capita Consumption

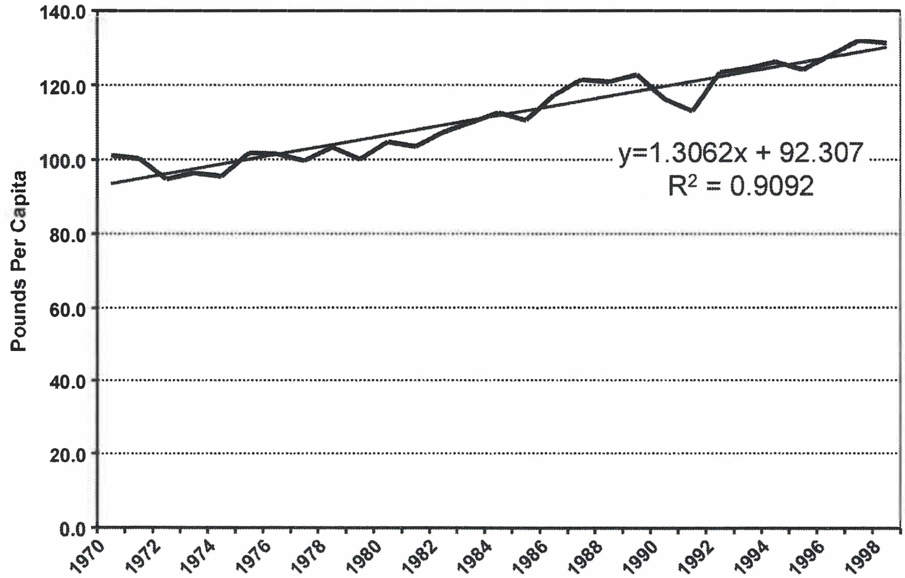


**Figure 3.** Fresh Fruit: Total U.S. Per Capita Consumption

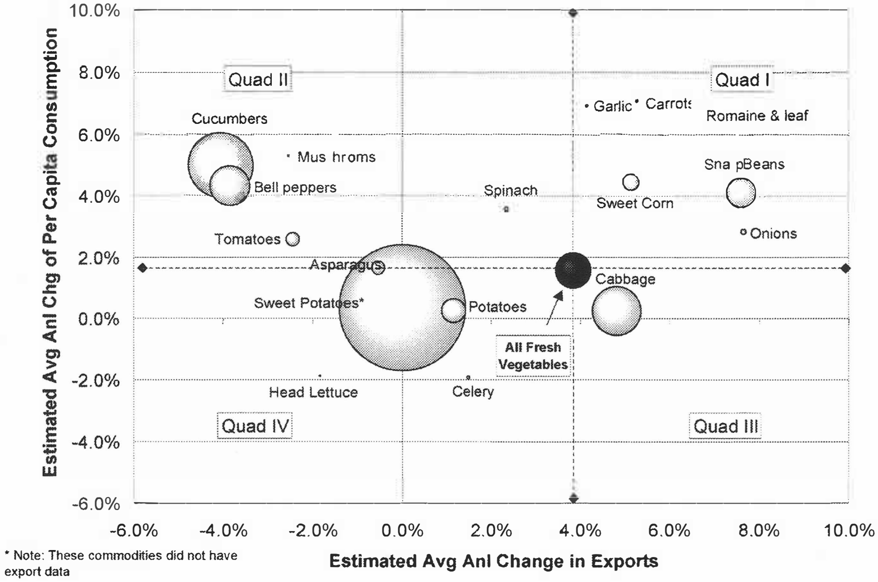


**Figure 4.** Domestic and International Demand Growth for Vegetables

The study analyzed consumer demand for 33 fruits and 43 vegetables. Most consumer demand is for fresh fruits and vegetables, in contrast to those that are canned, frozen, dried or juice. Figures 4 and 5 show the products in greatest demand by consumers today. As you can see, the fruits in greatest demand include strawberries, pears, cantaloupes, grapes, honeydews, apples, peaches and sweet cherries. These are the major fruits that people are interested in purchasing today.

**STRONG DEMAND TRENDS**

| Domestic | Export | Domestic/ Export |
|---|---|---|
| Cantaloupes | Apples | Strawberries |
| Grapes | Peaches | Pears |
| Honeydew | Sweet Cherries | |

**Figure 5.** US Consumer Demand for Fresh Fruit, Long-Run Trend (1970-1998)

What other enterprise activities could we consider? An examination of US aquaculture supplies this year reveals tremendous growth. In this region of North Carolina, we know that production of both hybrid striped bass and catfish has grown over the past ten years. Figure 6 demonstrates the growth pattern of aquaculture as a new entity.

Some success stories of value-added businesses include Delta Pride Catfish, Inc. (a cooperative), Driscoll Strawberry Associates, Price Cold Storage and Packaging Co., Sunset Produce, and Tabasco. For these major companies, one of the prime drivers of their success was that they took the time required to develop and expand their markets. Also, the companies had a spark of creativity—they sought new knowledge and technology to incorporate into their operations and product development. The firms looked to both domestic and international markets for sales and growth potential. Also, all of the firms expanded their

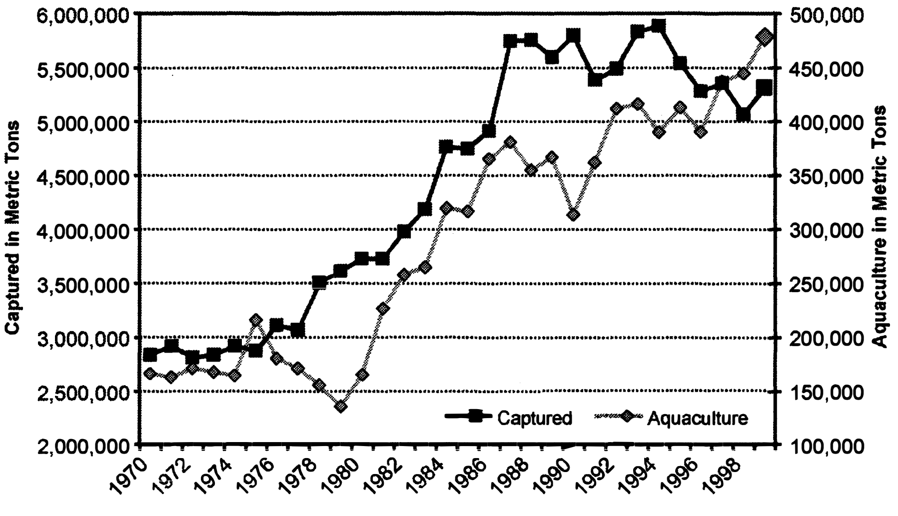


**Figure 6.** U.S. Aquaculture Production versus Captured Fishery Supply

operations by making capital acquisitions. In addition, with the exception of Tabasco, all of the firms integrated vertically to grow, package and ship their products. Not only does this add value, but it also ensures that the product produced and sold on the market is of a high quality. At a meeting I attended, a speaker from a major company made the statement that McDonald's has committed, within the next three years, to know where the potato for their French fries comes from; what variety it was; who grew it; where it was grown, and the chemicals that were used. In other words, McDonald's will control their product from the time it goes into the ground on the farm until it is sold to the consumer.

Many of these successful firms' commodities were graded and inspected by federal agencies at levels higher than the minimum requirements—their products were of the highest quality. The firms researched and learned what the consumer wanted regarding the produce/commodity, as well as the traits and quality of the market niche they could serve. One of the points I found to be quite interesting was that all of these firms began as independent, family-owned operations. And yet, production in the firms was sufficiently large, and of adequate quality, so that they were able to compete nationwide.

Shifting to the project analysis: is a cold storage facility located in Eastern North Carolina feasible? An examination of the cold storage capacity in North Carolina and the US indicates that North Carolina cooler space grew rapidly in the early 1990s and has fallen off in 1999, whereas the US cooler space has had a gradual trend upward over the past few years (see Figure 7). Figure 8, which presents the growth index of freezers in North Carolina, shows how fast space grew from the 1980s through the 1990s. The relationship of North Carolina freezers to processors explains the rapid growth (see Figure 9). Production of meat in North Carolina has grown rapidly in the past 10 to 15 years, resulting in increased need for cooler space. We have likely reached that capacity with recent legislation placing a moratorium on growth in hog production. Cooler capacity has most likely reached a maximum with respect to meats.

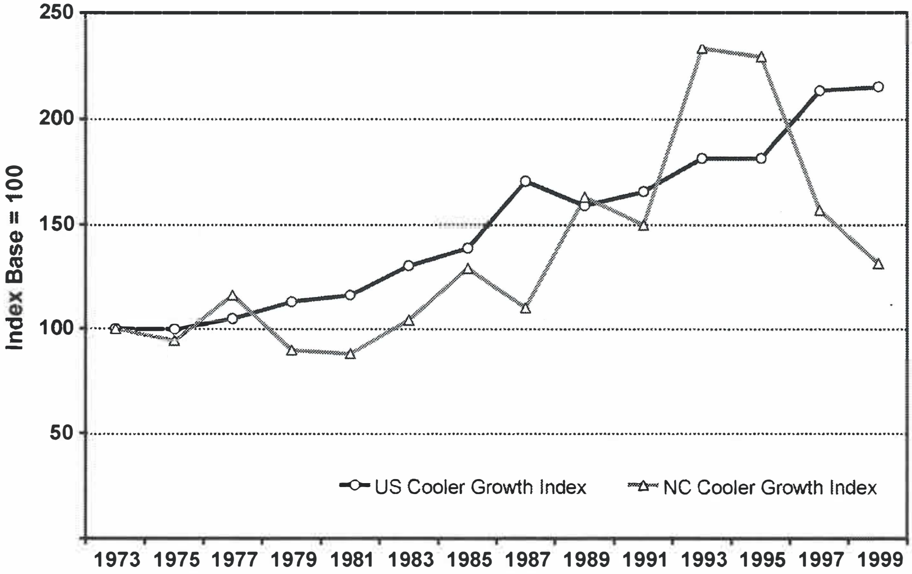


**Figure 7.** U.S. and North Carolina Growth Index for Useable Cooler Capacity

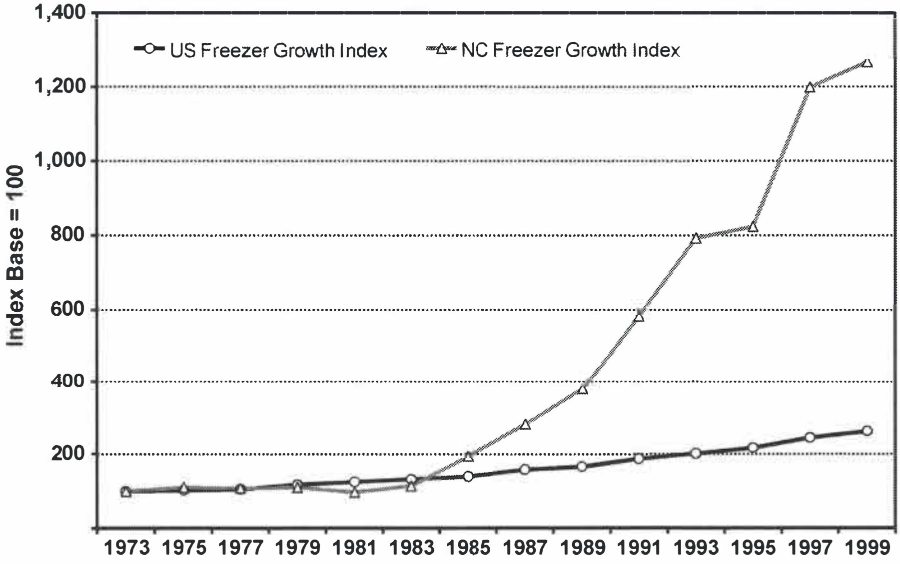


**Figure 8.** U.S. and North Carolina Growth Index for Useable Freezer Capacity

Trucks move 94% of fruits and vegetables in the US. Figure 10 shows North Carolina's production and export of fruits and vegetables by volume in 2000. Clearly, sweet potatoes are the major export product from this area. The survey demonstrated that Eastern North Carolina is able to produce almost any vegetable, as long as there is access to processing, transportation and markets. Figure 11 indicates the time of year that fruit and vegetable products are produced and shipped from North Carolina. It is notable that there is a time of year that North Carolina has no activity. To establish a processing facility here, it would be necessary to pick up other products for the months of January, February, March, April and December. For half the year there would be no produce unless we introduce a new crop. Analysis of driving times also suggests it is not a short and easy transportation route from the GTP to major roads, nor is it easy to transport product to Kinston for subsequent shipping.

In summary and recommendation, with respect to strengths, North Carolina has a strong agricultural production base that can be leveraged to develop various agricultural opportunities. North Carolina is able to produce almost any crop that is sold in the United States. Kinston is close to major metropolitan centers. By truck or car, one is able to reach major cities, and even Canada, within 16 hours. Another strength is that North Carolina grows many of the fruits and vegetables that have strong domestic and international demand (e.g. watermelons, cantaloupes, sweet corn and bell peppers). North Carolina also has strong and proactive support for the producer/grower, including organizations such as the State Department of Agriculture, NC State University and North Carolina A&T, which provide a wealth of knowledge about production for new crops or existing traditional crops. In addition, North Carolina has a positive population growth profile. This provides the opportunity for local farmers to establish new food enterprises to meet re-

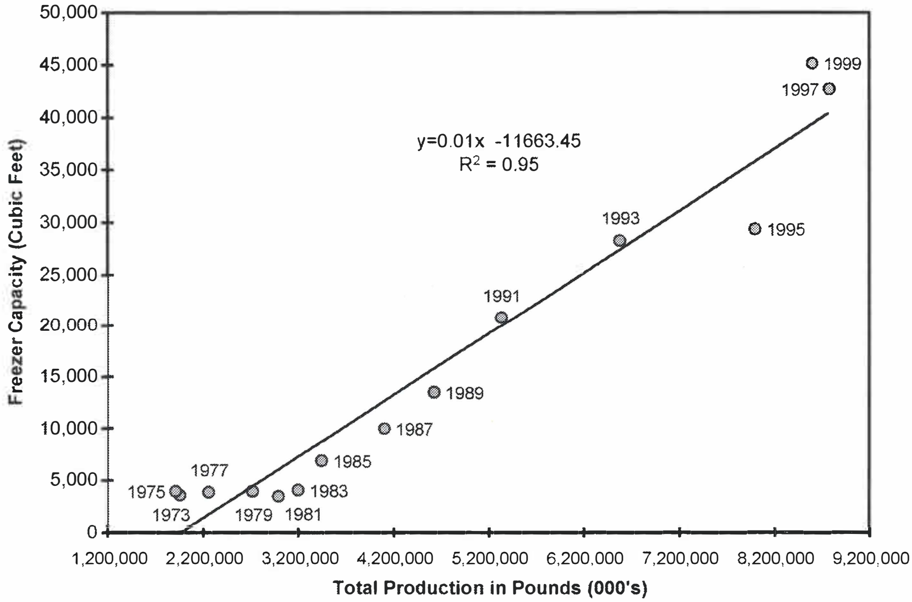


**Figure 9.** Relationship of North Carolina Freezer Capacity to Total Annual Production of Broilers, Turkeys & Hogs

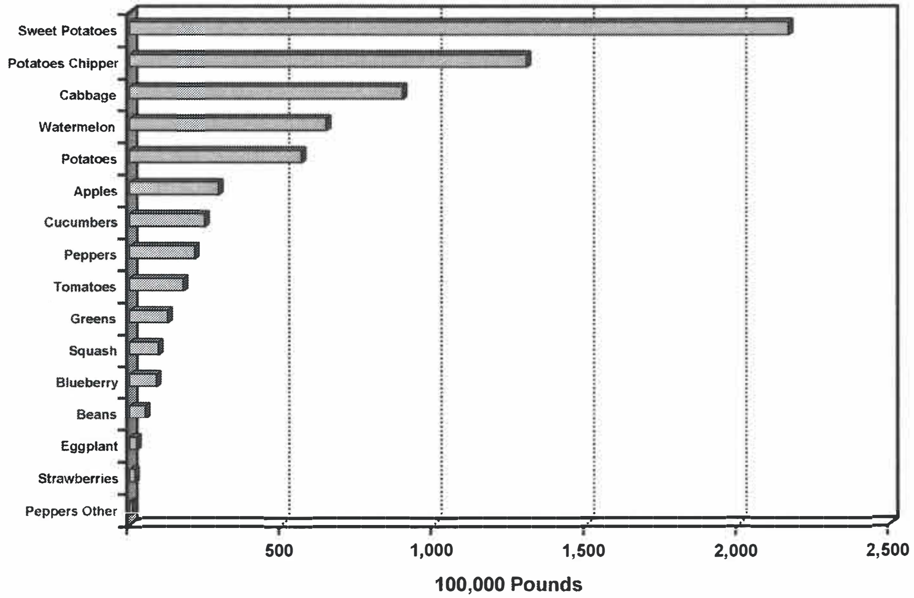


**Figure 10.** Shipments of North Carolina Fruits & Vegetables by Volume, 2000

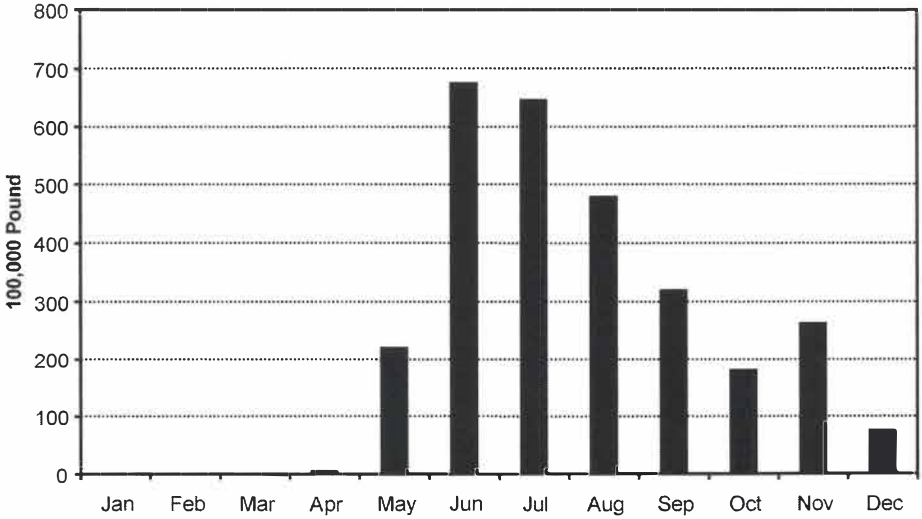


**Figure 11.** Fresh Fruit and Vegetable Shipments (except potatoes) from North Carolina by Month, 2000

gional demand opportunities. Local producers have the potential to discover new niche markets emerging from the income and population growth in their communities.

With respect to weaknesses, the GTP facility is not located in the primary agricultural production areas of the state, such as Sampson and Duplin Counties. This does not mean that the East could not produce alternative crops such as vegetables in the GTP region—the soil and climatic conditions are similar to those of the major producing counties. We could grow these crops; however, we have not been innovative enough to break into these markets—unlike Sampson and Duplin. Unfortunately, access to the GTP via truck from the major produce production areas is not optimal. Route 70 has multiple access points, and the highway network is even less friendly when traveling east and west. The in-state highways of I-40 and I-95 are clearly better transportation arteries and connection points for transporting bulk agricultural commodities. The infrastructure, particularly the highway system, needs improvement. As for air transportation, it is generally not a cost efficient mode of transportation for agricultural products due to issues of bulk. Typically, the only agricultural products that are transported by air are those with high perishability and substantial time utility. It is possible to transport by air if piggybacking with some other product to fill an airplane. It is possible to package produce in smaller quantities or organize cooperatives (such as those mentioned earlier) to develop value-added products, such as juice, rather than shipping just the raw material. The GTP, however, should not rely on the expectation that their airfield is ideal for servicing agricultural products. It is also important to note that much of the produce harvested in the region is quickly cooled and sent directly to market via reefer truck. In some cases, there is no need for an intermediate holding step at a cold storage facility in Kinston. With regard to foreign shipments (by boat), most of the food products start in Florida and bypass the ports of Wilmington and Morehead City, going further up the coast to Philadelphia and Delaware. In fact, the Port of Wilmington is trying to decide what to do with their under-utilized (473,638 cu. ft.) refrigerated storage facility. Subsequently, back hauling opportunities are not as readily available by ship out of North Carolina. Another weakness is that farms in the region have not utilized the 'cooperative' organization structure, often because of their independent nature with regard to business. This is a cultural issue and may impede attempts to raise the necessary capital and critical mass of commodity for large-scale processing and marketing efforts.

Thus, there is no 'quick fix' by putting in a cold storage, or any other type of processing facility, to stimulate agriculture linked to the GTP. Agricultural markets take a relatively long time to develop and there is no guarantee that, "if you build it, they will come." During the remainder of our presentation, we encourage people to reflect on the earlier speakers in this session, to consider forming cooperative groups to pull farmers together, to produce specialty niche market products, in order to be successful in the growth of fruits and vegetables. In the wholesale and retail sectors of the food industry, North Carolina is perceived by many to have very little brand recognition of their commodities (with the possible exception of sweet potatoes, hogs and turkeys). With respect to tobacco, of course, North Carolina is well known as it produces 60% of the flue-cured tobacco in the United States. But as far as products such as corn flakes, oatmeal and fruits and vegetables—we do not have a name. In North Carolina we must work on ways to develop brands or names that are identified with our products. When you buy Irish potatoes for your home—what do you think of? You think of a white potato from Idaho. When you envision a sweet potato—you think of North Carolina sweet potatoes. That is the type of innovative approach we must take to develop alternative enterprises to replace tobacco.

What are some opportunities identified by the study? The GTP could act as a catalyst for change in the region from a value-added perspective. The producer/grower needs to perceive a need or a benefit in taking their commodity to the GTP. Transportation is only one aspect of the marketing process. The GTP might possibly assist in the initial steps of sorting and packaging to attract business, and establish the need for cold storage and transportation. There is a possibility that the GTP could serve as a catalyst to start cooperatives as mentioned earlier. Producer/growers have the opportunity to join forces to develop branded/premium produce items that are grown in the region. The GTP could stimulate the solicitation of grants from various federal agencies. Also, the GTP could pull together a group of people to examine and identify new enterprises and value-added initiatives using existing products.

The US and Canadian trading relationship is the largest in the world. North Carolina is ideally situated to reach the major population centers of Toronto and Montreal in one day overland. The state should identify those indigenous crops with strong export trends, in order to develop a marketing presence in Canada. North Carolina also has potential for developing trade relations with the Caribbean Basin—particularly for specialized niche products. The Caribbean region, however, is very small from a population perspective.

There are several potential threats to consider. Major produce players, such as California and Florida, already have a volume advantage in most commodities. If they feel threatened by competition, they might exert market leverage to retain their share. They could flood the market with cheaper products to put North Carolina producers out of business if they so desire. Furthermore, those on the supply-side (growers/shippers) need not use a cold storage facility in Kinston; they are able to access cities along the East Coast using refrigerated trucks. The need for freezer space at Kinston may be limited because of a slowdown in the production of meat-based production (broilers, turkeys and pork) in the region, due in part to environmental concerns over the impact of live animal production. Another potential threat is foreign competition, leveraging low cost labor and cheap land that could undercut local production—particularly in commodity (non-value-added) type products. Initially, the GTP should be cautious with the concept of constructing a cooler/freezer facility. Many of the growers already ship their produce directly from the farms to the retailer or wholesaler by refrigerated trucks, thus bypassing that particular facility. Some also have private facilities close to their fields to chill produce.

While there are opportunities for alternative crops in Eastern North Carolina, it will be challenging. Anything that we are currently producing is already being produced somewhere else in the country and the markets are solid. If we develop a product around here, we need to develop some type of value-added dimension. We must also develop brand name and regional identification among consumers. We can produce snap beans, butterbeans, sweet corn and tomatoes in North Carolina, but we are not able to compete with Florida and California, with their extended seasons and existing markets. If farmers are to become successful with the crops they are currently growing, they must build their own local markets, such as farmers' markets, roadside stands and other regional outlets. There is also the risk of flooding regional markets, as there is limited local demand.

The following, then, is a brief review of recommendations based on study findings. The GTP should recruit a nationally known food processor to become a tenant at the facilities. The processor would be able to use cold storage space and the transportation networks, while improving marketing opportunities for the producers in the region. The GTP should also hire expertise in the area of business development, with an eye towards attracting value-added food processing activities. Furthermore, the GTP should recruit companies and carrier services that need overnight air service via the facility. The greater the volume of activity from non-agricultural cargo, the greater the opportunity for 'piggy-backing' certain agricultural products. The GTP should organize a task force, including such institutions as NC State University, the Department of Agriculture, the North Carolina Technological Development Authority, (TDA) and the Department of Commerce. The task force should be charged with producing a strategic plan for procuring state and federal government funding for various economic development (incubator, value-added) activities that will assist the producer/grower, rural communities, and the GTP.

The USDA Rural Business-Cooperative Service has the following mission statement: "to promote understanding and use of the cooperative form of business as a viable organizational option for marketing and distributing agricultural products." The Rural Business-Cooperative Service makes grants available under the Rural Business Enterprise Grants Program to public bodies, private nonprofit corporations and federally recognized tribal groups to finance and facilitate the development of small and emerging private enterprise activities (in this case value-added processing). Also, within the USDA Rural Business-Cooperative Service unit is the Rural Cooperative Development Grant Program (RCDG). RCDG grants are made for, "establishing and operating centers for cooperative development for the primary purpose of improving the economic condition of rural areas through the development of new cooperatives and improving operations of existing cooperatives."

Other recommendations emerging from the study include:

- Enter into a dialogue with the TDA to explore the potential for accessing funding for grower/producer value-added initiatives via their Rural Loan Program, which would link together with the GTP.
- GTP and other business enterprises along route 70 should lobby for an analysis of the highway, with the expressed intent to improve the flow of traffic.
- North Carolina State University should increase the number of fruit and vegetable enterprise activities and the frequency of their reporting.

The following are summary highlights of study conclusions:

- The state of North Carolina is endowed with strong human capital, has an important institutional infrastructure (North Carolina State University, State Department of Agriculture, Global Transpark), and has access to prime domestic markets (e.g., only 9.3 hours to New York City; 13 hours to Boston; and 15 hours to Toronto).
- The state produces a highly diversified basket of agricultural products.
- Demand analysis shows that many of our fruits (e.g., watermelons, cantaloupes and honey dew melons) and vegetables (bell peppers, sweet corn and snap beans) crops have strong consumer demand trends.
- North Carolina is able to compete in segments of the fresh fruit and vegetable market because of the significant transportation in the eastern United States.
- Some of the wholesale and retail sectors of the food industry perceive North Carolina as having very little product brand recognition other than hogs and turkeys.
- Analysis shows that the potential need for freezer space at Kinston may be limited if animal processing activities slow in the state.
- An issue faced not just by North Carolina, but the US in general, is foreign competition. There is the potential that foreign competitors will be able to leverage their lower costs for land and labor; the two countries to watch are Chile and Mexico.