Wholesale Marketing of Small Fruits for North Carolina's Small-Scale Farmers

A Feasibility Study Conducted for the North Carolina Rural Economic Development Center Inc.

Agricultural Advancement Consortium
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of Small Fruits
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Prepared January, 2008 by

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# Table of Contents

- **Executive Summary** .......................................................... 3
- **Introduction** ........................................................................ 4
- **North Carolina's Small-Scale Farmers** .................................. 4
- **Current Economic Outlook for North Carolina Small Fruit** .......... 8
  - Blueberries ....................................................................... 8
  - Strawberries .................................................................... 9
  - Blackberries .................................................................... 10
  - Raspberries ...................................................................... 12
  - Muscadine Grapes ............................................................ 14
- **Marketing Fruit through Wholesale Market Channels** .......... 15
- **A Window of Opportunity** .................................................. 15
- **Marriott International Inc. Outreach Program to Minority Farmers** 16
- **The Costs of Collaborative Marketing** ................................ 19
- **Farmers Facing the Barriers** ............................................ 20
- **Are Bargaining Associations Appropriate for North Carolina's Farmers?** 21
- **Collaborative Marketing Can Work: Bogue Sound Watermelon Growers** 22
- **Conclusions** ....................................................................... 23
- **References** ....................................................................... 25-26
Wholesale Marketing of Small Fruits for North Carolina’s Small-scale Farmers

Executive Summary

In 2005, executives of the Dole Food Corporation, the world’s largest marketer of fresh fruits and vegetables, announced their intention to build two produce processing plants in North Carolina. This announcement was widely heralded as a major benefit for North Carolina farmers. During the two years that have passed since that announcement, Dole officials have indicated that they currently have no plans to build the second of the two plants, the one designed to process and distribute small fruit along the eastern seaboard (Fillmore, 2007).

To address the potential benefits that might hypothetically accrue from such a facility to small-scale and limited-resource growers, a feasibility study was proposed by the North Carolina Rural Economic Development Center Inc., Agricultural Advancement Consortium. The Cooperative Extension Program at North Carolina A&T State University (A&T) was commissioned to examine the potential for small-scale, limited-resource and socially-disadvantaged farmers to supply, individually or collectively, such small fruit as blueberries, strawberries, blackberries, raspberries, and grapes, for a Dole Foods Inc. (Dole) processing facility in North Carolina. The A&T study also sought an identification of any needs these farmers may have regarding entry into the wholesale small fruit marketplace.

A review was conducted to investigate whether similar studies and/or projects have been conducted anywhere else in the United States. The review did not provide any meaningful examples of successful partnerships (win-win relationships) between small-scale growers and small fruit processors; however, information about supporting infrastructure, operational protocols, and formal/informal contractual agreements was collected from large growers with Dole and other wholesale partners.

Small fruit producers currently placing product in the wholesale market were identified and contacted to ascertain the nature of the relationship they held with fresh market buyers. Production practices and standards, general quality assurance and insurance needs, post-harvest handling protocols, “chain of custody” and food safety and security requirements were identified. Generally speaking, where relationships currently exist (primarily in the blueberry market), those relationships were considered to be mutually beneficial. Growers in this marketplace almost without exception could not be considered to be small-scale.

The capacity of North Carolina small-scale fruit growers to supply product for Dole or other wholesale buyers of small fruit was assessed through interviews and surveys directed to Cooperative Extension agents and North Carolina Department of Agriculture and Consumer Services marketing specialists. The general perception of these individuals was that the infrastructure and capital required, along with ownership or access to suitable land, proscribed most current small-scale producers from entering the small fruit wholesale marketplace.

Currently operating and successful small-scale grower cooperatives that either already supply or were thought to potentially be interested in supplying product were identified. Leaders of the cooperatives were asked for an informal appraisal of the feasibility of developing formally-organized or informally-structured cooperatives for delivering small fruit to the Dole facility. Though there was interest on the part of both leadership and membership of these organizations, the requirement that fruit be moved from the field to a cooling facility within 30 minutes of harvest, in effect stipulated that each member participating in a cooperative venture have refrigeration capacity on his or her respective farm.

The project staff conducted an infrastructure needs assessment. This needs assessment determined that additional public infrastructure and/or access to
capital to build private infrastructure would be required to make a coordinated effort to supply small fruit to the Dole-type facility. The required infrastructure would include cooling and other post-harvest handling facilities such as grading and packing lines and sheds, food security and safety protocols and mechanisms, shipping coordination, facilities and mechanisms, and bookkeeping and other administrative support.

While it is clear that the Dole Foods processing plants can create a significant market for North Carolina producers, it is unclear which North Carolina farmers will be able to gain access to this market. The frequent assertion from Dole representatives that they are looking for the “highest quality at the lowest price” creates a set of requirements that will be difficult for many North Carolina farmers to fulfill. This publication seeks to answer the question of whether or not small-scale producers can access this market, and what assistance will be necessary to assist them in this process.

Introduction

In 2005, the Dole Food Corporation, the world’s largest marketer of fresh fruits and vegetables, announced their intention to build two produce processing plants in North Carolina. While it is clear that the Dole Foods processing plants can create a significant market for North Carolina producers, it is unclear which North Carolina farmers will be able to gain access to this market. The frequent assertion from Dole representatives that they are looking for the “highest quality at the lowest price” creates a set of requirements that will be difficult for many North Carolina farmers, especially small-scale producers, to fulfill. This publication seeks to answer the question of whether or not small-scale producers can access this market, and what assistance will be necessary to assist them in this process.

Michael Porter, professor at the Harvard business school, points out in his book “The Competitive Advantage of Nations” that there are two ways to be competitive in the modern economy: by being the lowest cost producer of a commodity, or by providing the market with a differentiated product with superior value in terms of product quality, special features or after-sale service. Agricultural development initiatives such as the Dole Foods processing plants certainly fit into the former category. Many small-scale farmers are often best suited to the latter category, as their proximity to markets, ability to manage for specific quality or other criteria, and in doing so must coordinate between farms in ways that large-scale operations coordinate within a single entity to make sure that production matches the market. They must also provide the infrastructure necessary to handle the harvest, cooling, storage and delivery of their product; demands that are often beyond the means of a single small-scale producer. And the financing of this supporting structure must come at the lowest possible price. Meeting these requirements is a major challenge, one that requires significant commitments on the part of farmers. Purchasers may or may not be willing to share in the financial burden. Although the Dole announcement creates an impetus for us to address these issues, any agricultural economic development initiative that follows the commodity model will provide similar challenges, and require similar remedies.

North Carolina’s Small-Scale Farmers

North Carolina agriculture is in transition. Changing federal farm programs and global economic conditions are leading to a rapid readjustment in the structure of agriculture in our state. Crops like peanuts and tobacco that once provided North Carolina farmers with a reliable income on small acreage are no longer viable for most modest-sized farming operations. Farmers in Africa, Asia, and South America, are competing in the same markets as North Carolina farmers, but with much lower land and labor costs.

North Carolina has historically supported a relatively large number of small- and medium-scale farming operations. In 1997, the average North Carolina flue-cured tobacco farmer grew just 27 acres of tobacco. In that same year, North Carolina took in almost $1.3 billion of tobacco income distributed among some 12,000 farmers. In 2005, the first year after the tobacco buyout, North Carolina grew just $460 million worth of tobacco—a $900 million decline in income to farmers in just seven years. However, with deregulation, by 2007 that number had increased to $587 million. At the same time, however, the number of farmers growing tobacco decreased dramatically, to less than 250. Although the actual value of tobacco produced in North Carolina will continue to fluctuate in the coming years, the number of farmers growing tobacco will only decrease. Experts estimate the current number of tobacco farmers in North Carolina at between 2,000 and 3,000 growers. Thousands of former tobacco farmers are looking for new income sources in order to maintain the standard of living that they had in 1997.

Most agricultural commodities are low-margin, requiring farmers to tend large acreage in order to earn a living. Although getting bigger is a viable strategy for some farmers, getting bigger is not an option for the majority of North Carolina producers. Suburban encroachment and rural housing developments, along with fierce competition for land among farmers, means that land resources are limited. The majority of North Carolina farmers cannot simply expand their way out of the current predicament.

New crops that are potentially profitable on small acreage are much needed in North Carolina. On the surface, wild fruits and vegetables, such as strawberries, blueberries, brambles, muscadine grapes, etc., have a potential role in sustaining some of North Carolina’s modest-scale farming operations. Although carrying more risk than crops like peanuts and tobacco, small-fruit crops have the potential to yield the high per-acre returns necessary for small-scale farmers to survive. The challenge for small-scale producers is in developing the quality control and marketing infrastructure necessary to access these markets while maintaining profitability.

The total number of farms in North Carolina decreased from 59,120 in 1997 to 53,930 in 2002. Of these totals, farms with harvested cropland comprised 36,622 farms (67.9% of all farms and 47.5% of total cropland) in 2002, down from 43,225 farms in 1997. Most of these farms produced $22.6 million worth of agricultural products.

Almost two out of three North Carolina farms produced less than $10,000 worth of agricultural products in 2002. The total number of farms producing less than $250,000 worth of agricultural products (the criteria for the USDA “small farm” classification) was 47,769 (88.7 percent of total farms). However, these farms produced only 12.3 percent of the total value of North Carolina agricultural products.

The number of farms producing fruits, tree nuts, and berries totaled 1,376 farms (3.8 percent of farms producing crops), and these farms generated $55.8 million worth of fruit (2.8 percent of total value of crops harvested in North Carolina). According to the Census of Agriculture, in 2002 there were:

- 130 farms producing 125 acres of blackberries in North Carolina, an increase by approximately 25 percent between 1997 and 2002.
- 267 farms producing 5,009 acres of blueberries in North Carolina, down by 34.2% of the 310 farms in 2002.

- 5,925 farms (11.0 percent of total farms) had sales from $5,000 to $9,999, and these farms produced $41.3 million worth of agricultural products.
- More than 50 percent of farm operators list their principal occupation as something other than farming.
- 37 percent of operators work more than 200 days off the farm.
- 28 percent of farms have buildings and lands valued at less than $100,000 (NASS, 2002).

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were eight farms were reported to be producing blueberries on 741 acres.

- 279 farms producing 991 acres of strawberries in North Carolina (in 2007 acreage is reported to be 1,800 acres).
- 57 farms produced 70 acres of raspberries in North Carolina (10 farms in Madison County accounted for six acres of production).

As an historically black university and an 1890 land grant institution, N.C. A&T State University has traditionally focused on the African-American farmers in North Carolina. The Cooperative Extension Program at N.C. A&T has developed many strong relationships with community-based organizations to improve the quality of life for black farmers and farm families. The low participation of African Americans in farm businesses is troubling. In 2002, there were 1,586 black (non-white) farmers on 157,777 acres. In the last 25 years, the population of black farmers has decreased by approximately 50 percent. In the 10-year period from 1987 to 1997, black farm operators younger than 25 decreased from 21 to 6, and black operators 25 to 34 years of age decreased from 204 to 90.

More than 50 percent of black farm operators reported less than $5,000 in market value of products sold (incapitaland payments). There were 281 farms classified as tobacco farms. Also, 209 farms were less than 10 acres in size, and 219 were between 10 and 49 acres in size. Less than 10 percent of principal farm enterprises reported by black farmers in 2002 could be classified as specialty crop (fruits, vegetables, nurseries) enterprises. In terms of total farms, this would represent only 168 farms. Only 33 percent of black farmers (562) in North Carolina participated in USDA programs. This segment of the farm population will benefit from a more profitable crop mix that includes small fruit, but would need substantial involvement with a USDA Farm Service Agency (or other farm lenders) to acquire the initial capital investment and other resources, and minorities are increasingly represented.

The 2002 Census of Agriculture (USDA, 2002) reports 780 Hispanic farmers in North Carolina (though this number is highly criticized as being overstated). In 2002, 308 farms reported income of less than $10,000, and 282 farms were less than 5 acres in size. A large concentration of the Hispanic farm population is found in Sampson, Duplin and Wayne counties (over 28,000 acres) with a smaller concentration found in the mountain region (Alexander, Ashe, Avery and Watauga counties). Farms income on 258 of the Hispanic-operated farms in the state was less than $5,000, with an additional 50 farms reporting farm income between $5,000 and $10,000. Tobacco farming was the principal farm enterprise at 70 farms, and 40 operators reported vegetable production as the principal farming enterprise. More than one-third of the farms were primarily livestock operations.

According to the 2002 census, 100,524 acres and 612 farms in North Carolina are operated by Native Americans. The vast majority of the acres (71,555) are farmed by 310 Lumbee Native Americans in the Robeson/Columbus Counties region. In the mountains of North Carolina, there are 2,131 acres in Swain County farmed by members of the Cherokee Tribe. Almost 50 percent of these farming operations had farm income of less than $5,000, and an additional 102 operators had farm income of less than $25,000. Sixty farms were less than 10 acres. Only 17 farm operators reported farm income from vegetable crop enterprises while 67 reported income from tobacco production and 93 from grain production. With the Tobacco Buyout, tobacco producers can expect to exit the market and are receptive to new farm enterprises to replace lost tobacco income. Grain producers face consistently low returns on acreage farmed and would benefit from a more profitable crop mix.

Farmers of Asian origin are on the increase in North Carolina. The number of farm operators increased from 52 to 95 from 1997 to 2002. There were 8,062 acres of fruit and vegetable production in 2002, and 25 percent of these farms are located in Stanly County, where a concentration of Hmong and other Southeast Asian immigrants have found new homes. Lenoir County also has a high Hmong population with the potential for farming. These are small farms, for the most part, and farm income for 40 of these farms is below $5,000 per year. However, 67 of these farms were 10 acres to 49 acres in size. This suggests that there is much room for enhancement of farm income for this audience.

“The Future of Agriculture, Natural Resources and Community Development Extension Programs in North Carolina” is a 2002 Agriculture and Natural Resources and Community Development report generated from a summit of North Carolina Extension professionals. The report notes that “while traditional North Carolina agricultural enterprises are becoming larger and more technologically complex, more and more people are moving to urban fringes to begin farming enterprises and this will add to an already significant number of existing, limited-resource small farms.” Women, retirees, people who have never farmed, people with limited resources, and minorities are increasingly represented.

The implication of this assessment is that entry into farming for beginning farmers include: 1) inability to acquire the initial capital investment; 2) insufficient farm-enterprise strategies; and 3) inadequate access to appropriate financial, managerial, and production assistance.

Studies supported by Economic Research Service (ERS 2001) and other researchers (O’Sullivan, 2000) have been successful at describing the problem of the “aging out” small farmer, but no comprehensive strategy has been developed or implemented to attract young people to careers in farming. Although the issues surrounding this phenomenon are applicable to farmers of all races, the trans-generational transfer of the farm is especially important. This is related to the economics of land ownership, patriarchal, and economic opportunity. Like their white counterparts, younger African-American professionals do not seem to be interested in farming as a lifestyle. But, unlike their white counterparts, small farms may represent a greater opportunity for economic success if young African Americans would give agriculture production more consideration as a career and a way of life (D’Sullivan, 2000).

In their 1998 “A Time to Act” report, the National Commission on Small Farms outlined eight policy goals for a national strategy for small farms. Among those policy goals was Policy Goal 5, which was to “Establish future generations of farmers.” The report says that to make this happen, the USDA should launch an interagency ‘Beginning Farmer Initiative’ dedicated to researching, developing, and disseminating farm management models that emphasize low-capital investment, optimal use of skilled labor and management potential of beginning farmers, and high-value crop and livestock production and marketing methods.

The National Commission on Small Farms also recommended that, “USDA develop a new Beginning Farmer Development Program to support the establishment of multiple beginning-farmer training and assistance centers throughout the country.” The centers should be formed as collaborations among community-based organizations, in particular, the farm link programs of the National Farm Transition Network, land-grant universities, philanthropic foundations, and private sector organizations, such as banks and agricultural cooperatives. These centers would provide direct training in all aspects of farm management, and provide long-term support through mentoring programs with existing farmers and among peers.

The implication of this assessment is that entry into the farming business by underserved and limited-resource individuals to profitable, diversified, and sustainable crop systems will necessitate the existence of a well-developed infrastructure of support. But the current barriers that these new events are significant. A primary challenge is the inability to acquire the initial capital investment and other financial information and assistance. Underserved, beginning farmers are not familiar with or aware.
of, hence do not utilize, United States Department of Agriculture (USDA) programs provided by Risk Management (RMA), Farm Services (FSA), Natural Resources Conservation Service (NRCS), and other agencies. These programs could contribute to the success of new farm enterprises. But equally important is access to appropriate farm management and production education and assistance. Inadequate access to information can be addressed through a “Farm Beginnings” project. An outreach program for underserved, socially disadvantaged, limited-resource and/or beginning farmers can be developed to address the production and marketing of high value crops (such as small fruits) with environmentally sensitive management practices. It can create awareness of useful and available USDA programs, and provide training in financial management for beginning farmers, helping to increase farm income. An educational program that also addresses new-enterprise opportunities and production technologies will contribute to a viable livelihood for socially disadvantaged, beginning farmers, providing the needed income and wherewithal to produce on small acreage and keep rural farm communities viable.

Current Economic Outlook for North Carolina Small Fruit

BLUEBERRIES

According to the 2002 Census of Agriculture (NASS, 2002), there are 267 blueberry farms and 5,009 acres of blueberries produced in North Carolina. Currently, blueberry producers who have established plantings on good blueberry soils with irrigation are doing quite well. The following information regarding enterprise budgets is taken from the publication “Evaluating the Profitability of Blueberry Production” (Safley et al., 2006). Terminal market prices for fresh product are shown in Table 1.

Although establishment costs are quite high for blueberry acreage, yields after eight years (the break-even year) are approximately 8,000 pounds per acre (lb/ac) and net return to growers is in the neighborhood of $3,500 per acre per year (when blueberries are grown on suitable soils with irrigation). The net return decreases with: 1) lack of irrigation on suitable soils ($2,300 for 5000 lb/ac); 2) irrigation on marginal soils ($2,500 for 6000 lb/ac); and 3) lack of irrigation on marginal soils ($0 on 3,000 lb/ac), respectively.

The harvest season is assumed to last 11 weeks, starting the last week of May and continuing through the first week of August. Marketing obviously bears a cost that varies considerably depending on the marketing system growers decide to use. The revenues and marketing costs presented in the Safley document were calculated assuming that farmers will try to sell as much as possible in the fresh market; however fresh market opportunities are somewhat limited. It was assumed, therefore, that 80 percent of berries were sold fresh at $14.11 per flat (156.8 cents per pound) and 18 percent of the berries were sold for processing at 60 cents per pound and 2 percent of the projected yield was an economic loss.

Farmers establishing new blueberry plantings will experience net outflows of cash during the first three years of establishment. Some fruit is harvested during the third year but not enough to cover the costs of planting maintenance and building construction. The income streams are positive for production on good soil after the third year and after the fourth year on marginal soil.

The payback year or break-even year is an important consideration in arranging financing. Farmers must secure loans that cover the period in which the enterprise operates in a deficit cash position. Only during the break-even year will enough revenues have been generated to cover start-up expenses. The projected break even year for blueberry production on good soil with irrigation was in the eighth year while the break-even year for production on good soil without irrigation and on marginal soil with irrigation was projected to occur in the ninth and 10th years, respectively. The projected accumulated cash flow for the blueberry planting on marginal soil where no irrigation was used was never positive.

The length of the break-even period and extent of the capital required to establish a blueberry planting will obviously affect the willingness of small-scale growers to begin a blueberry enterprise. Uncertainty related to “expected” prices paid in the fresh and processing market after three (negative cash flow) and eight years (break even) makes the decision to invest a difficult one. Based on conversations with growers currently producing for the fresh market, there is little if any interest on the part of growers to plant additional acreage destined for the processing market. In the ninth year, the difference between fresh and processing market prices for blueberries was $4.00 per pound but there is little if any interest on the part of growers to plant additional acreage destined for the processing market. Growing blueberries for the processing market is an economic loss.

TABLE 1

<table>
<thead>
<tr>
<th>2006 Blueberry Prices (¢ per pound)</th>
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<tbody>
<tr>
<td>North Carolina Growing Season</td>
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<tr>
<td>Average Price</td>
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<tr>
<td>April</td>
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<td>May</td>
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<td>June</td>
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<tr>
<td>July</td>
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<td>August</td>
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STRAWBERRIES

North Carolina ranks fourth in the nation in strawberry production with approximately 1,800 acres of strawberries harvested each year (NCDARCS, 2007). Acreage has approximately doubled since the 2002 Census of Agriculture reported 991 acres in production. Approximately 10 percent of the strawberry crop is produced for the wholesale market. North Carolina strawberry shippers supply local grocery stores, restaurants, as well as local and regional farmers markets. According to the strawberry Extension Specialist at N.C. State University, the structure of the current strawberry industry is not amenable for shipping fresh product to other states. The cultivars are not right and the season is too short. Currently, there are no major strawberry processors in North Carolina, nor are there expected to be any strawberry processors coming to the state for the same reasons listed previously (Terminal markets and the calendar period during which strawberries are harvested in North Carolina are shown in Table 2.) The majority of the nation’s strawberry crop is produced by a limited number of grower-shippers in California, where the production season lasts as long as 10 months. With the majority of the nation’s fresh market strawberries grown there, it makes economic sense for processing facilities to be located in California. As a result, California processes more than 80 percent of the fresh market and processed strawberries grown in the United States on about 50 percent of the country’s strawberry acreage. Bearing strawberries are grown on approximately 22,000 acres to 25,000 acres per year in California, and average production is 1.5 billion pounds, with an estimated annual value of $750,000,000. Approximately 73 percent of the strawberry crop is produced for fresh market and about 27 percent of the crop is processed (ERS, 2007).

Strawberry prices have, as in the blueberry industry, risen gradually during the past two decades and are now approximately 40 percent higher than in 1980. The aggregate strawberry price rise is accounted for entirely by increases in fresh-market prices because, with the exception of cyclical variations, processed strawberry prices have been flat. As fresh-market demand has shifted strongly rightward, input and productivity growth in strawberry farming, handling, and transportation have not been able to keep pace. In contrast, the same productivity growth in quick-freezing and refrigerated transportation technology that have helped moderate frozen raspberry and blueberry prices have not come so far for frozen and other processed strawberry prices. Thus, rising relative demand for fresh strawberries is being matched by rising fresh-market prices relative to processed strawberry prices (Buccola and Gopinath, 2004).
Therefore, most of the strawberries produced in North Carolina find their way into the fresh market. By far and away, the majority of the fresh market strawberries are sold into local, retail markets, in particular to “pick your own” (PYO), roadside stand and farmers market customers. Consequently, growers contemplating the start-up of a strawberry enterprise would serve themselves best by investigating demand for strawberries in the immediate vicinity of their farm, municipality or county.

A recent publication, “Producing and Marketing Strawberries for Direct Market Operations” (Saefley et al., 2004), provides an enterprise budget for the retail strawberry producer. Based on the analysis described in this report, a North Carolina grower can expect to spend about $13,540 per acre, per year for strawberries produced using standard practices for an annual plasticulture production system. Almost two thirds of this cost is incurred before the strawberries are ready for harvest. Therefore, considerable cash flow must be generated from loans or savings to establish and manage the crop until harvest.

Depending on personal resources and/or availability of capital, small-scale growers may of necessity begin strawberry enterprises on relatively small acreages. This is certainly the case for limited-resource growers. To achieve a scale of production that would present a favorable situation for entry into the wholesale marketplace would require an investment that would be beyond most small-scale growers’ means. As noted elsewhere in this report, there may be opportunities for growers to form cooperatives to produce economies of scale sufficient to enter wholesale markets. However, as also reported before, there remain obstacles related to the juxta-position of required infrastructure, in particular packing and cooling facilities.

Given a favorable demand pattern and with the costs of production considered, a net revenue analysis reveals that a grower would have to charge at least $0.85 and $1.40 per pound for PYO and fruit-stand berries, respectively, and sell a minimum of 12,000 pounds of strawberries per acre simply to cover the estimated costs. Break-even analysis also indicates that a grower would have to sell a minimum of 15,041 pounds of berries per acre at the lowest combination of direct-market prices considered in this report, and at least 10,622 pounds per acre at the highest prices to cover total expenses.

Furthermore, based on the consumer interviews undertaken for this analysis, a grower can expect to sell an average of 11.6 pounds of berries to each PYO customer and an average of 7.1 pounds to each customer who visits the fruit stand. Under these assumptions, the break-even marketable yield of 15,041 pounds per acre translates into a requirement to sell berries to at least 1,572 customers per acre of strawberries sold at the lowest combination of prices. In contrast, when the highest prices are charged, a break-even marketable yield of 10,622 pounds per acre translates to a minimum of 1,110 customers per acre.

**BLACKBERRIES**

The 2002 Census of Agriculture reported that there were 130 blackberry farms and 125 acres in production in that year. One can see from this data that the typical blackberry enterprise can be classified as “small-scale.”

In response to an anticipated growth in the commercial blackberry industry in North Carolina, an enterprise budget was developed (Saefley and Fernandez, 2006) that describes the costs associated with growing, harvesting and marketing 10 acres of blackberries. (Terminal market prices for fresh product are shown in Table 2.)

Saefley and Fernandez (2006) prepared an enterprise budget for blackberries. Costs to establish blackberries (field preparation and establishment) were $8,810 per acre or $88,100 for 10 acres. In addition, a new grower could spend an average of $12,768 per acre ($127,680 for 10 acres) for additional equipment, machinery and cooling facilities required for the production and proper post-harvest handling of the berries. The total cost of producing, harvesting and marketing the blackberries was estimated to be $18,915 per acre with a marketable yield of 2,000 flats per acre (9,000 lbs./acre) in the third and subsequent years of production.

Blackberries may be a crop which is appropriate for small-scale growers who are interested in selling into the wholesale market. Although demand from retail customers exists, interest in PYO as a point-of-purchase sales volume is expected to be somewhat modest. Blackberries are harvested in mid-summer when field environmental conditions can be unpleasant. Retail customers typically purchase product for immediate consumption, and product quality declines quickly after purchase.

Although the investment is sizeable, the crop comes into full production in the third year. The budget analysis showed that if growers receive a wholesale price of $14 per flat they would receive a return to land and management of $9,085 per acre for the third through tenth years with a marketable yield of 9,000 pounds per acre. The annual net cash flow is positive after the planting is established and enough revenues are projected to be generated to cover start-up expenses in the fourth year. This economic projection represents risk and a need for access to capital, but lenders such as the USDA Farm Services Agency may be willing to loan capital if a grower or cooperative of growers develops a good business plan.

The need for infrastructure remains. However, one wholesale buyer indicated in an interview that he was looking for and willing to sign contracts with growers who had plantings of only five acres of blackberries. In addition, a five-acre enterprise could include cultivars maturing sequentially over an extended period. These factors decrease the investment in packing and cooling infrastructure that would be required at an individual farm operation. If growers worked together collaboratively, however, there would remain a need for each to have his or her own cooling facility or to produce berries no farther than 30 minutes distance from the coop cooler.

Access to labor to harvest the crop may be an issue for small producers or for producers who do not have other enterprises requiring farm labor. Labor is the greatest expense category after blackberry plantings start producing fruit, totaling $10,966 per acre when full production is reached in the third year.

Net revenues for wholesale market prices and yields were estimated assuming...

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**Table 2**

<table>
<thead>
<tr>
<th>Table 2</th>
<th>2006 Fresh Market Strawberry Prices at three terminal markets</th>
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<tbody>
<tr>
<td></td>
<td>North Carolina Growing Season Apr. 15 through May 31</td>
</tr>
<tr>
<td>AVG PRICE</td>
<td>SAN FRANCISCO</td>
</tr>
<tr>
<td>0.85</td>
<td>1.40</td>
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**Table 3**

<table>
<thead>
<tr>
<th>Table 3</th>
<th>2006 Blackberry Prices at three terminal markets</th>
</tr>
</thead>
<tbody>
<tr>
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<td>North Carolina Growing Season Apr. 15 through Aug.</td>
</tr>
<tr>
<td>Average</td>
<td>Alta (Alb)</td>
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<tr>
<td>6.00</td>
<td>6.00</td>
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<tr>
<td>6.00</td>
<td>6.00</td>
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</tbody>
</table>

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**Source:** USDA
80 percent of the marketable fruit would be sold to wholesale markets. The budget includes costs often ignored by growers such as overhead costs, fixed labor costs, and the costs of owning equipment and machinery (excluding depreciation). Therefore, the authors of the enterprise budget feel it depicts a realistic picture of the costs associated with producing, harvesting, and marketing blackberries. Despite these additional costs, the authors feel that wholesale blackberry production in North Carolina using recommended practices can be a profitable venture.

The authors also recommended that growers develop a marketing plan and have a marketing strategy before investing in a commercial blackberry operation. Production of high value produce is a risky business and the risk increases without a stable market outlet for the fruit. In extreme cases, growers have experienced financial losses when they were not able to find a suitable market outlet and/or when they did not meet the buyer’s expectations.

RASPBERRIES

According to the Census of Agriculture, there were 4,521 farms in 46 states that produced raspberries in 2002. Although production occurs across much of the country, most of it is concentrated in Washington, California and Oregon. These three states had the largest acreage devoted to raspberry production in 2002, and together accounted for 80 percent of the U.S. total (NASS, 2006).

Raspberry production in Washington and Oregon is heavily geared toward the processing sector. An average of 96 percent of Washington’s red raspberry production was marketed to processors over the last five years (2001-2005) while in Oregon, this share averaged 90 percent of the state’s combined red and black raspberry output. The National Agricultural Statistics Service (NASS) does not break down California’s production into fresh market and processing; however, approximately 95 percent of its raspberry crop is sold in the fresh market, according to a farm advisor at the University of California-Davis. Under this assumption, it is estimated that California growers produced about 78.4 million pounds of raspberries for the fresh market in 2005 and approximately 4.12 million pounds for the processing sector. In the same year, processing production totaled 68.9 million pounds of red raspberries in Washington and 10.1 million pounds of both red and black raspberries in Oregon. By far, Washington remains the top supplier of raspberries for processing in the United States, accounting for an estimated over 80 percent of total processing volume. Oregon ranks second, accounting for over 10 percent.

In California, the season-average grower price for raspberries reported by NASS is heavily geared toward the fresh market because a majority of the crop goes to this market. Grower prices have also remained volatile over the last several years. Producer response to strong market demand is indicated by increases in harvested acreage in recent years. Coinciding with the acreage expansion are high grower prices, averaging $2 per pound, and increased processing production, particularly in 2000 and 2004. Generally, prices received by growers for fresh-market raspberries are almost always at a premium over the berries for processing.

In Oregon, prices for fresh market red raspberries averaged more than double the prices for processing berries during 2001 to 2005, while in Washington fresh-market prices were more than three times higher. Partially contributing to this situation is the higher value in the fresh market. The higher harvesting and marketing costs associated with hand picking the delicate berries and packaging most of them in retail-sized containers.

Because raspberries require relatively cool summers, commercial production is not widely adapted for conditions in the southern United States, where summers are typically hot and often humid. In 2002, acreage in the southern United States was less than 1 percent of national production. Raspberry production, for all practical purposes, is limited to western North Carolina, eastern Kentucky, and total costs for land preparation and establishment of one acre of raspberries is approximately $3,800.

The crop is expected to be fully mature in its fourth year and harvest costs add substantially to the cost of production if berries are harvested by hired labor. Production costs in that year are approximately $9,600 and costs related to harvesting (lab, flats, packaging) comprise $8,200 of that total. The budget indicates that the annual return to a grower, above total costs, will depend upon various price and yield combinations. Returns (excluding costs related to harvest) are shown in Table 5. These are returns to a PYO operator.

<table>
<thead>
<tr>
<th>Price ($/lb)</th>
<th>2.000 lbs/ac</th>
<th>3.500 lbs/ac</th>
<th>5.000 lbs/ac</th>
<th>6.000 lbs/ac</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0.60</td>
<td>$1,200</td>
<td>$2,100</td>
<td>$3,000</td>
<td>$3,900</td>
</tr>
<tr>
<td>$1.00</td>
<td>$2,000</td>
<td>$3,500</td>
<td>$5,000</td>
<td>$6,500</td>
</tr>
<tr>
<td>$1.40</td>
<td>$2,800</td>
<td>$4,900</td>
<td>$7,000</td>
<td>$9,100</td>
</tr>
<tr>
<td>$1.80</td>
<td>$3,600</td>
<td>$6,300</td>
<td>$9,000</td>
<td>$11,700</td>
</tr>
<tr>
<td>$2.20</td>
<td>$4,400</td>
<td>$7,700</td>
<td>$11,000</td>
<td>$14,300</td>
</tr>
</tbody>
</table>

The annual returns and total costs for a retail grower who hand-harvests the crop directly into half-pint containers and flats (berries in half-pint clamshell, weighing 5 ounces) are shown in Table 6. O’Dell (2002) reported that raspberry growers in Pennsylvania, West Virginia and northern Virginia retail fresh-picked berries at $3 to $4 per pint at that time. PYO raspberry growers in this same region obtained $2 per pint, while grocery stores were selling half pints for $2.50.
Virginia Tech has an enterprise budget for red raspberry production for the wholesale market that was prepared in 1999. Average net return per year over an 8-year period is $6,499. The enterprise is net positive (cumulative returns) in the second year of production.

In a study conducted in Ohio (Junt et al., 2007) estimated costs and returns over 12 years were used to determine the price that growers would need to make a profit or positive return on their investment. Growers need to compare different production systems and marketing options before they make a high investment. They must consider the biologi- cal factors as much as the economical projections. In this study, PYO “Heritage” fall-bearing systems had the lowest annual cost and can be profitable for most growers at $1.20 to $1.40 per pound. June-bearing systems require $1.50 to $1.70 per pound for PYO marketing if they produce an average of 2,000 pounds per acre. Hand-harvested berries require $1 to $1.10 more than the PYO selling price to have an equal rate of return.

MUSCADINE GRAPES

Because of the growing interests in “Superfoods,” there has been an increase in the number of acres devoted to fresh market muscadine grape production in North Carolina. There is still consider- ably more production of muscadines for the wine and juice market than for the fresh market, but the high level of antioxidants in the table grape has raised the interest of growers and consum- ers alike. Studies have shown that the product and its byproducts have tremendous health benefits. Muscadine seeds are higher in resveratrol, ellagic acid, and total antioxidants than any other fruit analyzed, according to several researchers, includ- ing those at the University of Georgia. Unfortu- nately, current cultivars have tough skins and seeds, which makes them difficult to process into high-quality products for the table grape market (Carpio, et al., 2006).

An enterprise budget for muscadine grapes grown on a single wire trellis with drip irrigation was prepared by Carpio, et al. (2006). While the budget is for muscadine grapes grown for wine and juice, the author indicates that a few minor “tweaks” would give potential growers an indication of approximate profitability for muscadines grown for the fresh market (Safley, personal communication). The au- thor is currently preparing a fresh market budget.

As with other small fruit, there may be opportuni- ties for small-scale growers to enter the fresh market for muscadines. A wholesale buyer of small fruit for Dole Foods indicated in a recent interview that his company was interested in contracting with growers to supply organically certified muscadines for shipping to population centers along the East Coast. He indicated that he was interested in con- tacting growers who had as few as five acres in production. Potential growers may also want to consider a cooperative arrangement with other producers to achieve an economy of scale appropriate to sup- ply wholesale buyers. However, the grapes have to be refrigerated immediately after picking. Vendors check product temperature when it arrives in dis- trict centers and grapes must be 34 degrees to 37 degrees Fahrenheit in the center of the berry or the shipment will be rejected. Consequently, coop- erating growers must have their own refrigeration systems to take field heat out of the product within 30 minutes of harvest, or be located near others who have such systems (Fisk, 2007).

Marketing Fruit through Wholesale Market Channels

A ccess to wholesale markets provides a series of challenges to small-scale producers. Large wholesale distributors are at a disadvantage that farmers provide consistent quality and quantity of product at globally competitive prices. In order to success- fully compete in wholesale markets, farmers must have the proper facilities and equipment, and pos- sess appropriate production and marketing skills.

A wholesale marketing chain is made up of produc- ers, transporters, warehouses, marketers, distribu- tors, retailers and consumers. Coordination of a wholesale marketing funnel is a complicated task that is simplified by minimizing the number of enti- ties that make up each link in the chain. To simplify logistics (and keep costs low), wholesale distributors prefer to work with a few large-volume producers who can supply a significant portion of the product that the distributors need.

This system has been effective in getting low-priced food to the consumer, but it is not ideally suited to small-scale producers. For instance, while straw- berry production and consumption have increased steadily in the United States over the past decade, the number of strawberry growers has declined (ERS, 2005) as berries are sourced from larger and larger producers. One blackberry producer who we interviewed indicated that his buyer would not take less than pallet quantities of product. When he was unable to produce a full pallet, his only option was to “dump” his product at a very low price to an- other grower whose main product was affecting his bottom line. There is seemingly little room for the small-scale producer to fit into a wholesale marketing chain.

Trends in the fruit-production industry reflect this fact. Consolidation is the norm. The majority of the small-fruits production in the U.S. happens on a relatively small number of large farms. Right now in the United States, 4 percent of all strawberry growers produce 60 percent of all strawberries (ERS, 2005). North Carolina, the fourth largest strawberry producing state in the United States, produces less than 1 percent of the berry crop. The distribution industry is similarly consolidated. In California, five grower-shippers and cooperatives are estimated to market more than 50 percent of the strawberry crop (Cook, 2002). Shippers operate primarily in areas with large-scale, concentrated berry produc- tion. North Carolina has a successful and developed wholesale blueberry industry, but North Carolina farmers have relatively few marketing options for most small-fruits crops. Because wholesale market chains favor large-scale entities, small-scale berry producers may want to consider a cooperative arrangement in gaining a share of the wholesale market.

A Window of Opportunity

D espite the trends, under the right conditions wholesale marketing can be suitable supple- ment for small-scale growers. One farmer explained, “If a grower has a nice local market and wants to supplement it with [wholesale] sales, it can be done.” Fresh market production for many berry crops has trended upwards in recent years (ERS, 2005). Our data indicate that prices are above cost of production for many small-fruits crops and that per acre profitability for these crops shows potential to greatly exceed many other agricultural commodities. Demand for many small fruits is only expected to increase as consumers recognize the health benefits of the products.

The window of opportunity for producers to take advantage of market conditions is not without limits. Prices have been strong in recent years for small-scale fruit products, largely because of strong demand. In a globally competitive market, producers will begin to fill this market opportunity through increased supply, which should lead to price stabilization and, perhaps, decline. Industry sources project a glut in the market for some small fruits in the very near future. North Carolina farm- ers who require high-marginal returns and a high degree of control over supply have the potential for greater profitability if they can capture the opportunity in which to take advantage of current market conditions. However, it is difficult to know exactly how long that window will remain open.
Marriott International Inc. Outreach Program to Minority Farmers

One strategy that has been used by small-scale farmers to compete with larger operations is collaborative marketing with similar scale operations. By combining the production of multiple small farms, collaborative efforts can be more attractive to buyers looking for one-stop shopping and can help collaborating farmers to reap some of the benefits of increased scale. Collaboration enables small-scale growers to reduce individual risk exposure through shared investment in infrastructure, and by collaborating small-scale farmers can better meet the volume needs of large wholesale operations.

In 2004, Marriott International Inc. launched a program to assist minority farmers to sell more food to the hotel industry. Marriott has attempted to facilitate the marketing of products to its hotel chains by limited-resource, minority farmers by building relationships between farmers and the large wholesale buyers that sell to Marriott. Working with various farm service providers, Marriott also offers classes to minority farmers focusing on the company’s food safety and appearance requirements, advanced farming techniques, and development of relationships with distributors.

The Marriott agreement is informative in that it provides an example of how small-scale farmers can work together to service a large-scale market. By providing a positive marketing climate for minority growers, Marriott created an opportunity for small-scale, minority farmers to develop collective sales. We talked to representatives of a North Carolina-based farmer organization currently selling produce through the Marriott arrangement and we also talked to one of the large, wholesale producers who helps Marriott hotels about how the arrangement is working for them.

The grower group comprises 10 farmers who each harvest between 10 acres and 130 acres of produce. To sell through the group, farmers must maintain their product to a centralized packing shed, owned collectively by the group and financed through a variety of sources including public grants. The packing facility houses grading, washing, cooling, and cold-storage equipment. Some products are field packed, but others are graded and packed at the packing shed. Trained employees of the grower group verify the quality of products as they come into the shed. All produce is cooled and stored at the shed. Most products are put into wax boxes, palletized, shrink-wrapped and shipped in a refrigerated truck. Growers pay a 15 percent fee for trucking, cooling, storage, handling, and marketing of produce.

Marketing the products is handled by a farmer representative of the group who contacts the buyer at an appointed time each week. The farmers predict their product availability two weeks in advance of harvest. That availability is conveyed by the farmer representative to the buyer, and orders are relayed back to the individual farmers. Prices are sometimes set by the market price at the time the order is placed. Other times, prices are determined by market price at delivery. The buyer decides when to offer a price. The growers have no ability to negotiate a price, which is set entirely at the discretion of the buyer.

This collaborative effort experienced many setbacks. Production did not always match with demand. Production and harvest schedules were, at times, inconsistent. Quality control was poor at the start, as the growers did not have the entire necessary infrastructure in place prior to starting their initiative, but improved infrastructure was put in place in the early stages and gained experience with quality expectations. Capital for start-up and operating was not available. Perhaps most importantly, not enough time was allocated to project coordination, meaning that growers and buyers were not always fully informed or matching needs.

The parties interviewed agreed that there are several key components that must be in place for the collaborative to succeed:

1. Regular communication between producers and buyers
2. Quality control and food safety assurances
3. Strong prices
4. Adequate production, harvest, and post-harvest infrastructure
5. Sufficient start-up capital
6. Technical production assistance
7. Marketing
8. Adequate transportation
9. Adequate, post-harvest infrastructure
10. Adequate personnel
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adequate quality control measures must be in place at the farmer/collaborative level.

3. Strong prices

Wholesale distributors pay according to world-market prices. The wholesale produce distribution industry is an industry based on scale, dominated by much larger farming operations than those that are prevalent in North Carolina. Large farms can survive with lower profit margins than small operations. World-market prices are geared toward larger operations. Additionally, small-scale farmers participating in collaborative marketing efforts must consider the additional costs of aggregating their products when evaluating the potential profitability of a new wholesale enterprise.

Market prices can show great variation and can fluctuate daily according to conditions in other production regions. Actual prices for a specific commodity on any given day may vary greatly from average prices over a period of time for the same product. Producers are usually paid based on the price at the time of delivery. That means that producers are often required to harvest their products without knowing exactly what the product will bring. Prices are usually presented to producers in a take-it-or-leave-it form, giving producers very little price negotiation power. Since marketing options are few for the volume of product being handled, farmers marketing to wholesale distributors face serious price risks.

4. Adequate production, harvest and post-harvest infrastructure

Early in their relationship with Marriott, the collaborating farmers attempted to grow and market greens. While the farmers were able to competently produce the product, they were shut out of the market because they lacked the post-harvest infrastructure necessary to assure adequate shelf-life for the greens. Buyers required that field heat be rapidly removed from the greens after harvest and that the products are kept at low temperature during storage and transportation. The farmers now own a packing facility, which houses a hydro-cooler and cold storage space. However, this investment was made too late to be beneficial to the first crop of greens.

The primary strategy for ensuring adequate shelf-life in harvested fruit is to quickly remove the field heat from fruit after harvest and maintain the fruit at a consistently cool temperature until it is sold. One major wholesale distributor with an interest in purchasing North Carolina fruit required that berries be placed in a cooler within 30 minutes of harvest. This requirement essentially necessitates that producers have adequate on-farm cooling capacity to handle wholesale market volumes.

Refrigerated transportation is available in North Carolina. Producers can pay established haulers to move product from the farm to collection facilities. This transportation factor is an additional cost that has a disproportionate affect on small-scale producers, since trucking companies are likely to charge a flat fee in addition to a per-piece fee that would not be spread across as many units as on a large farm. However, through collaboration small-scale producers can distribute these costs across more acres, making transportation expenses more manageable.

Harvesting infrastructure is one of the most difficult components of developing a wholesale small-fruits production operation. Some crops, like blueberries and muscadine grapes, lend themselves to mechanical harvesting. Harvesters are extremely expensive and represent an additional barrier for small-scale producers. Many small-fruits crops are hand-harvested and require large numbers of laborers during the harvest season. Farmers, who are unable to employ harvest laborers in other enterprises outside of the harvest season, may find themselves competing for laborers in a tight rural labor market during a very short harvest window. Failure to harvest crops on time means no income for the farmer.

Production, harvest, and post-harvest infrastructure are expensive, but necessary for the successful start-up of a collaborative marketing endeavor. Through collaboration, small-scale producers may be able to share some of these costs.

5. Sufficient start-up capital

Inadequate capital at the start had serious negative impacts on the ability of the collaborating farmers to produce and sell a product that met industry requirements. The group did not realize how critical proper cooling and packing facilities would be to market access, and so began their endeavor without raising sufficient capital to acquire the necessary infrastructure. This oversight has been a serious setback. Profitability of the enterprise has been delayed for years as the farmers slowly build up their post harvest handling infrastructure. Relationships with buyers could be damaged because of the bad initial impressions.

Farmers face many challenges in attempting to enter the wholesale fruit market. Of primary concern is the significant risk that they might incur in the form of start-up costs for small-fruit production. Many farmers would need to debt-finance new fruit plantings, potentially putting their homes, farms and livelihoods at risk.

To acquire the infrastructure necessary to be successful requires significant capital investment. Product quality and consistency cannot be relied upon until the basic infrastructure is in place. Many small-scale producers grow farm enterprises by investing small amounts of money and then reinvesting profits to slowly grow the business over time. With infrastructure required at the start, this strategy is not viable for wholesale marketing. Not making the necessary investments up front means an inability for producers to meet industry standards, and therefore, likely to encounter a barrier to accessing markets.

Issues with capital access can be especially damaging to collaborative efforts where the members are relying on all of the other members to follow through to be successful. Failure by one member to plant because of capital issues could result in the loss of markets for the entire group.

6. Technical production assistance

Several major obstacles of the Marriott farmer collaborative effort were addressed with technical assistance. To assure buyers that the producers knew how to safely handle the products, producers were given good agricultural practices (GAP) training. Technical assistance was also used to address consistency in product packaging issues for the group. Collaborative producers also received training in standard vegetable production techniques, including drip irrigation and use of plastic mulch.

The quality and variety requirements of wholesale markets often require major adjustments in production practices and changes in variety selection from retail marketing. Producers also frequently require assistance in figuring out the causes of quality problems. All of these production issues require field technical support to assist farmers in decision making. While this assistance can come from existing agencies such as Cooperative Extension, production practices may be specific to the collaboration and not a part of the Cooperative Extension lexicon, or may involve proprietary materials. In any case, continuous monitoring and improvement of quality requires significant technical support for the producers involved. Again, it is more expensive for technical service providers to serve a large number of small-scale producers than to serve a few large-scale farmers.

**The Costs of Collaborative Marketing**

Collaborative marketing may be necessary to enable small-scale fruit growers to overcome the logistical barriers to marketing into a wholesale market chain; however, this type of marketing is very expensive, and the question of economic feasibility remains.

On the surface, fresh market fruit prices seem to offer North Carolina small-fruits producers an opportunity to earn a profit for their products. Prices for fresh market fruits range between 30 percent and 75 percent of direct-market retail prices. Average prices for many fresh market fruits have been above expected cost-of-production for North Carolina producers in recent years.

Prices for processing fruit are another story entirely. One strawberry farmer explained that the processing market is only useful as a place to dump berries. Processing prices are usually less than half of fresh market prices and offer only 10 percent of the retail market prices. Processing-fruit prices are almost always below the expected cost of production for most small-scale, North Carolina producers. Selling fruit for the processing market may make sense for larger growers who need a way to get rid of second quality or surplus fruit. It is difficult to imagine a scenario where producing fruit for the processing market would make sense for small-scale producers.

Evaluation of a sampling of crops that could be raised in North Carolina shows the potential for profitability. Production of these crops seems promising for individual growers. However, due to additional costs of collaborative marketing for small-scale farmers, prices above cost of production at the
individual farm level does not necessarily translate to profitability (Table 1, 2, 3 and 4).

The question, then, is whether or not fresh market wholesale prices for small fruits are strong enough to cover the additional costs to small-scale growers of aggregating their supply in a collaborative marketing effort. In order to evaluate the feasibility of marketing small fruits collaboratively, we evaluated a number of hypothetical examples for projected profitability.

In our hypothetical examples, we evaluated profitability for farmers growing three acres of blackberries and three acres of muscadine grapes — crops that are currently in demand by wholesale distributors produced on acreage expected to be manageable for a new fruit grower. Production was assumed to be the average production expected for these crops in North Carolina and prices used in the calculations were based on recent market prices. We varied a number of factors in our calculations, including the number of farmers participating in the collaborative effort, the amount of money needed for overhead expenses, and the percentage of the start-up investment that was subsidized by an outside investor. We also considered the effects of the spread of direct marketing of a percentage of the crop in addition to the wholesale sales. We evaluated cash flows and returns over a 10-year period. We chose this timeline because we feel that it is somewhat reasonable to project market conditions over 10 years and somewhat unreasonable to think that we could project market conditions over a longer period of time.

All of the scenarios showed a net positive return for the farmers in the allotted 10 years. However, for the wholesale-only scenarios, the return on investment is expected to be very small, averaging 1.9 percent per year. Considering the large sums of money necessary to engage in small-fruit production, this is no more than 1 percent per year. Considering the large sums of money necessary to engage in small-fruit production, this is no more than 1 percent per year. However, start-up and operating costs that are not covered by the farmers approach $1.5 million over the 10 years.

A third set of scenarios evaluated the impacts of integrating direct-to-consumer retail sales into the mix of market outlets. Assuming that farmers directly market one acre of their production and sell the other five through the collaborative wholesale market, yields improved returns to the farmer, while still covering the marketing costs. In this case, the expected annual return on investment for farmers approaches 14 percent. These scenarios also carry a reduced risk when compared to the other scenarios because of the diversification of markets. It is clear that the three scenarios evaluated, strategies that include direct-marketing seem the most promising.

In all cases, the calculated return on investment assumes a best-case-scenario of average crop yields and favorable market conditions over the 10-year period. In the event of some sort of catastrophe, like a late spring freeze or a dramatic drop in prices, then all of these scenarios represent losing propositions. Small fruits do not have the types of safeguards that other agricultural commodities have, therefore the farmer bears all of the risk of low prices.

Farmers Facing the Barriers

Even recognizing the challenges facing small-scale producers as they venture into wholesale fruit marketing, farmers who we interviewed remain interested in the enterprise. Because of the risks, farmers harbor strong reservations about starting fruit production operations in the absence of certain conditions. The farmers indicated that they need two things to feel confident enough to make the investment — information and assurance.

Trustworthy, accurate, complete cost of production information and production assistance is needed. Special production protocols and post-harvest handling procedures unique to specific markets must be clearly identified. Growers need solid information and support to feel confident about making the investment necessary to build North Carolina fruit production. Farmers will also need support to convince lenders of the viability of the enterprise.

This information need goes beyond what an average-case crop budget or production brochure can provide. One-on-one, on-the-farm assistance in evaluating specific production conditions and likely expenses is necessary. These enterprises represent a dramatic change for North Carolina farmers from low-cost-of-production annual crops to very high cost perennials. Farmers will not adopt a new production paradigm without a great deal of information and research.

Farmers also need assurances of a long-term commitment from interested companies prior to making any investments. Some small-fruits crops can take three to five years to start producing and can take even longer before they pay back the start-up expenses. Companies interested in North Carolina fruits must be very clear about a long-term commitment to purchase North Carolina crops, before farmers will be willing to plant. Long-term contracts for growers and meaningful investments in infrastructure are two ways that companies could show a commitment to North Carolina products. It is impossible to guarantee a market for a crop for the 10 years or more required for these enterprises to reach profitability. However, before farmers invest they will need some assurance that buyers will not quickly abandon them for lower cost of production producers in other regions.

Are Bargaining Associations Appropriate for North Carolina’s Farmers?

Cooperative bargaining associations operate in many fruit and vegetable markets in the United States. These associations are organizations of growers that negotiate terms of trade with processor-bearers of their raw product. A bargaining association generally does not become involved with the handling of raw product, nor does it have any mechanism to control producer supply.” (Hueth and Marcoul, 2002).

In order for bargaining associations to function properly, state legislation that protects growers’ ability to organize is essential (Grow et al.). State laws must be in place to compel continued bargaining when negotiations break down between the association and the processor/buyer; otherwise, bargaining associations do not work.

The primary benefits to growers of participating in cooperative bargaining associations are improved price and market stability. Farmers also benefit from increased contract negotiations, grower, better contract reliability, legal support, and detailed market and price information. Bargaining associations are generally effective in setting minimum prices for products. Knowing the minimum price allows growers to make better-informed management and business decisions.

Bargaining associations usually negotiate prices for an entire industry. Companies benefit because they know that increased contract negotiations, grower, better contract reliability, legal support, and detailed market and price information. Bargaining associations are generally effective in setting minimum prices for products. Knowing the minimum price allows growers to make better-informed management and business decisions.

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Collaborative Marketing Can Work — Bogue Sound Watermelon Growers

Bogue Sound watermelons have been recognized for their sweet flavor for 75 years. Newspaper accounts from the 1930s documented multiple railroad car shipments of Bogue Sound watermelons leaving the area for northern destinations. Changes in the tobacco industry in the early 21st century resulted in the migration of tobacco production away from the Bogue Sound drainage. To replace lost tobacco income, Bogue Sound farmers looked to their history for a new income source.

Bogue Sound watermelons grew closely with Extension personnel and with the Carteret County Economic Development Council to move their project forward. As this group formed, its members developed innovative ways to overcome the six challenges to new collaborative marketing efforts, which are further discussed below.

1. Regular communication between producers and buyers.

The association consists of 20 farmers who farm in the Bogue Sound watershed. Most of the members are former tobacco farmers who operate a variety of enterprises on their farms. Farmers operate independently from one another, though there is some limited coordination of production timing. One grower produces transplants for a number of other growers in the group and is able to control production timing through the transplant production. The farmers contract with a marketing consultant who handles communication with buyers. This has proven an effective and cost-efficient strategy for the group to market its product. Because the group collaboratively markets only one product — watermelons — the coordination needs of the association are less than what a collaborative model might be.

The Bogue Sound Watermelon Growers Association has a very minimal management structure for their organization, which is supplemented by strong support from the local Cooperative Extension Center and by contracting with a marketing consultant. As a result, the association has relatively low overhead costs, which means farmers get to keep more of their profits.

2. Quality control and food safety assurances

The local Cooperative Extension Center and member farmers have worked together for a long time on assisting members to grow quality watermelons. For the most part, quality control has been managed by the individual growers who follow individual production protocols that provide a quality product. To date, watermelons have been shipped soon after harvest, meaning there has not been a need for cold storage. The association is developing cold storage capacity to maintain quality and provide more marketing flexibility as the market grows.

3. Strong prices

In 2004, Bogue Sound farmers began efforts to trademark the Bogue Sound Watermelon label and establish a brand identity for their watermelons. Distinguishing their product through branding gives the farmers a competitive edge in the marketplace and enables consumers to seek out the unique flavor characteristic of a Bogue Sound melon. Labeling their product and promoting it to buyers as superior to other watermelons has enabled the Bogue Sound Watermelon Growers to gain market share. The branding strategy is geared towards building demand for the product, which will enable the farmers to receive a strong price. This is a value-added strategy that is significantly different than simply putting an anonymous product out into the marketplace and hoping for a good price. By branding their product, the Bogue Sound Watermelon Growers have an advantage that has proven critical to the success of the enterprise.

4. Adequate production, harvest and post-harvest infrastructure

Watermelons are a traditional crop for this part of the state. Farmers in the region already had much of the production infrastructure in place when the project began. Watermelons are less perishable than many other produce crops. So far, the growers have been able to get by without a large investment in post-harvest infrastructure. To date, the quantities produced have been able to be rapidly distributed to buyers; therefore, storage capacity has been unnecessary. The group has contracted for transportation. As the enterprise grows in volume, the association is investing in packing and storage facilities. This strategy of investing as the business grows is not feasible for more perishable crops that require expensive post-harvest treatments to meet minimum industry standards.

5. Sufficient start-up capital

The Bogue Sound Watermelon Growers Association received a grant from RAFFI-USA in 2005 to assist with promoting and marketing of their product, and they have experienced rapid success with their efforts. In 2006, the association shipped 16 tractor trailer loads of watermelons. In 2007, they shipped 40 tractor trailer loads. They expect to double their sales again in 2008. Member growers purchase labels for their watermelons from the association, which provides the income stream that supports the association’s operating costs. Three factors have resulted in low start-up costs for the enterprise: 1) Assistance from Cooperative Extension and the Carteret County Economic Development Council with coordination of the project; 2) Relative shelf-stability of watermelons, reducing the need for investment in expensive cooling infrastructure; 3) Simplicity of watermelon production to other traditional agricultural commodities, which minimizes the investment that farmers need to make in specialized equipment.

6. Technical production assistance

As mentioned above, Cooperative Extension and the Carteret County EDC have played very significant roles in the development of this enterprise. Also, watermelons are a traditional crop in the region, so the farmers brought a great deal of technical-production expertise to the project.

Conclusions

North Carolina farmers have an opportunity to grow small-fruits for the wholesale market. A solid demand exists for the product and, recently, prices have been above expected cost of production for North Carolina growers. Small-fruits crops could potentially yield better per-acre returns than most other crops grown in North Carolina. However, these crops carry more inherent production and marketing risks than many other agricultural products.

In addition to the inherent risks of fruit production, small-scale producers are also faced with logistical barriers to entry into the wholesale fruit market. The most likely way for small-scale growers to gain access to wholesale markets is by pooling their products with other similar growers in a collaborative marketing effort. While collaborative marketing may provide market access, collaboration also adds expense as farmers invest in the production, management, and marketing infrastructure necessary to overcome the six challenges to collaborative marketing.

It is unlikely that collaborative marketing associations of small-scale producers seeking entry into wholesale markets will develop on their own accord. There is currently a surplus of supply of fresh produce in North Carolina in need of new market outlets. Growers must see a commitment from buyers in the form of favorable, long-term contracts and investment in North Carolina’s fruit production infrastructure, before growers will be willing to make the significant investment required to increase production of small-fruits products.

The barriers to further development of wholesale markets for small-scale fruit producers are many. Given the barriers, it is unlikely that relationships between wholesale marketing companies and collaborative farmer efforts will form spontaneously on their own. A concerted, organizing effort will be required to broker the relationships between North Carolina growers and fruit buyers if these markets are to develop. This is likely to mean a public investment in organizing and infrastructure, if we expect small-scale farmers to be successful in wholesale markets.

For the development of wholesale fruit marketing opportunities to be beneficial (and not detrimental) to North Carolina producers in the long term, the wholesale marketing opportunity must be utilized by producers to expand and develop other markets. Our analysis indicates that wholesale markets alone do not produce sufficient cash flow to justify the investment for small-scale growers. However, to the extent that wholesale markets can be leveraged to facilitate development of retail markets, the investment could really pay off for farmers.

Additionally, the most promising opportunities for small-scale producers are in more specialized or value-added fruit markets that allow small-scale growers to distinguish their products grown by global competitors. Buyers indicated an interest in organically grown and unusual products. Because
small-scale growers are able to provide the level of attention needed for difficult to produce crops, small-scale growers may be well suited to these markets. Identity retained products provide a way for farmers to capture market share and retain value of their products in the marketplace.

New fresh-market wholesale opportunities for small-scale producers could be very beneficial to North Carolina agriculture. Wholesale marketing options could complement North Carolina’s existing local market production and could be the key to enabling farmers to further develop additional, diversified market opportunities. However, the support infrastructure that is needed to provide production assistance, business planning tools, and production research is currently under-resourced and inadequate to deal with a rapid increase in North Carolina’s fruit production industry. Resources for Extension training and outreach, production of suitable crop budgets, and variety trials and development are essential to the successful development of new wholesale marketing streams.

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