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Case Studies of Successful Small Scale Farming in North Carolina

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Literature Review

In “A Time to Act”, The National Commission on Small Farms reported the following, “Small farms contribute more than farm production to our society. Small farms embody a diversity of ownership, cropping systems, landscapes, biological organization, culture, and traditions. Since the majority of farmland is managed by a large number of small farm operators, the responsible management of soil, water, and wildlife encompassed by these farms produce significant environmental benefits. Decentralized land ownership produces more equitable economic opportunity for people in rural communities, and offers self-employment and business management opportunities. Farms, particularly, family farms, can be nurturing places for children to grow up and acquire the values of responsibility and hard work” (National Commission on Small Farms, 1998).

North Carolina farms vary widely in size and other characteristics, ranging from very small retirement and residential farms to establishments with sales in the millions of dollars. Farming continues to be a distinctive industry in part because most production, even among very large farms, is carried out on family-operated farms whose operators often balance farm and off-farm employment and investment decisions.

The North Carolina Department of Agriculture reports that 45,200 farms have sales less than \$100,000 (Source: Environmental Systems Research Institute, 2003, 2002 US Census of Agriculture). In describing types of small farm operations, classification needs to include not only the size of the farm in terms of sales but also the basic structure of the operation. These basic structures are delineated in Table 1. How the farm is organized can affect the efficiency and competitiveness of the farm, the well-being of farm households, the design and impact of public policies, and the nature of rural areas.

Table 1

Farm Typology Group Definitions	
Small Family Farms (sales less than \$250,000)	Other Family Farms
1. Limited-resource farms: Small farms with sales less than \$100,000, farm assets less than \$150,000, and total operator household income less than \$20,000. Operators may report any major occupation except hired manager.	1. Large family farms: Sales between \$250,000 and \$499,999
2. Retirement farms: Small farms whose operators report they are retired. This excludes limited-resource farms whose operators report this occupation.	2. Very large family farms: Sales of \$500,000 or more
3. Residential/lifestyle farms: Small farms whose operators report a major occupation other than farming. Again this excludes limited resource farms whose operators report this occupation.	
4. Farming-occupation farms: Small family farms whose operators report farming as their major occupation. This excludes limited-resource farms whose operators report this occupation. Low-sales farms: Sales less than \$100,000 High-sales farms: Sales between \$100,000 and \$249,999	

Following the national trend, the size of the average farm in North Carolina grew steadily in the second half of the 20th century. Fewer people are working on farms today and according to Walden (2006), this phenomenon has affected North Carolina agriculture. “Thirty years ago there were 91,000 farms, today there are only 53,000, but farms are getting bigger. The average farm in 1974, for example, had 123 acres, today, it’s 170 acres.”

There is a growing sense that these trends have gone too far, and as a result some people have begun to work for the preservation of small farms. Albeit, there is a great deal of uncertainty about the preservation of small farms, the questions pertaining to this preservation range from the philosophical: *If large farms are efficiently supplying our needs, is it right to worry about small ones?* To the basic: *What is a small farm?* and the practical: *What can be done to help small farms?* (Mayerfeld, 2004).

In an effort to further explain the factors that affect successful small-scale farming, researchers have identified factors that have underpinnings in 1) small-farm educational programming; 2) small-scale agricultural enterprises and production practices; 3) alternative marketing; and 4) risk management.

Furthermore, marketing, value added processes, enterprises that generate income in several ways (e.g. tourism plus direct sales etc.) as well as many of the “sustainable community” or “smart growth” issues address economic viability directly (Perry, J. & J. Johnson, 1999).

Specialty crops can be economically viable, particularly for smaller producers. For specialty crops, profitability is based on: 1) management of ecological capital and efficient use of on-farm natural resources, 2) diverse and specialized marketing opportunities, and 3) price premiums available from buyers for many specialty and value-added specialty crops. Diversifying farming operations creates a greater opportunity for year-round income and can contribute to the success of the business. An example of how farmers can diversify their crop mixes includes using trees for a windbreak with marketable crops to produce small amounts of very labor-intensive-but-high-value crops such as European melons, figs, or herbs (Humphrey and Mussen, 1995). Effective marketing of North Carolina specialty crops requires a correct assessment of consumer food and shopping preferences, development of successful production practices, research in production economies, and creation of new distribution channels. Finding ways for North Carolina farmers to switch to other high value crops and environmentally sensitive management practices may give them the needed income and confidence to continue to produce and diversify on small acreage and keep larger family farming enterprises viable and successful. As commodity programs are eliminated, more farmers will need to consider the potential that specialty crops offer as an economically viable alternative to tobacco and other row crops.

Even though we live in an age of technology where computers are prevalent in the larger businesses, this is not the case with small farmers. Although many small farmers use computers, manual record keeping remains a key component for these farmers (Doye, D., Jolly, R., Hornbaker, R., Cross, T., King, R., Lazarus, W., and Yeboah, A., 2000). Muhammad, S., Tegegne, F. Ekanem, E. (2004) found that computer technology does not play a vital role in small farm operations.

Key to the continuation of small farms is the ability to effectively market and operationalize factors and maintain a manageable debt to income ratio. Each farm represents an individual business enterprise that has to deal with its own unique set of these factors. The success of a small farm is likely to be based on having characteristics that enable the farm to overcome bottom line changes in market demand, operating costs and to manage risk.

According to North Carolina A&T State University’s Cooperative Extension Program, small farms are alive and well across the United States and across North Carolina (North Carolina A&T State University, 1998 – 2002). Most of the farms in the United States and the vast majority of the farms in North Carolina are small farms. Successful small-scale farmers know what success means to them, however, success means different things to different people. While income from the farm is important, it usually is not the only goal of the small-scale farmer. Protecting the environment, being active in the community, a rural lifestyle, and investments for future family expenses, all can be important goals. Although, all

small-scale operators face challenges, they can all be successful (North Carolina A&T State University, 1998 – 2002).

Data and Methods

Although this research project includes several surveys, for this component, case studies of successful small farmers conducted in November 2007 were the primary sources of data. The North Carolina Cooperative Extension Program identified three “successful” farmers from its sampling frame to participate in the case studies.

Researchers identified sets of variables associated with small farm success through various literature, published and unpublished reports and recommendations from experts in the field. After the variables were operationalized, a questionnaire was developed as a guide for conducting the case studies interview protocols (Table 2). Each case study consisted of a one-visit protocol with electronic follow-up. Researchers conducted on-site interviews, and then toured the individual farms.

Guided by the questionnaire, farmers were encouraged to talk about their farming operations, motivation for farming, farm organization, marketing strategy and financial operations. During each case study, responses were recorded electronically and manually. The recordings were later transcribed, and responses supplemented from the manual transcription, electronic communications and secondary sources.

Table 2.

Case Study Questionnaire (Talking Points)
1. Can you tell us why you farm? Reason for farming Sources of labor (See next section) Expectations for farm business Role Religion/Faith/Charity plays on your farm
2. Can you tell us about your farm organization? Total acreage: Acres in production; Pasture & woodland acreages Enterprises Family participation & other sources of labor (see previous section) Typology of farmer Training programs or workshops attended Major Equipment purchases within the last calendar year Services used of the North Carolina Cooperative Service Insurance
3. Could you please tell us how you market your product?
4. Could you tell us about your record keeping and financial system?
5. Demographic: Age, Gender/Race (Observable), Education level, Income (Total Gross Income less than \$250,000 for last calendar year).

Case Study Farms – As previously stated, three farms were selected for these case studies: Dogwood Nursery Farms LLC, Mary and Nelson James operators; Jeremiah Jones Farm, Jeremiah Jones operator; Fickle Creek Farm, Ben Bergmann and Noah Ranells, operators.

Dogwood Nursery Farms

Mary and Nelson James operate the 25-acre Dogwood Nursery Farms, a limited liability corporation. Being a third generation family farm, the James continue to farm their land successfully because they feel farming is “in their blood” and “there is nothing else we would want to spend our time and energy doing.” The James raise a number of crops including strawberries (over 1,000 plants), peanuts, vegetables, mushrooms, and tobacco. Their enterprises also include free range livestock (hormone free/all natural) such as pigs (71), chickens (roasters and layers totaling 225), and turkeys (20). The James hire their five

grand-children as needed to carry out basic farm work at a rate of \$5/hour. Additional help is hired as needed from the local labor pool.

Mary James is a retired teacher and her husband Nelson James is a retired county worker. As the James' are both retired, they receive their primary income from their pensions, while they use farm income as a source for either extra or emergency funds. As a result, the James' carry no debt and wholly own their farm which makes them particularly well suited to survive periods of increasing input costs. This clearly adds to the satisfaction they derive from farming since they do not rely on farm credit.

To increase their productivity, Mary and Nelson have utilized farm training through the North Carolina Cooperative Extension Program over the years including a workshop on the use of black plastic for weed control. Mary has taken classes at the local community college and attributes the workshops and training opportunities to their success.

Mary still employs a manual record keeping system, however she uses a computer to respond to email concerning their business. One of their marketing strategies is to use the Internet which contributes to much of their sales. Dogwood Nursery Farms participates in the Local Harvest Web site: (<http://www.localharvest.org/farms/M14389>). The James also market their products locally at farmers markets, through contractual sales and even sell on farm. According to the James' the farmers markets are very beneficial because when word of mouth gets around about how great their produce tastes, customers will go out of their way to find their produce in farmers markets.

Nelson made an important point regarding the competitiveness of small farms versus large farms. Because small farms cannot compete on product volume alone due to size and scale of the operation, they must find niche and specialty markets such as higher quality fresh produce and all natural/organic products. For example, Nelson talked about customers always willing to pay more for high quality lettuce and tomatoes. The difference in taste is clear and Nelson believes it is a direct result of growing their crops naturally without pesticides or chemical fertilizers, as well as raising their livestock free range and without hormones or antibiotics.

As an Agriculture business, the James have high expectations of what they want to accomplish with their farming. Their long terms goals includes expanding their facilities by adding cold storage for storing meat and vegetables, as well as purchasing an all terrain vehicle (ATV) to help in transporting items around the farm (feed, tools, etc.). Also, Mary would like to convert their kitchen to a commercial scale kitchen and start catering locally.

The James feel it is a moral obligation to give away fresh produce to the less fortunate, as well as open up their fields to local residents and senior citizens. Furthermore, they operate a community garden with several families participating and taking a share of the harvest.

Dogwood Nursery Farms has been featured in a number of publications such as the *Journal Minority Landowner* as well as being named the 2008 Gilmer L. and Clara Y. Dudley Small Farmers of the year.

Jeremiah Jones Farm

Jeremiah Jones operates his farm as a sole proprietorship. He rents and farms land in Duplin County, North Carolina. His mother and aunt own the land which he rents. He attended a 2 year program at North Carolina State University. He produces approximately 150 acres of corn and 150 acres of soybeans and raises between 34-36 sows from farrow-to-finish. He yields about 155 bushels per acre of corn and averages between 18-45 bushels per acre of soybeans.

Jeremiah is 28 years old. He is the main operator on the farm, although his wife assists him on the weekend. In the beginning stages of farming he assisted another farmer, but when he started raising pigs, he converted to working full time on the farm. Jeremiah's wife does have off farm employment and does not farm full time. Jeremiah's father and sister occasionally assist him with the farm. The primary reason that Jeremiah decided to farm is his genuine love for farming. His uncle was a farmer and in 2001, Jeremiah moved from California to Duplin County in order to assist his uncle with the farm. After developing a love for farming, he decided to attend a 2 year program at North Carolina State University. Upon completion of the program, Jeremiah decided to buy his uncle out and continue the family tradition of farming. His father owned a construction business and also owned hogs. Through observation of his father's business and construction equipment, Jeremiah became efficient in farm equipment repair, thus saving him money when it comes to equipment necessary for farming. Due to the high cost of farming equipment, most of the equipment that Jeremiah owns is very dated. The most recent piece equipment that he owns is a 1998 tractor. Most of the equipment that he purchases is used.

Jeremiah sells his soybeans to the market as soon as they are picked, but he normally stores his corn until January and by doing so, receives more money for it. Concerning his hogs, he, along with a few other farmers, had previously been selling them to Diamond Ranch, but Diamond Ranch stopped doing business with them around September 13, 2007. Whole Foods showed an interest in their hogs around that same time and at the beginning of 2008 they formed an agreement and Jeremiah has been selling to them approximately every week. He coordinates the loads, produces the invoices and assists other farmers with the paperwork that goes to Whole Foods.

Jeremiah does participate in governmental programs that provide him with a low interest rate and is currently in the process of forming a cooperative. He does have crop insurance, but he carries the bare minimum. He only carries it, because he is required to and feels that it is in no way beneficial. He also has health insurance. Jeremiah does all the record keeping for the farm. He does it all manually and does not use any type of software. He keeps track of all of the expenses, down to the feed, and submits that documentation to the bank or an accountant for his taxes or for any type of financial verification. Technology isn't very prevalent on Jeremiah's farm and his wife actually checks his e-mail and prints it out for him. He doesn't know his debt to asset ratio, and doesn't necessarily want to get rich off of farming, but make a decent living.

Fickle Creek Farm

Ben Bergmann and his business partner, Noah Ranells, operate Fickle Creek Farm in Efland, North Carolina as a partnership. The 61-acre farm is a mix of enterprises ranging from fruits and vegetables to chickens and goats. According to the farm's Web site (<http://home.mebtel.net/~ficklecreek/>), the Fickle Creek Farm was started with the objective of "creating a system that has minimum impact on the environment, is sustainable, and includes humane treatment for the animals we keep."

Approximately, one-third of the farm acreage remains natural, one-third is reserved for woodlots and the remaining third is "highly modified." All the livestock are raised without medicated feed, hormones, antibiotics, or animal by-products. The fruits and vegetables are naturally grown without inorganic chemicals. The farm prides itself on "pasture-raised" and "free-range" farm products.

The livestock and poultry enterprise mix consists of approximately 12-24 feeder pigs, 600 broilers, 750 laying hens, 25 sheep with 55 lambs, 34 goats and 9 steers. The vegetable garden produces tomatoes, peppers, eggplant, cucumbers, sweet corn, and spinach. Pesticide Free Produce. varieties of potatoes, tomatoes, and peppers.

The farm uses rotational grazing for all the animals. The farm strives for sustainability and use the livestock to clear and fertilize land for future vegetable patches. On certain pastures where steers have grazed, the field can then support goats followed by laying hens. The farm tries to purchase feeder livestock locally as well as the feed. The farm vehicles use 100% Bio-diesel produced only 35 miles from Fickle Creek Farm.

Fickle Creek farm uses several marketing strategies including on farm sales, four farmers markets and direct sales to four restaurants. The Internet provides directions to the farm and the location where the farm's produce is sold. In addition to the agriculture activities, Fickle Creek Farm is also a bed and breakfast and welcomes tours. The farm does charge for tours.

The financial information is maintained by Ben using the Quicken software, however he does not produce a balance sheet, cash flow budget nor income statement.

Ben holds a Ph.D. in forestry and in addition to farming he teaches one of the Farmer-to-Farmer Mentoring Programs offered through N.C. Cooperative Extension Service. The program includes hands-on experiences for farmers.

Conclusions and Discussion

Based on literature review, the following variables should be viable predictors of success for small farm operators: enterprise diversity, effective marketing strategies, education (including workshops), concern for the environment, income not primary goal of the business, non-reliance on computer technology, risk management strategies and specialty crops (niche marketing).

The case study farmers used a combination of marketing strategies including the Internet, farmers markets, contracts and direct sales to restaurants and grocery stores. These farmers also used a diverse mix of enterprises and specialty crops using “natural” agricultural methods for producing “pasture raised” livestock and “free range” poultry. Specialty crops can be economically viable, particularly for smaller producers as well as diversifying farming operations (Table 3).

Recurring characteristics among the case study farmers were the “love of farming” and “no debt.” Only one farmer used a computerized financial system, however all farmers were well aware of their financial standings. None of the farmers cited major farm equipment expenditures within the last year and one farmer would only purchase used machinery “to save money.” The educational level ranged from post high school to Ph.D. All farmers attended various agribusiness workshops and two farmers taught experiential workshops (Table 3 & 4). All farmers minimized risk through diversity, contractual sales and insurance.

Success for these case study farmers is not defined as maximizing profit. The love of farming and producing a quality produce have a higher priority in their business model than profit. According to Ben of Fickle Creek Farms, “Farmers can make money if they produce a good and consistent product, but they won't get rich.” The farm business model produces natural products with minimum impact on the environment and includes humane treatment for the livestock.

Jeremiah Jones, a second generation farmer, loves farming and through successful ventures with other farmers has realized that a cooperative would be beneficial and thus, has taken the steps to form one. Through meticulous manual record keeping, Jeremiah has kept detailed accounts of his expenses. He has shown responsibility by owning insurance and is very skilled in the art of marketing. Hard work and tenacity have allowed Jeremiah to build a very successful farm.

The James of Dogwood Farms consider themselves to have a successful farm for several reasons. Their attention to quality and taste enables them to receive a higher price for their products and also garner a local reputation. In addition, their sense of belonging to their land provides a great deal of satisfaction that keeps them interested in farming and working with their local community.

Knowledge about the successful small farm is likely to provide valuable information about how to evaluate the “successfulness” of small farm operations and produce best practices models for small scale farm operations. Based on these case studies, a typology of success is being developed of identified “successful” small farmers. The aim of the next phase of this research will be to collect additional data to further determine the predictive value of the measured characteristics, to refine response values or formats, and revise the operationalized variables. The results will be communicated to farmers and other stakeholders through outreach and education activities.

Table 3

Name of Farm	Dogwood Nursery Farms, LLC.	Jeremiah Jones Farm	Fickle Creek Farms
Training	Cooperative Extension Workshops		Education, teacher
Insurance	No crop	Minimal crop	No crop/health yes
Major Equipment purchases last year	Pickup for delivery of produce	Used equipment	Egg washer/not installed
Record keeping	Self	Self	Self
Finances	Manual Accounting	Manual Accounting	Electronic (Quicken)
Debt load	No debt	FSA loan	No debt
Environmental Concern	Natural pest control; natural fertilizer	Not observed	Natural area; natural feed and pest control
Gender	Female	Male	Male
Age	57 F/ 62 M	28	35
Race	African American	Caucasian	Caucasian
Education	Post high school workshops	2 years NCSU	Ph.D.

Table 4

Name of Farm	Dogwood Nursery Farms, LLC.	Jeremiah Jones Farm	Fickle Creek Farms
Organization	Limited Liability Corp.	Sole Proprietorship (Cooperative member)	Partnership
Land Farming (Acres)	25	300	61
Land Tenure	Own	Rent	Own
Reason farming	Third generation farmer on land, love	Loves farming	Enjoyment
Years farming	>35 years	< 10 years	< 10 years
Enterprises	Poultry: Turkeys (20) Chickens (175) layers (50)	Soybeans 150 acres	Natural 20 acres
	Vegetables 15 acres	Corn 150 acres	Ruminants: sheep (25), lambs (55) & goats (34)
	Strawberries (1000 plts)	Swine: (50)	Pasture 14 acres
	Swine: Pigs (60) sows (11)		Swine: feeders (17)
	Corn & Soybeans for feed		Vegetables: tomatoes, peppers, sweet corn, eggplant, cucumbers & spinach
			Poultry: Broilers (600) layers (750)
Niche	Hormone free All natural		“naturally grown” pastured-raised free-range
Other Employment/ Income	Some off farm Retirement Farmer-to-Farmer Mentor		Off farm - teaching Farm Bed & Breakfast Farm tours Farmer-to-Farmer Mentor
Labor	Grandchildren Hourly workers as needed	Relatives	Part-time workers as needed
Other functions on farm		Serves as own mechanic	Serves as own mechanic & veterinary
Expectations	Commercial kitchen & cold storage unit	Form Cooperative	Make living – minimal impact on environment/humane treatment of animals

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