

THE PERSISTENCE OF FLORIDA'S SMALL ORGANIC FARMS IN THE FACE OF
GROWING DEMAND FOR ORGANIC PRODUCTS

By

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To my husband and baby boy who kept me motivated

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Abstract of Thesis Presented to the Graduate School
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With the expanding demand for organically grown produce, opportunities for both small-scale and industrial farms continue to emerge and grow. Consumers of organic products are found in every market outlet; both conventional and alternatives (natural food stores, farmer's markets, subscription boxes). Florida follows only California and Arizona as a top producer of organic fresh fruits and vegetables, and holds an advantage as the only major producer east of the Mississippi on the national fresh produce chain. In addition to the locational advantage that Florida producers possess, they also enjoy a growing season that overlaps with what is largely a limited fresh produce market in other parts of the country. This situation can create both security for small farms, but also can provide the conditions in which the organic market becomes industrialized to meet growing demand. This study uses a multi-method approach including semi-structured interviews, rapid market chain analysis, and geospatial analysis to explore two main research objectives: 1) Identify and analyze the most important market conditions that enable small-scale organic farms in Florida to persist in their current livelihood, 2) Identify and analyze market conditions in which the organic market may become industrialized. Of those small farms that were found to be successful, the formation of a social-business contract was the most important contribution to their success. Farms that adopted industrial methods of

production and marketing such as input substitution and vertical market chain integration struggled the most.

CHAPTER 1 INTRODUCTION

The Organic Market and Small Farms

"Our nation's economic foundation is built on the backs of America's small farmers. Their survival and success is not only important to their families, but to consumers, rural communities, the environment, and the global economy." -- Former US Congressman Harold Volkmer, Chairman, USDA National Commission on Small Farms (USDA National Commission on Small Farms, 1998)

The development of industrial agriculture over the history of the United States has led to many different debates, issues, and problems for small farms nationwide. Between Thomas Jefferson's agrarian vision of a small-holder agricultural landscape (Griswold, 1946) and today's modern agro-industrial food networks, the market space for small farmers has shrunk significantly. Growing barriers to traditional markets, price indices, technology, and research leave small farmers even further from the cusp of economic and social survival (Hazell, Poulton and Wiggins 2007). Industrial agriculture also contributes to the degradation of our water and soil resources through intensive chemical pest management (FAO, 2002). This combination of social, economical and environmental threats posed by industrial agriculture led to an agricultural reinvention, with one solution recognized today as "organic" production (Baker, 2002).

Organic farming has evolved from a grass-roots movement of a few "hippie" farmers in California to a multi-billion dollar, international food network backed by government certification standards (Guthman , 2004). Although still considered to be in its youth, the organic retail market has grown by 16-20% every year since 1990 (Dimitri and Greene , 2002) and shows no real sign of slowing. Initially, organic farming seemed to be a perfect solution to the industrial agriculture problem: price premiums that provided income and opportunity to small family farms, reduction of harsh and dangerous agro-chemicals, and maintenance of the rural

economy (Allen and Kovach, 2000; FAO, 2002). However, as the market grows, the same pattern of large scale economies and agribusiness consolidation that occurred in conventional agriculture is now occurring in organic agriculture (Goodman, 2000).

While a growing market is mostly a positive trend for small farmers, it is also a threat, as more organic agriculture is being sold through mainstream outlets and global distribution food networks (Dimitri and Greene, 2002). To meet the supply that these venues require, farms must become bigger and adhere to conventionalized packing and safety standards; standards which are next to impossible for small farmers to economically match (Raynolds, 2004; Weiss, 1999). This is an urgent matter, as small farms are some of the most important players in rural economies. Ashley and Maxwell (2001) contend rural populations are in a state of poverty, neglect, and overall lack appropriate funding to maintain livelihoods. The poverty problem is often the reason small farms go under; a working farm requires at least one person dedicated full-time (Hazell, Poulton and Wiggins, 2007). Most farming families cannot forego even one wage-earning member. While Brookfield (2008) claims that small family farms are not struggling as much as suggested, and are in fact successfully competing against corporate farms, the question of how they continue to do so is at the forefront of community development policy. Pluriactivity—the adoption of diversified on- and off-farm activities—is the most common mechanism in which otherwise “uneconomic” farms continue to survive (Brookfield, 2008:106). Although Brookfield (2008:121) argues that the pluriactive farm can “allocate its resources in an efficient manner, and nothing has diminished this competitive advantage”, he does not address the flip side of the coin—why does the farming profession not produce a living family wage?

This study addresses the dual problem of small organic farm persistence in an expanding market, and the industrialization of organic production such that the benefits are sacrificed for

continued market expansion. These two problems go hand-in-hand; organic industrialization creates barriers to small farm success, and the loss of small farms from the agricultural landscape decreases the barriers of entrance by agribusiness firms.

Current Market Trends in Organics

The U.S. organic marketplace started as a niche market, where farmers' markets and subscription box schemes dominated sales and kept distribution mostly within local systems. However, as the "organic" label grew in popularity, the market share was quickly appropriated by large-scale and international companies, such as Whole Foods, Kellogg, and General Mills (Warner, 2006). According to Dimitri and Greene (2002), direct-retail sales have decreased from 20% in 1991 to less than 10% in 2000, while conventional retailers captured nearly half of organic sales by 2000. Figure 1-1 shows the changes in market share between 1991 and 2000 for three venue categories.

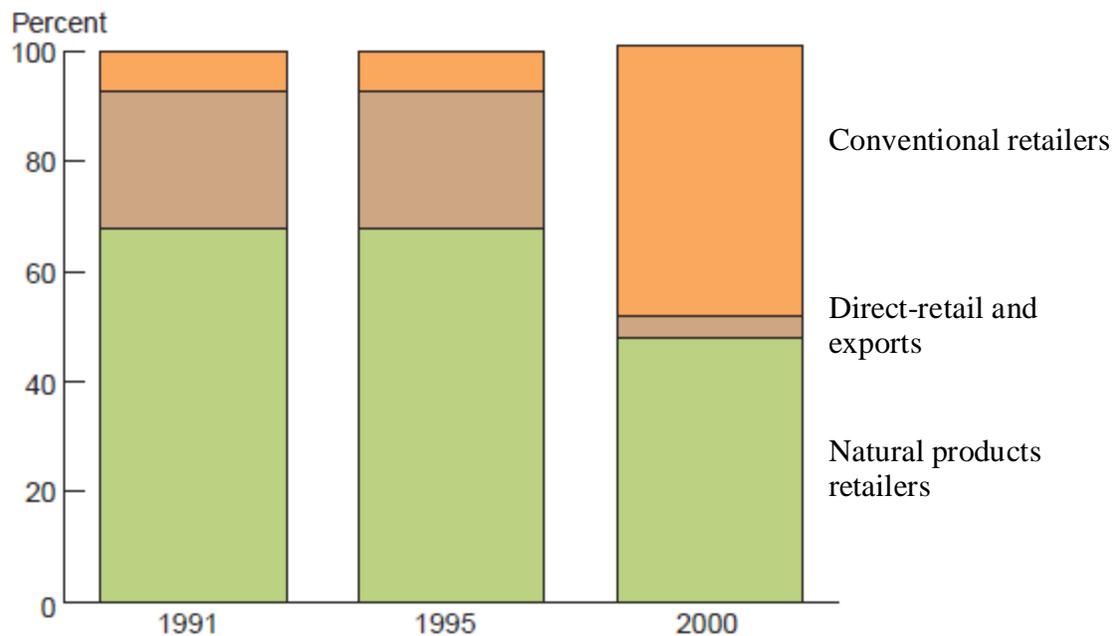


Figure 1-1. Share of organic sales by venue. (Natural Foods Merchandiser, 2000:3)

These trends can signify two different possibilities: either more people are purchasing organic products overall, thus boosting overall sales, or people who originally bought exclusively at direct-retail outlets now have many more convenient options at which to purchase their organic foods. Either way, this research finds that small organic farms that rely heavily on direct-retail marketing are not seeing a significant increase in sales; rather their sales are decreasing as conventional grocery stores lure current and new customers away.

Not only are changes in market outlets affecting small organic farms, but increases in demand and popularity of organic products have led to agribusiness and international participation in the market. For example, organic production has increased in Mexico from 23,265 hectares in 1996 to 215,843 hectares in 2002. Currently 98% of this production is for export (Landry Consulting, 2004). Furthermore, according to the USDA, preliminary reports indicate that the value of imports into the U.S. now far exceeds the value of U.S. organic exports. Imports accounted for 12-18 percent of the \$8.6 billion in U.S. organic retail sales in 2002. Among the major categories of imports are fresh fruits and vegetables, coffee, and tropical products (Economic Research Service, 2007). Because many small farms focus on fresh fruit and vegetable production, these emerging trends pose a strong risk to their already tiny market share.

Florida in the Organic Marketplace

Florida follows only California and Arizona as a top producer of organic fresh fruits and vegetables (Dimitri and Greene, 2002), and holds an advantage as the only major producer east of the Mississippi on the national fresh produce chain. In addition to the locational advantage that Florida producers possess, they also enjoy a growing season that overlaps with what is largely a limited fresh produce market in other parts of the country.

According to Austin and Chase (2002), fresh organic fruit and vegetable production in Florida constituted over 80% of sales for surveyed organic growers. This unique combination of factors can foster or inhibit the organic fruits and vegetable producer in Florida, as it either provides security of livelihood or generates strong pressure to convert to industrial organic agriculture and thereby forego the very livelihood that the organic market helped create.

Implications of Study

According to the ERS/USDA, a farm is ‘small’ when its sales are under \$250,000 per year. The great majority of farms fall under this category, although many of them are what the USDA considers ‘lifestyle farms’ (principal operator is retired or has other off-farm employment) (USDA Economic Research Service, 2005). The United States has a rich agricultural history to which small farms have contributed significant knowledge, rural employment, and cultural diversity and symbolism. While more acreage was concentrated into fewer hands, industrial agriculture upset the balance that small farms offered in terms of social, economic and ecological benefits. The development of organic production presented a niche opportunity for small farmers again by utilizing certain marketing and production methods difficult to recreate on large scales, although efforts exist to fit small economies of scale production into a large-scale framework. For example, gourmet baby salad mix started in California among a few chefs that desired fresh local salad mixes. Today, organic salad mix is one of the top organic products on the national market (Fromartz, 2006). As the organic market continues to expand at 16-20% annually (Dimitri and Greene, 2002), it is important to concentrate on from where and who organic produce comes. Because many small farms saw their livelihoods revitalized by the emergence of organics, their continued persistence is directly influenced by the changing organic market trends.

The results from this study can help both the organic farmer and the community in which the farm operates. Organic farmers can use this study to determine future management strategies to plan for changing trends in the local, national, and international organic marketplace. Community leaders and policy makers will better understand the needs of small organic producers and become more prepared to implement policies and incentives to booster organic market share for small organic producers. An informed community of organic producers, consumers, and leaders will help to guide the market such that both small and large producers can meet their own needs and the needs of society. The academic community too can contribute to the advancement of small farm resources and organic agriculture through further research in these topics.

CHAPTER 2 LITERATURE REVIEW

According to Thomas Jefferson, America was slated to be an agrarian society, made up of many land owners each with a small portion of land on which to farm. In a letter to James Madison in 1795, Jefferson states, "it is not too soon to provide by every possible means that as few as possible shall be without a little portion of land. The small landholders are the most precious part of a state" (Stanton, 1994). Jefferson's belief in an agrarian society translated to his political life (Griswold, 1946), and helped to shaped our agricultural ideals as we know it today. As America's democracy developed, so did the agrarian society change and adapt to the rising demand for agricultural products. Although Jefferson promoted a mosaic of "family-sized farms" (Ezekiel, 1942), the next 300 years of American history oversaw the radical change from an agrarian society made up primarily of small landowners to a capitalism driven global commodity chain, of which most of the major players are industrial agribusinesses. In this historical process, a disconnection between consumer and farmer widened to the point where most people today are unaware of the energy and resources needed to bring food to the table (Allen, et al., 2003).

This research takes place at the theoretical nexus of several bodies of literature. It is important to examine how the agrarian question influenced the agricultural history of the United States and the modern organic marketplace (Guthman, 2004). Through the evolution of agribusiness and depletion of small farm resources in conventional agriculture, we can begin to understand how and why the organic label advanced to what it is today. More recently, much of the research surrounding organic agriculture deals directly with the hypothesis that organic is actually approaching the same industrialized system as conventional agriculture (Buck, Getz and Guthman, 1997; Goodman and Watts, 1997; Leslie and Reimer, 1999). This organic

conventionalization--organic commodity chains being appropriated by agribusiness firms (Buck, Getz and Guthman, 1997:301) is the basis for my argument: as the organic marketplace continues to grow, it will become increasingly difficult for small organic farms to persist and may eventually force them to adopt market chains that mimic industrialized agricultural food-networks.

This study examines the relationship between the expansion of the organic marketplace and small farm persistence through perceptions of success, risks and subsequent risk-management strategies. Then it compares the various marketing chains through which organic fruits and vegetables travel, and the inequalities that arise between small and large-scale marketing chains.

The Agrarian Question

Based in Marxist-communist debate, the agrarian question is perhaps one of the most significant influences in modern discussions on the demise of rural economies and small farm existence in the United States. In the simplest form, it considers the “politics and political economy of agrarian transitions to capitalism” (Goodman and Watts, 1997). According to Goodman and Watts (1997), the transition from peasant agrarian practices to capitalist agrarianism was framed by two processes: the first was the growth and vertical integration of a global agricultural commodity network and subsequent international competition; the second was the development of rural democracies that implemented regulatory policies (i.e. tariffs) for the purpose of protecting the farming sector (Goodman and Watts, 1997). Karl Kautsky (Kautsky, 1899), a prominent scholar on the agrarian question, describes the capitalization of agriculture as the progression from a laymen’s craft to a science (Lenin, 1964). Kautsky theorized that dependence on technical agricultural production and industrial wage-labor of small peasants laid the pathways to agricultural industrialization (Kautsky, 1899).

The agrarian debate rose again in recent history through the writings of Wendell Berry: part poet, part scholar. Berry reinvigorated the romantic image of Thomas Jefferson's agrarian society and at the same time brought much-needed attention to the deterioration of America's agricultural resources. Much like Kautsky, Berry cites the increased dependence on technology as part of the problem: "More and bigger machines, more chemical and methodological shortcuts are needed because of the shortage of man-power on the farm..." (Berry, 2005:17). According to Berry, the demise of small-scale producers and increasing technological advances go hand-in-hand. As American agriculture became part of an international industrial complex, it undermined the "independent, free-standing citizenry that Jefferson thought to be the surest safeguard of democratic liberty", and perhaps most importantly, threatened a culture based on "intensive work, local energies, care and long-lived communities...that is...a dependable, long-term food supply" (Berry, 2005:19).

The common theme among agrarianists is not necessarily that small farms are somehow socially superior to large farms, but rather that the political economy of the agrarian tradition must be taken into account when considering the value that a stable and active farming community can lend to rural and urban communities. This goal can be achieved through redirecting the agricultural resources back into the community based, family-oriented operation. However, to better understand how organic production might help meet this goal, we also need to examine the history of agriculture in the United States and how various events led to the organic movement as we know it today.

Thomas Jefferson's Agrarian Society and Agro-Industrialization

During the Revolutionary War, the subject of land tenure was of great significance to the fledgling state governments. Policy makers sought to promote a freehold land tenure system through five principal policies: 1) Eliminate elements of a feudalistic tenure system and refuse to

create new proprietary domains, 2) Encourage private business by giving land to private individuals instead of maintaining state-owned operations, 3) Build communities of small farmers by selling small units of land to individuals with limited capital, 4) States owning large landholdings used the revenues from the sale of such holdings to pay off debts that incurred during the war, and 5) Use land grants to individuals to entice them to enlist and serve in the military forces during the war (Cochrane, 1993). However, it was not until the Land Ordinance of 1785 before the freeholder system could come to fruition, and not without internal governmental conflict. Thomas Jefferson and his followers sought to distribute small parcels of public land to encourage a nation of small freehold farmers, while the opposing view held by Alexander Hamilton was that the United States should industrialize and land disposal policies should foster this goal (Cochrane, 1993). According to Renck (2002), Jefferson's vision of the agrarian society supported the production of food for American society, rather than tobacco for English merchants. This agricultural system would ensure an independent citizenry, and free the farmer from commercial technologies, slave labor, and specialization (Renck, 2002). Although each landholder had his own agenda for the newly acquired land, regardless of the process, they each had the same objective: to improve the land and sell it at a profit to the next wave of land-hungry buyers. This strategy led the nation further away from Jefferson's agrarian vision and instead promoted extensive farmland consolidation into the hands of few (Troughton, 1985).

If Jefferson was so determined to realize his agrarian vision, why did agriculture become industrialized instead? Several authors (Griswold, 1946; Hofstadter, 1955; Eisinger, 1949) scrutinized Jefferson's agrarian vision, calling it rather the 'agrarian myth', where the romantic vision of a yeoman farmer did not reflect farmers' true motivation. Rather, American farmers sought profits and found markets for his goods (Appleby, 1982). Appleby (1982) however,

argues that the real impetus to the development of commercial agriculture was not Jefferson's failed vision, but the reality of Europe's declining ability to feed herself from her own land. American farmers tapped into an unusually brisk export market for grains easily grown in the Midwest and Northeast. Once farmers discovered Europe's appetite for American grown grains, the development of towns and cities with corresponding processors, shippers, and miller industries swiftly followed (Appleby, 1982).

Despite the trend away from Jefferson's agrarian society, the sentiments towards farming as a family-based, individualized lifestyle continued to pervade farm newsletters, Congressional documents, and politician speeches throughout the 1920's and 1930's (Renck, 2002). Anderson (1961) examined the continued attachment to agrarian sentiments and found that three basic tenets still permeated the agriculture rhetoric: First, the idea that agriculture was still a superior occupation to others, second that farming was a way of life, not a business, and lastly that America should remain a community of small yeoman farmers. However, despite the moral arguments for an agrarian society, economic arguments held sway and resulted in large-scale enterprises being seen as businesses rather than farms. Thus, the farm as a business required more industrial interdependency and urbanization, resulting in the beginning of the agricultural complex we see today (Anderson, 1961).

The Beginnings of Agro-Industrialization

The onset of World War I prompted a steep increase in demand for American food exports, thus doubling farm prices by 1920 (Floud and McCloskey, 1994). This created a situation in which land suddenly became scarce, expensive, and subsequent large-scale buyouts were commonplace so as to take advantage of the lucrative agriculture market. In addition to the transfer of land to those with enough capital, more sophisticated industries cropped up to meet the demands of increased agricultural supply and export (Cochrane, 1993). Since agriculture

commodities contributed so much to the overall American economy, the United States Department of Agriculture (USDA) began stepping up efforts to maximize productivity through research in horticulture, animal husbandry, and plant pathology. During the years 1897-1933, scientific technology was introduced to the farming economy, with the most efforts concentrated in mechanization (Binswanger, 1986). From these efforts the diesel powered tractor was born, greatly improving efficiency and eliminating the need for much manual labor. At the same time, more commercial fertilizers such as nitrogen and animal manures were used to improve soil fertility and maximize yields (Cochrane, 1993). The Great Depression was to be the one of the most important catalysts to agricultural industrialization by producing the need for policy reform catering to farm enterprises (Earle, 1988).

The start of the Great Depression in 1930 heavily dampened agricultural production, and sent farm prices spiraling downward (Cochrane, 1993). In reaction, the United States government instituted a series of policy reforms known as the New Deal. According to Orden, Paarlberg and Roe (1999) the programs constituted a radical change from a labor intensive to technology- and capital-driven agricultural industry, thus setting the stage for an even greater divide between large-scale agriculture and the small farmer (Worster, 1979). Thanks to the New Deal programs, the agriculture sector grew again. The New Deal era policy reforms did not end at the close of the crisis; rather, they continued through various farm subsidies that attracted farm lobbyists, corporate interests, and other agriculture-dependent industries (Troughton, 1985). Coupled with a strong presence in the political arena and access to agrotechnologies, the large-scale farm prospered more so during the next 50 years than in any other time in history (Ellis and Biggs, 2001). The shift from “surplus production and financial return” to “lower unit cost of

production” in spite of overproduction essentially challenged the ability for small and mid-scale farms to compete in the market (Troughton, 1985:260).

Today, the issue of agroindustrialization and the decline of small farms continues to be at the forefront of social, economic and political debates. Despite research dedicated to boost small farm survival, the reality is that more of our agricultural resources are concentrated in fewer hands. According to the USDA Commission on Small Farms (1998), while 94% of U.S. farms are considered small (sales of \$250,000 or less), they only capture 41% of farm receipts. Furthermore, over 80% of total farms in the U.S. reported sales of less than \$50,000, making them some of the poorest small businesses in our economy (Economic Research Service, 2008). Recently, however, society has come to realize the benefits that small farms have for our health, rural economies, and social fabric. Many new developments resulted from this concern, among them the rise of farmers’ markets, community supported agriculture, and direct-retail marketing. In addition, farmers began to address the environmental issues of industrial agriculture by participating in sustainable production methods and utilizing less chemical inputs. One branch of sustainable agriculture resulted in the USDA-regulated, “organic” label. This study examines how the label has grown in popularity and what it means for small farm persistence.

Evolution of Organics

Modern organic farming evolved worldwide through three stages: emergence, expansion and growth (Shi-ming and Sauerborn, 2006). Even as mainstream agriculture progressed deeper into a technology- and chemical- driven industry, the roots for organic agriculture were also taking shape. As discussed, the early 1900’s saw some of the most rapid advancement in chemical and synthetic inputs in farming with corresponding increased yields to validate such an approach. However, proponents of more system-based production emphasized the importance of a holistic approach, in which each farmer created his own ecological system. This became

known as “alternative agriculture” and was considered a parallel to industrial agriculture (Edwards, 1990). The majority of literature and debate during this time period focused however on broad-scale natural methods (i.e. composting), and dwelled less on the environmental and social threats posed by industrial agriculture (Browne, 1855; Howard, 1943; Rodale, 1945; Steiner, 1958). It was not until the environmental movement started in the 1960’s that society questioned the impact of industrial agriculture on not only the farm, but in the contamination of our common waterways, soils, air, and food. This created a political and environmental awareness in which organic agriculture was in a prime position to enter its second stage: expansion.

The 1960’s and 1970’s was the setting to a strong backlash against many industries seen as destructive to the environment. Modern agriculture was one of these industries and much attention was paid to the detrimental affects pesticides and synthetic fertilizers had on both the environment and one’s health. Rachel Carson’s book, “*Silent Spring*” (1962), set an alarm off about the dangers of uncontrolled pesticide to animal and human populations. Her now proven thesis on the wide-spread destruction of Dichloro-Diphenyl-Trichloroethane (DDT) (a broad-spectrum pesticide) is thought to have launched the environmental movement, especially in association with agricultural practices. Since Carson’s book, various studies have shown links between many aggressive illnesses and exposures to pesticides (Falck, et al., 1992; Zahm and Ward, 1998). Thus, armed with scientific evidence supporting the idea that a more natural and healthy approach to farming was necessary, farmers and consumers across the country began to embrace the sustainable farm, and showed their support through increased participation in direct-retail consumption like farmer’s markets and Community-Supported Agriculture (CSA). Simultaneously, the idea of organic agriculture gained clout among policy makers and farmers

nationwide, and standards were set among a handful of certifiers such as California Certified Organic Farmers and Oregon-Washington Tilth Organic Producers Association in the 1970's (Baker, 2002). Beyond the United States, organic agriculture expanded internationally as well, with the formation of several non-government organizations such as the International Federation of Organic Agriculture Movements (IFOAM), Federation Nationale d' Agriculteurs Biologiques (FNAB) and Forschungsinstitut fuer Biologischen Landbau (FiBL), dedicated to standardizing and marketing organic products (FAO, 2000). These organizations played an important role in supporting international recognition of organic agriculture's scientific and soci-economic legitimacy. Finally, in 1980, the USDA published a large-scale investigation on organic agriculture in the United States, in which the definition and guidelines for organic agriculture were given, and an action plan was called for further development in the organic market (Shi-ming and Sauerborn, 2006; USDA, 1980).

The emergence and expansion of organic agriculture was important for regaining small farms in the agricultural landscape. Since organic agriculture started largely through direct-retail and local marketing chains, the small farmer had immediate access to the market and more control over price and crop variety (Tovar, Martin and Gomez Cruz, 2005). Local food systems required "developing connections between consumers and growers, boosting ethical capital and social capital around food supply chains, educating consumers about the source of their food and the impacts of different production" (Seyfang, 2006:386), and small organic farms were keen to make these connections.

Since 1980, the organic movement has grown to what it is now: a multi-billion dollar market with internationally recognized regulations and standards. You can now walk into most grocery stores and find products labeled as "USDA Organic". According to USDA estimates,

U.S. certified cropland doubled between 1992 and 1997 to 1.3 million acres. By 2005, every state in the U.S. had some amount of certified acreage, with a total of 4 million certified acres (Economic Research Service, 2008). In the most recent comprehensive report released by IFOAM (2008), it was found that nearly 76 million acres were managed organically in 138 countries in 2006. The rate at which organic agriculture has grown domestically and internationally has caused growing pains for the market, especially for small farmers that rely on local and direct retail marketing schemes. This growth has also led to another body of research pertaining to the social and economic ramifications of organic agriculture and the onset of the so-called “organic industrialization”, or the appropriation of organic by agribusinesses (Guthman, 2000).

Organic Industrialization

Research surrounding the industrialization of organics focuses on several different processes in which industrialization is manifested. The most common evidence includes concentrated forms of corporate ownership and management, capital- and technology-intensive production methods, vertically integrated distribution networks, and implementation of formula standards (DeLind, 2000; Tovar, Martin and Gomez Cruz, 2005; Whatmore, 2000). Each of these facets of the industrialization argument helps to explain the dichotomy between small and large-scale organic producers, as each group has unique advantages and disadvantages in terms of organic production and marketing.

Concentrated Corporate Ownership

It is a common misconception that all organic products sold at the grocery store come from small, local producers. More likely, especially for many of the brands seen in major store chains (Cascadian Farms, Horizon, and Kashi Organics), it was produced by mega-food companies like Kellogg, Delta Foods, and General Mills. This trend towards large-scale organic

product brands stimulated research in the topology of organic producers in California. Several studies (Goodman, 2000; Goodman et al, 1987; Guthman, 2000; Klonsky, 2000) focusing on California's organic market sector reveal that "many farmers [are] firmly in the grip of industrial appropriation" (Goodman, 2000:216). For example, Earthbound Farms based in California started out as a 2.5 acre farm, and is now the largest organic produce operation in North America, with over 150 contracted growers and 30,000 acres under its control (Whitney, 2007). Such a production concentration leads to agribusiness "appropriation" of the organic market, where agribusinesses move farm processes more easily and profitably into the factory (i.e. food processing), and thus reduce existing organic producers' profits. Subsequent competition between small producers and agribusinesses creates economies of scale and reaffirms the axiom of 'get big or get out' (Guthman, 2004). Such large scale production then dictates processing and distribution networks capable of moving massive amounts of fresh produce from one side of the world to the other. These spatial and economic inequalities between large and small-scale commodity chains are another facet of organic industrialization, and the differences between the two help to further explain the squeeze on small producers.

Vertically Integrated Distribution Networks

According to Leslie and Reimer (1999:402), viewing commodity analyses as a whole "provide a space for political action by reconnecting producers and consumers". The spatial nature of commodity chain analyses is important to understanding the market for small organic farms, and can lead to regionally specific policies targeted at the special characteristics of such farms (Leslie and Reimer, 1999). Similarly, Reynolds (2004) explores the organic market using a commodity chain network analysis. The author suggests that "the rise of mainstream retailers and food corporations in organic markets is encouraging the growth of large scale corporate producers that uphold industrial and commercial conventions in meeting mounting product

volume and standardized quality expectations” (Raynolds, 2004:737), thus leading small-scale farms to integrate themselves in the social-based movements to maintain viability. However, it may be unrealistic to rely solely on social movements to ensure the persistence of small organic farms.

Eades (2006) finds that organic enterprises have clustered in certain parts of the U.S. due to favorable conditions such as proximity to metropolitan areas, economies based in farming, and locations in relation to organic support establishments. These support establishments start on a small scale such as a single town (Eades, 2006), and eventually morph into a more involved network of “interconnected companies, specialized suppliers, service providers, firms in related industries, and associated institutions in a particular field” (Porter, 2000:15). While initially such an industry cluster is seen to be especially beneficial to small and medium-sized farms, after certain levels of advancement it creates stiff competition and lowers barriers to market entry and reduces risk for larger scale farms (Eades, 2006). The rise of organic baby salad mix exemplifies this process, where the original few growers relied on only one or two packing and shipping suppliers. As the popularity of these mixes grew, larger growers began out-competing smaller growers because they bought bulk packaging and streamlined the processing, after which they were able to offer significantly lower prices (Fromartz, 2006). Because the market was already well developed for organic mixes, there was little risk to entering the market for larger growers.

Studies conducted in European organic markets (Kjeldsen, 2006, Seyfang, 2006, Renting, 2003) show that social and spatial settings for organic food networks have changed significantly in the favor of large commodity chain enterprises. According to Kjeldsen (2006), local scale networks are not economically viable because of uneven spatial distribution of organic production and consumptions. Furthermore, the local scale is also considered socially unjust due

to the lopsided distribution of workloads and economic risks among producers (Kjeldsen, 2006). As the time-space relationship of organic food chains increase in size and scope, “access to markets is increasingly conditioned by the capacity to meet specific criteria, concerning the variety and appearance of products..., and the capacity for flexible delivery” (Renting, 2003, 397). As seen with the rise of conventional mass-production agriculture, meeting the needs of increasing demand for organic products creates a decidedly uneven development of food chains that may eventually put a squeeze on the small producer.

Capital- and Technology- Heavy Production Methods

According to Guthman (2004) California agribusiness growers “tend to practice a shallower form of agroecology” by relying on input substitution, monocropping, and wide-scale release of predatory insects. These methods replace more traditional or time-consuming methods such as composting, crop rotation and diversity, and growing ‘trap’ plants (as to attract insects away from commercial crops). The same was observed in Mexico, where Tovar, Martin and Gomez Cruz (2005) found that large and small landholders tend to diverge in their farming practices as well, where technology used on small farms was mostly indigenous knowledge and inputs were usually generated on-farm. Large producers, on the other hand, were more likely to use capital-intensive technology and externally manufactured organic inputs. The input-substitution approach is further supported by the existing economic system, where the products more likely to be developed, marketed and sold are seen as “commodifiable solutions” (Allen and Kovach, 2000:224). Commercially produced input products are expensive and often hard to come by; small producers encounter barriers not only through lack of capital, but also through inabilities to buy in bulk—a practice appreciated by manufacturers and retailers alike. As noted by Allen and Kovach (2000), these commodifiable solutions are part and parcel to meeting the

needs of international certifying agencies such that ‘certified organic’ becomes a series of formula standards easily managed and followed by large-scale agribusinesses.

Implementation of Formula Standards

The first official proposal from the USDA on the National Organic Program (NOP) was released in December 1997, outlining the rules and regulations to be associated with the USDA ‘certified organic’ label. The rule was met with over 300,000 comments, more than any other piece of legislation in history and with the majority of comments focusing on the negative content of the rule (Vos, 2000). Currently national standards rely on a long list of acceptable organic inputs and technology, and fail to speak to the socially and environmentally sustainable practices that the organic movement was originally created to address (Allen and Kovach, 2000). This is essentially what Guthman calls “organic-lite”, or substitution of conventional chemical inputs for certified organic inputs (Guthman, 2004:301). Similarly, Klonsky (2000) claims that formula standards will either lead to “organic by neglect” where no active management is used, or at the other extreme, an over-reliance on commercial substitutes, including non-renewable resources. Recently it was found that organic input substitution may cause increased levels of heavy metals in the soil, a side effect considered to be negative and aligned with the essence of organic agriculture (Tracy and Baker, 2009).

As industrial agribusiness appropriation has continued, some argue that organic regulations have changed to allow conventional agribusiness firms easy access to the lucrative organic market (DeLind, 2000). Allen and Kovach (2000) note the economic pressure on certifying agencies to overlook violations of the rules in order to maintain important clients. After studying the California certification agencies, Guthman (1998) predicted that universal standards would “favor those (typically larger) growers wishing to distribute across state lines and likewise clear the way for agribusiness capital to become more deeply involved in organic

foods” (144). California is not the only setting where organic industrialization is occurring; several studies in Mexico show “dual certification templates” with one certification process associated with small, peasant landholders and another more suited for large agribusinesses enterprises (Gonzalez and Nigh, 2005; Tovar, Martin and Gomez Cruz, 2005). Gonzalez and Nigh (2005) cite the inroads of large agribusinesses into the Mexican organic coffee sector a direct result of international certification standards, since certifying agencies make no differentiation between smallholder environmental philosophies and large-scale technical and economic agendas. Other international players in organic production such as China and Japan name further regulation and standardization as the main mechanism in which they will be allowed to enter the market at a more lucrative level (Shi-ming and Sauerborn, 2006). The combination of increasingly regulated standards and subsequent competition between agribusinesses and small-scale producers greatly contributes to the organic industrialization position; whether small farms can maintain market viability despite trends towards industrialization is an important question to address.

Each facet of the industrialization argument poses a risk to the small farmer: how can a small farmer enter the international marketing chain with limited ability to meet the production volume and safety standards required by corporate distribution entities? How will the small organic farmer increase yield without employing costly input-substitution methods? Finally, how will a small farmer compete in an international marketplace when regulations make it increasingly easier for agribusinesses to enter the market? Most organic farms deal with these risks on a day-to-day basis, and yet continue to persist or even are considered highly successful (Milestad and Darnhofer, 2003).

CHAPTER 3 RESEARCH QUESTIONS, METHODS, AND RESULTS

Research Questions

Small farms are a traditional part of the rural landscape, and organic agriculture is one method in which they have regained their standing in the agricultural community. However, as the organic market continues to grow at double-digit rates, it is essential to ask how that same growth may affect the livelihoods of small organic farmers. As the organic market grows, it has taken on qualities of conventional agriculture (Guthman, 1998) that often fail to include the small farmer as viable part of the future of organic agriculture. This study addresses the difficulties small farmers will face as the organic market expands and attracts larger agribusiness firms.

Chapter 1 discussed the significant reasons for examining Florida's small organic farms and their place in the growing market. Thus, the following research questions guiding this study are:

1. What are the most important market factors contributing to the persistence of Florida's small organic farms in a growing organic marketplace?
2. What indicators of organic industrialization are present in Florida's organic marketplace?

Taken together, these questions explore the current dynamics of the Florida organic marketplace, as well as future trends that may be of importance to the organic grower, both large and small-scale. Through extensive interviews, market chain analyses, and review of current market surveys, the factors contributing to the success or persistence of small-scale growers were identified, along with other classifying characteristics of the most successful farmers. In addition to this information, the market was analyzed for indicators of organic industrialization, as discussed in Chapter 2.

Methodological Framework

Risk Analysis and Organic Farm Decision-Making

Because the organic market is relatively young and has developed at such a rapid pace, much of the traditional research pertaining to prices, supply and demand, and risk analysis does not exist for organic farms, let alone small organic farms. Many conventional agribusinesses depend on this type of analysis to determine market strategies, crop plans, and other important decisions. Risk perceptions and analysis is essential for making informed decisions, especially as markets become uncertain. Much of the research regarding risk analysis pertains to firm decisions and the expected return of decisions made in an uncertain environment (Weber and Milliman 1997). However, these theoretical frameworks lend themselves well to the agricultural field because the environment is inherently uncertain because risk sources can be found internally to the firm and externally as well.

When researching small organic farms, the perception of risk is an important aspect to concentrate on, as there are very few studies that have even identified true sources of risk to organic farms. One study compares risk perceptions of conventional vs. organic dairy farms (Flaten, 2005). Flaten and others (2005) suggest that organic farmers are less risk averse than are conventional farmers. Perhaps this is a reflection on the idea that organic farming is particularly more risky due to its relative young market and underdeveloped management strategies. This research shows that much of what organic farmers do on a day to day basis to manage uncertainties comes from trial and error rather than deep-ended production research. Thus, to hope to be successful at organic farming, one must be willing to take risk to achieve results.

While these studies offer insightful information to the complexity of risk and decision making on organic farms, they lack the perspective of the especially unique small organic farm.

Success on the Farm: What Does it Mean?

For the purpose of this study, an index was created to quantify perceived levels of success at the farm level. On the surface, success seems to be a unitary concept, dealing with the financial aspect of the farm. Income, sales, and costs would be the makeup of a 'success quotient' for the farm if finances were the only thing contributing to perceived success. However, the vast majority of research in farm success and attitudes use not only financial indicators, but social indicators as well. This study uses a series of indicators, both of the financial and social aspect to help quantify each farmer's average success level. Following is an explanation at how I arrived at these indicators.

The first success indicator is entirely monetary: whether the farm (on average) made a net income of \$20,000.00 each fiscal year. There is no official agreement in the literature as to an acceptable farm income; rather, there is a set federal poverty line from which a household can determine its eligibility for various social and economic benefits. The 2008 Federal Poverty Guidelines states that the poverty line for a household size of three or four is between \$17,600 and \$21,200. According to the U.S. Census Bureau, average household size is 3.14. Thus, the financial indicator of \$20,000 was selected based on poverty thresholds and average household size, but also for the 'roundness' of the number in terms of ease of recall or quick calculations.

The second and third indicators reflect the farm's ability to either provide employment for one half of the household (i.e. one wage-earner) or employment for the entire household (i.e. two or more wage-earners). These are both economic and socially based; on one hand, a farm's ability to provide employment reflects financial stability, on the other it also reflects an increased quality of life that results from being able to focus completely on the farm rather than having to rely on outside employment. Flaten and others (2005) notes that quality of life is an important attitude that mediates farmers' negative perceptions towards farming. Although Brookfield

(2008) argues that pluriactivity (taking off-farm activities in addition to farm work) is actually one reason why small farms continue to survive, a common goal among many farm operators is to have the farm provide complete household income (Harper and Eastman, 1980).

The fourth indicator of success is the ability to expand in acreage or invest in infrastructure (i.e. buy equipment, machinery, develop irrigation). The ability to expand production by either putting more acreage into crops or by investing in technology is a common overall goal for most farm operators (Harper and Eastman, 1980). Furthermore, Weiss (1999) finds that an incremental increase in farm size results in a direct increased chance of survival. The 2007 report from the International Food Policy Research Institute claims the ability for a small farm to survive in a global market hangs on access to technology that allows entrance to the mainstream markets (i.e. food safety equipment) (Hazell, Poulton and Wiggins, 2007).

The fifth and sixth indicators of success deal with abstract concepts that encompass many hard to quantify attitudes and situations; nonetheless, they are significant to perceptions of success. They are: 'farm provides the lifestyle that myself and my family enjoy', and 'I am able to continue farming at the current level'. These take into account economic and social benefits of the farm while simultaneously encompassing broader reasons for a decline in quality of life or ability to continue farming (such as illness in the family, life emergencies, etc). Harper and Eastman (1980) found that quality of life and ability to continue farming are complementary goals, as a decline in one indicator results in a decline in the other. These indicators are just as significant as direct financial ones because organic farmers are rarely completely motivated by profit (Willock, 1999); thus with their inclusion a more complete picture as to what success means can be derived.

Agriculture Market Chains

The study of market chains in agro-food networks is widespread and ranges from the local to global scales. One of the more prominent schools of thought places the vertical marketing system as the unit of analysis, in which the various players coordinate through cooperation to obtain a common goal of improved efficiency (Dimitri and Greene, 2002). A market chain consists of players, usually starting at the manufacturer and ending in the consumer, with any number of intermediaries in between (i.e. packers, distributors, retailers) (Ferris et.al, 2006). Following Goodman and Redcliffe's (1990) critique of agriculture market chains, the farmer, although an integral part of the chain, becomes sidelined in the production process and is replaced by external capital. In this way, the system becomes part of an agro-industrial complex. The present study takes into account the different players in the organic market chain in Florida and analyses how small farms fit into that chain. The purpose of the analysis is to map out from who the players acquire organic produce and to who and where they resell the product. It is also to determine a broad understanding of the added value a product obtains as it is sold down the chain.

Methods

This study was executed in three phases: Collection and Analysis of Organic Market Data, Farmer Interviews, and Market-Chain Analysis. Although each phase was conducted consecutively, the data derived from each preceding section addresses the research questions.

Collection and Analysis of Organic Market Data, Surveys, and Reports

Because the organic market is growing at a 16-20% annual rate, there are numerous sources of reliable industry data and reports from which to derive an overall idea of the organic market for all types of growers. First and foremost, the USDA's Economic Research Service

makes comprehensive organic production datasets available on its website. They can be compared to conventional wholesale and farmgate prices for the same product in major markets (i.e. Boston, New York, San Francisco) (Economic Research Service, 2008). The Organic Trade Association (OTA) was also a reliable and comprehensive source for current market research and organic industry reports (Organic Trade Association, 2008). This information was used to relate the most important success factors identified in the farmer interviews to the current organic industry in Florida.

Farmer Interviews

Population and sampling design

There are 75 certified organic fruit and vegetable growers currently farming in Florida. Two main reasons for population inclusion in the study were: participation in the organic market and non-niche crop production. These reasons satisfy the research questions by ensuring participants offer experience in the organic market and interactions between consumers, growers, and other market players. Most farmers grew exclusively fruits and vegetables, however there was a portion of growers that in addition to their fruit and vegetable production, had expanded into other commodities or value-added products, such as livestock, eggs, and processed foods. These were included in the survey as to exemplify different market opportunities pursued by organic growers beyond traditional row crops. However, no questions were asked pertaining to any production or marketing outside of vegetables and fruits.

After sorting farmers based on market participation and crop production, 32 growers were interviewed. The population was sent an initial letter outlining the study specifications and objectives, and an interview was requested. Because most growers are evenly distributed throughout Florida, I divided the state into four regions: South Florida, South-Central Florida, North-Central Florida, and North Florida and Panhandle. The state was divided into these

regions for administrative purposes but also for similar agriculture climates. Figure 3-1 displays the research sites and the administrative regions.

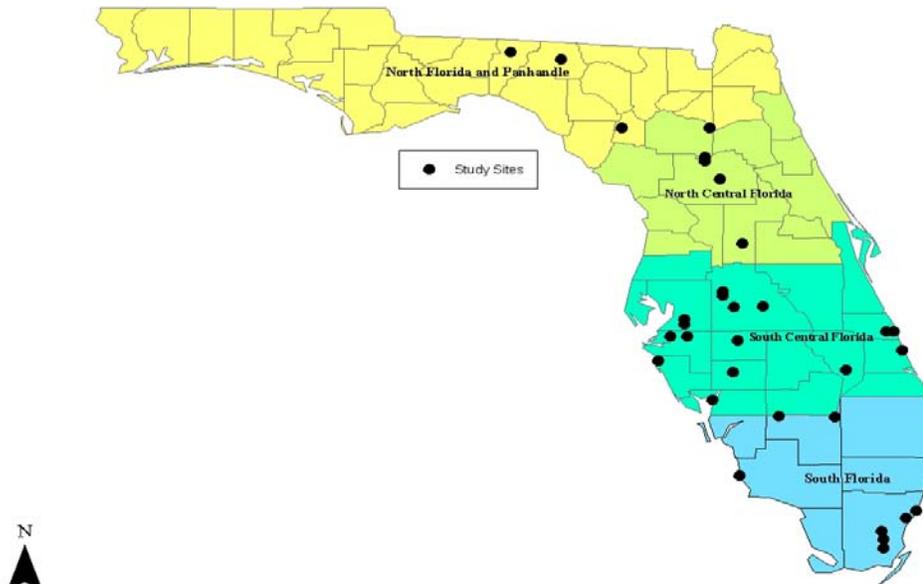


Figure 3-1. Research sites and administrative areas

Execution of interviews

Most interviews took place in-person either on the farm or in the farmer's business office. The interview was semi-structured, with questions broken into four sections: Farm Profile, Market Chain Description, Market Risks/Factors, and Attitudes about Organic Farming. Questions in the Farm Profile were close-ended, while the questions in the remaining sections were mostly open-ended. See appendix for full questionnaire. Characteristics from the Farm Profile are displayed in Table 3-1.

Table 3-1. Farm profile topics

Topic
Certified acres
Acres leased vs. owned
Increase or decreasing acreage
Crops grown
Main crops
Time certified organic
Time farming
Type of business structure
Sales venues
Perceptions of success

The ‘success index’, as discussed, was comprised of economic and social indicators. The farmers were asked to rate from one to five their perceived level of success with each indicator, after which they were asked to rate their overall success, based on the indicators and other factors not included in the success index. The rating system was as follows: 1-very unsuccessful, 2-somewhat unsuccessful, 3-neither successful nor unsuccessful, 4-somewhat successful, and 5-very successful. These indicator ratings were averaged to produce an overall success score for each farmer; this score acts as the dependent variable on which other data was analyzed.

The Market Chain Description was open-ended and brief. The farmers were asked to describe their typical market chain as far as they had knowledge. Most farmers did not know exactly where their product went after sold to wholesale distributors, and so some market chains were not analyzed. However, this section of the interview broke down into greater detail each farmer’s overall marketing structure, by percentage of sales to various market outlets, number of accounts (if applicable), and spatial distribution patterns. It also clarified the major distribution companies doing business in Florida.

The Market Risks/Factors section was open-ended. It consisted of a list of questions designed to draw out issues related to each market risk or factor. Market factors are those that develop outside of the farm organization, and thus cannot be directly controlled by the farmer. The risks used in the interview were modeled after the study conducted by Flaten and others (2005), although some modifications were made. For example, Flaten and others (2005) included 33 risks to dairy farm operations; however, some of these risks are considered to be internal to the farm system (i.e. illness in the family, disease and pest problems, crop yield variability) or only applicable to animal production. These risks were not used in the interview. The remaining risks were determined to be external to the farm system, and highly susceptible to changes in the organic market. This study differs from Flaten and others (2005) in that it is far more qualitative and relies more on open-ended interview data. For this reason, I combined many of the risks in Flaten and others (2005) to make a succinct list of twelve market risks. Table 3-2 shows these risks and how they were assessed.

Table 3-2. Farm risks and assessment values

Risk	Assessment values
Changes in market share	Decrease/increase
Competition	Low/high
Access to the market	Poor/excellent
Labor availability and costs	Poor/excellent
Land prices and development	Ability to expand
Input availability and price	Decrease/increase
Organic price premiums	Decrease/increase
Consumer preferences for organic	Decrease/increase
Government programs for organic farms	Helpful/unhelpful
Certification standards	Helpful/unhelpful

The farmers were asked to discuss any constraints or opportunities each market risk offered. After discussing each market risk, they were asked to identify the top two most significant threats to their success, and the top one or two factors that ensured their success.

After identifying the most significant threats, the farmers were asked to describe their management strategies in response to these threats.

Questions in the Attitudes about Organic Farming section were a mixture of open and close-ended questions. They were designed to determine the reasons why a farmer chose to be certified organic, and their future in organic farming. Table 3-3 show the topics discussed.

Table 3-3. Attitudes and future for organic farming topics

Topic
Reasons for certification
Importance of staying certified
Farm plan in case of difficulty
Plan for certification in one, five, ten years
Possible reason for decertification

Market Chain Analysis

Population and sampling design

The organic market players in Florida consist for the most part of harvesters, packers, processors, marketers, distributors, retailers, and end-customers. Each point in the chain is made of market players, who must be certified by a USDA accredited certifying agency to buy, process, or resell organic produce (Ferris, et al., 2006; Quality Certification Services, 2008). I determined the population through the local certification agency, business records and internet searches. Taken together, these three sources yielded approximately 50 market players.

The sampling design for this portion of the study was modeled after Ferris and other's. (2006) "Rapid Market Analysis" methodology. The objectives of this methodology are: To gain a view of how a commodity sub-sector is arranged, operated and performed, identify sub-sector constraints and opportunities, and identify specific market chains that are most suitable for a producer group. The data was gathered through semi-structured informal interviews with a minimum of 3-5 actors at each stage of the market chain. At least one market chain analysis was

performed for a market traditionally dominated by large-scale producers, and another was performed on a market traditionally available to small-scale producers. A total of 20 players were interviewed. A copy of the interview guide can be found in the appendix. Figure 3-2 shows a generalized market chain sampling design.

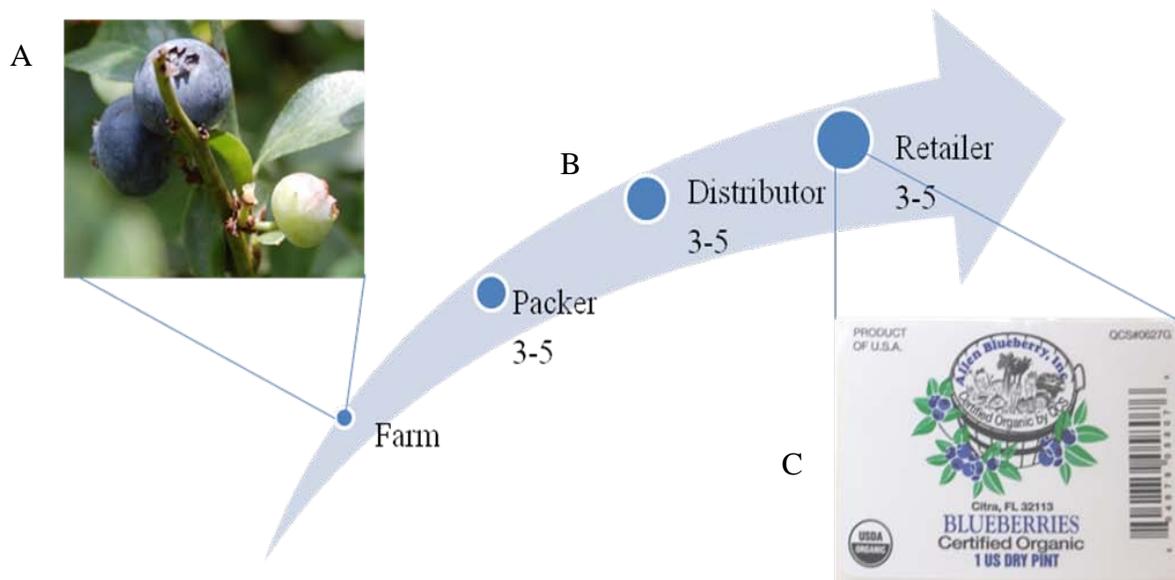


Figure 3-2. Generalized rapid market sampling design. A) Raw farm product. B) Market chain through which product travels. C) Final packaged and labeled product.

Execution of interviews

The interview consisted of six open-ended questions. The first asked the respondent to identify how they fit into the organic market chain. The response was usually within the various players identified above. The second question asked the respondent to identify from whom they bought or acquired organic produce. Probes included information pertaining to the size, scope and type of producer. The third question asked the respondent to identify to whom they are selling the acquired product (if applicable), with probes to further identify if it was wholesalers, brokers, processors, or end-customers, and the size and scope of the next buyers. The fourth and fifth questions asked the respondent to identify reasons, characteristics, or preferences for doing

business with certain types and sizes of producers or businesses. These two questions help to categorize the more likely producers to be included in each market chain and why. The final question asked the respondent to identify the typical price mark-up from acquiring the product to reselling it to the next player. Most respondents denied answering this question, claiming confidentiality reasons.

Results

Farm Profiles

Aggregate profile

Thirty-two households were interviewed and general data was collected about the farm characteristics. The total amount of acreage in certified organic production was 4941.6 acres, of which 82% was owned by the farmer, and another 18% was leased or rented. Most farmers planned to maintain their current acreage in the near future, although two larger farms planned on pulling in an extra 200-400 acres via contract farming (where independent farmer grows and sells to another farmer). The farmers had 734 years of combined experience in farming in general, but only 270 years as certified organic. Table 3-4 summarizes the findings from the farm profile for all participating farms.

Table 3-4. Farm profile results for all participating farms

N	Certified acres	Crops	Time certified (yrs)	Time farming	Principle market strategy	Success score
1	32	Citrus	7	30	Wholesale	1.4
2	4	Row vegetable fruit	1.5	36	Wholesale	1.4
3	28	Citrus	1.5	55	Wholesale	1.7
4	108	Citrus	6	30	Wholesale	2.1
5	20	High end edibles	16	19	Direct-retail	2.1
6	15	Blueberries	5	5	Wholesale	3.0
7	4.5	Blueberries	4	5	Wholesale	3.0
8	375	Row vegetable fruit	2	22	Wholesale	3.0
9	2.5	High end edibles	16	18	Direct-retail	3.0
10	5	Row vegetable fruit	11	12	Direct-retail	3.3
11	17	Row vegetable fruit	2	20	Wholesale	3.4
12	13.5	Blueberries	8	8	Wholesale	3.4
13	13	Row vegetable fruit	1.5	3	Wholesale	3.6
14	5	High end edibles	17	18	Direct-retail	3.9
15	5.1	Citrus	9	36	Wholesale	4.0
16	5	Row vegetable fruit	20	28	Direct-retail	4.1
17	2	Row vegetable fruit, High end edibles	8	23	Direct-retail	4.1
18	7	High end edibles	12	16	Direct-retail	4.1
19	600	Citrus	14	20	Wholesale	4.3
20	10	Row vegetable fruit	2	40	Wholesale	4.3
21	585	Citrus	6	30	Wholesale	4.4
22	10	Row vegetable fruit, High end edibles	19	21	Direct-retail	4.4
23	1300	Citrus	4	36	Wholesale	4.7
24	5	High end edibles	9	9	Direct-retail	4.7
25	5	High end edibles	12	15	Direct-retail	4.8
26	700	Row vegetable fruit	5	5	Wholesale	4.9
27	55	Row vegetable fruit	5	10	Direct-retail	4.9
28	5	High end edibles	1.5	7	Wholesale	5.0
29	5	Row vegetable fruit	2	45	Direct-retail	5.0
30	1000	Citrus	14	43	Wholesale	5.0
31	35	Citrus	1	41	Wholesale	No data
32	15	High end edibles	28	28	Direct-retail	No data

The proportion of crops in production were as follows: Row crops (vegetables and fruits) with 36%, citrus with 27%, high-end edibles (micro-greens, culinary herbs, specialty crops) with

27%, and blueberries with 10%. Most farmers (44%) reported a sole proprietorship business structure, while 33% of the farms were corporations. Another 13% and 10% were either limited liability corporations or some other business structure (trust, partnership), respectively. Finally, the majority of farmers (60%) used primarily wholesale market outlets, while another 40% used primarily direct-retail market outlets. These market outlets were not mutually exclusive; many farmers reported marketing their products through both types of outlets at the same time. Table 3-5 shows the comparison for farm characteristics between small and large farms.

Table 3-5. Comparison of farm characteristics for small and large farms

Farm profile characteristics	Small farm N=25 (sales < \$250,000)	Large farm N=7 (sales >250,000)
Average certified acreage	12.9	669.9
Average time farming (years)	21.9	26.6
Average time certified organic (years)	8.8	12.8
Min/max time farming (years)	3/55	5/43
Min/max time farming certified organic (years)	1.5/28	2/14
Direct Retail/Wholesale Sales (Percent)	52/48	0/100
Average Success Score (1- Very Unsuccessful—5 Very Successful)	3.6	4.1

Small farm profile

Of the 32 interviewed farms, 25 are considered to be small (sales of less than \$250,000). The average size was 12.9 acres, with a range of 2 to 55 acres. Thirty percent of the farmers planned on increasing their acreage in certified organic production in the near future. The majority (38%) of small farmers concentrated on row crops (vegetables and fruit), while another 34% focused on high-end edibles. Blueberries and citrus were also important crops, with 12 and 16% of each. Most (44%) small farmers had a sole proprietorship business structure, followed

closely by corporate business structures at 32%. Limited Liability Corporations and other business structures (trusts, partnerships) each accounted for 12% of the remaining farmers.

Large farm profile

Of the 32 interviewed farms, seven are considered to be large (sales more than \$250,000). The average size was 666.9 acres, with a range of 108 to 1300 acres. Two of the farmers planned on increasing their acreage in certified organic production in the near future, by 200-400 acres. Citrus was the most important crop with five of the large farmers reporting it as their main crop. The other two large farmers reported row crops as their most important crop. Most (four) large farmers had a sole proprietorship business structure, followed by two farmers with corporate business structures. Limited Liability Corporations accounted for only one of the farmers.

Farm Success Scores

Of the 32 farmers interviewed, 30 responded to the success index questions. Thus, only 30 success scores were used to determine the overall success average. The average success score was 3.7 or roughly between neutral (neither successful nor unsuccessful) and somewhat successful. The farm reporting the lowest success score of 1.4 (between very unsuccessful and somewhat unsuccessful) was a struggling citrus grower with 32 acres. There were two farms reporting the maximum score of 5 (very successful), which interestingly were on the polar extremes of size and marketing strategy. The first farmer reporting a success score of 5 had 1000 acres in production, with 100 percent of their product going to wholesale outlets, while the other farmer reporting a success score of 5 had five acres in production, with the entirety of his produce going to a direct-retail outlet. The median and mode success scores were 4.1 (somewhat successful) and 3 (neither successful nor unsuccessful), respectively.

Figure 3-3 shows when compared to farm size (in acreage), there is a distinct pattern such that farms over 300 acres showed a low variability in success scores, with the majority clustering between scores 4 and 5. Although farms with 10 acres or less acres in production showed high variability in success rates, the majority were around 3 (neither successful nor unsuccessful) and higher. A third group with acreage between 10 and 500 acres reported success rates of 3 and lower.

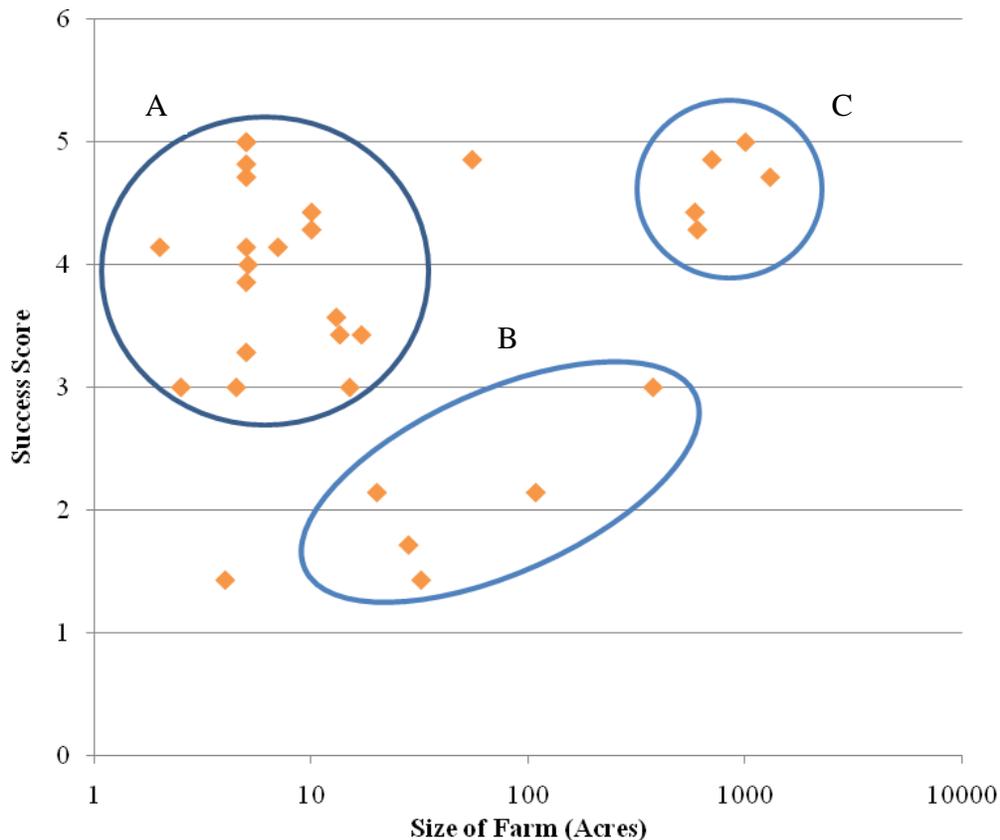


Figure 3-3. Comparing success score and size of farm. A) Farms less than 10 acres in size. B) Farms between 10 and 500 acres in size. C) Farms 500 acres and larger in size. $R^2=0.1181$

When success scores were compared to time certified organic (see Figure 3-4), the regression line shows that success increases slightly with time certified organic. However, this correlation was not particularly strong, and so other factors could be influencing this conclusion.

On the other hand however, Figure 3-5 shows decreasing success scores with increasing time farming non-certified.

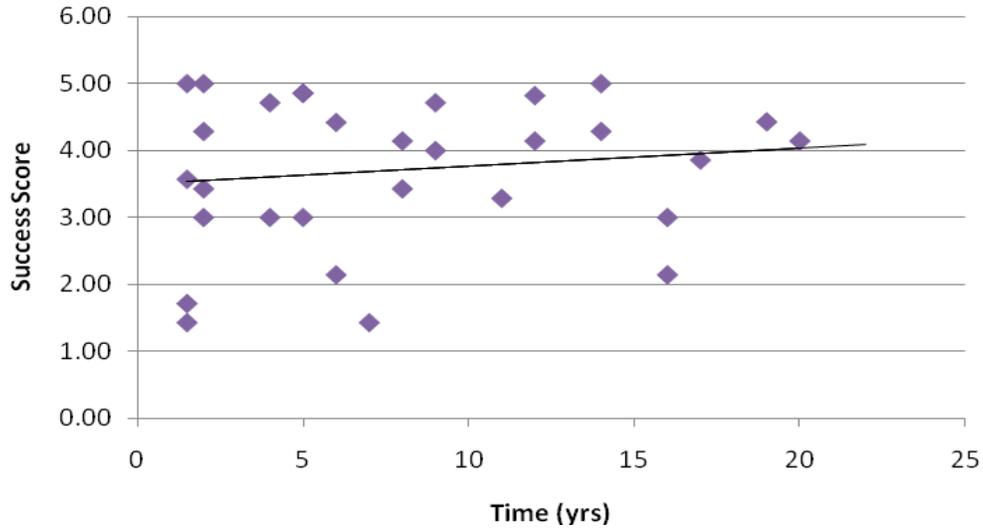


Figure 3-4. Comparing success score and time certified organic. $R^2=.021$

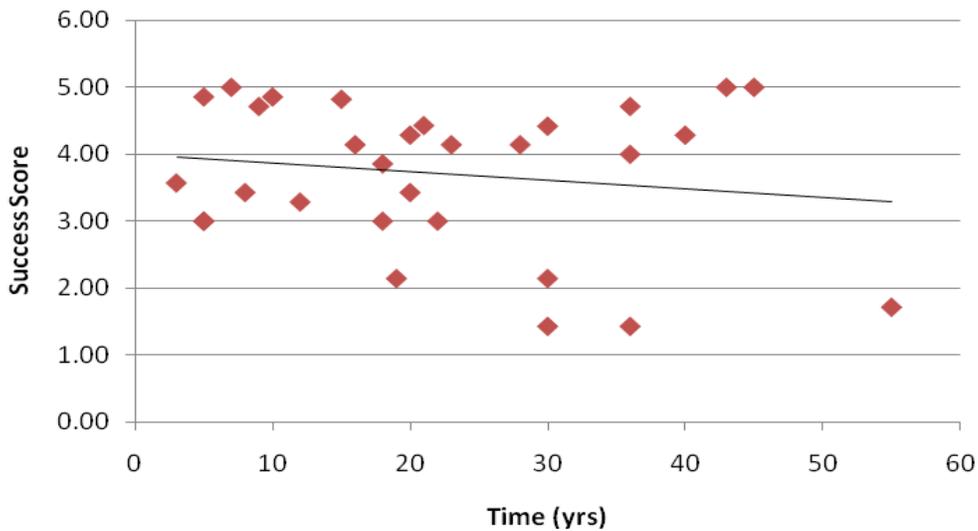


Figure 3-5. Comparing success score and time farming non-certified organic. $R^2=.0260$

The employment of certain marketing strategies also had significant influence on success scores, with direct-retail market structures showing an average success score of 4 (somewhat

successful), and wholesale market structures showing an average success score of 3 (neither successful nor unsuccessful). Figures 3-6 and 3-7 show that overall, the majority of direct-retail marketers reported scores of 4 (somewhat successful) and higher, while the majority of wholesale marketers reported scores of 4 (somewhat successful) and lower.

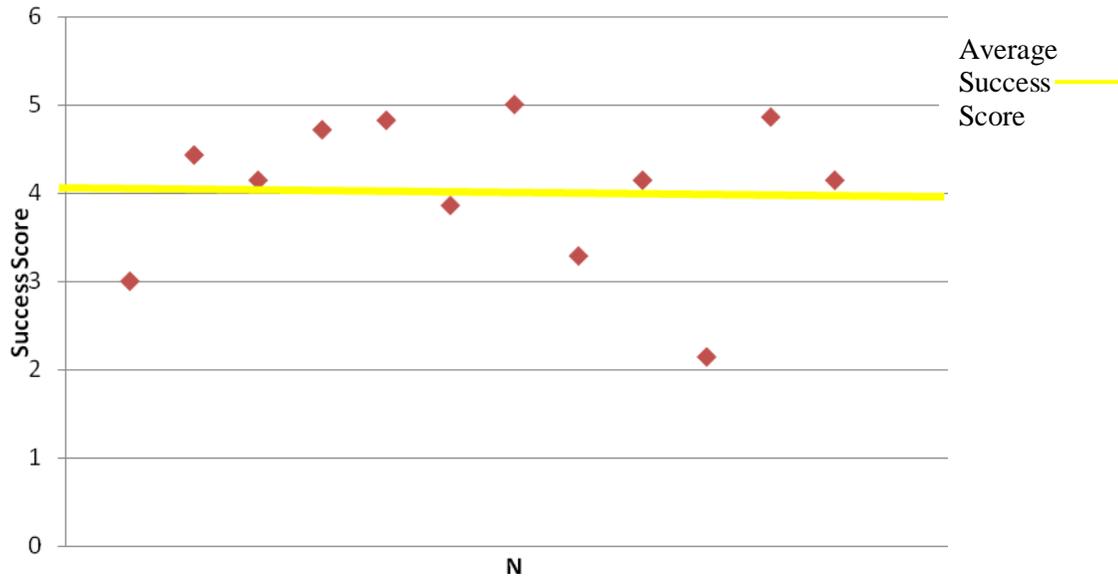


Figure 3-6. Success scores for direct-retail marketers and average direct-retail success score

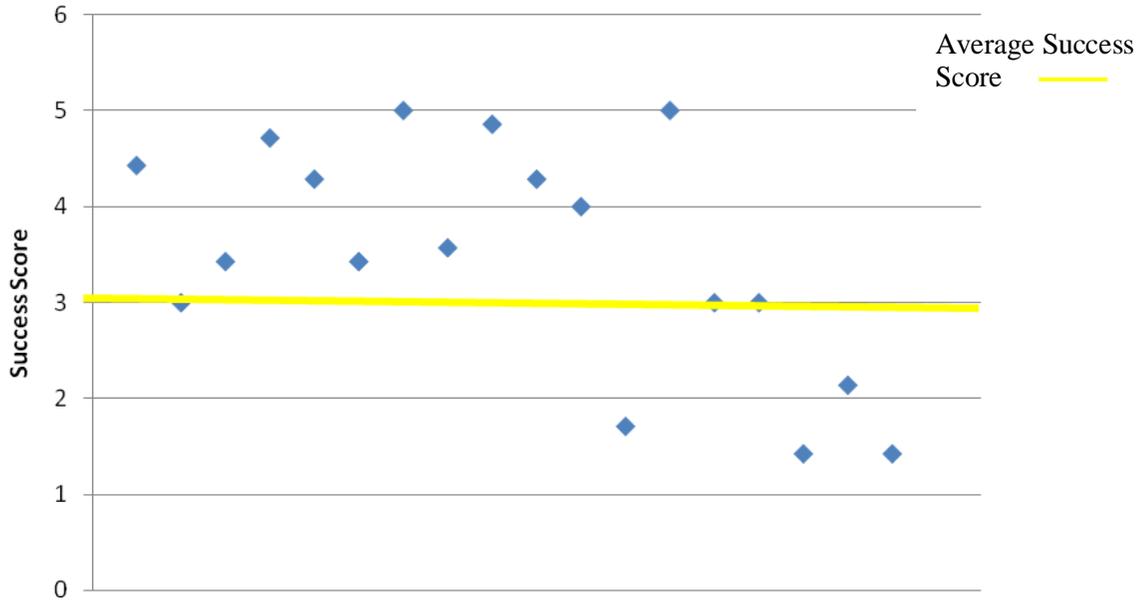


Figure 3-7. Success scores for wholesale marketers and average wholesale market success score

Finally, when success score was compared to the reason why the grower was certified organic, the difference between “lifestyle” farmers (farmers who use organic production regardless of certification status) and “business decision” farmers (those who chose certification to access the organic market) was large. Figure 3-8 shows the average success scores for the two groups.

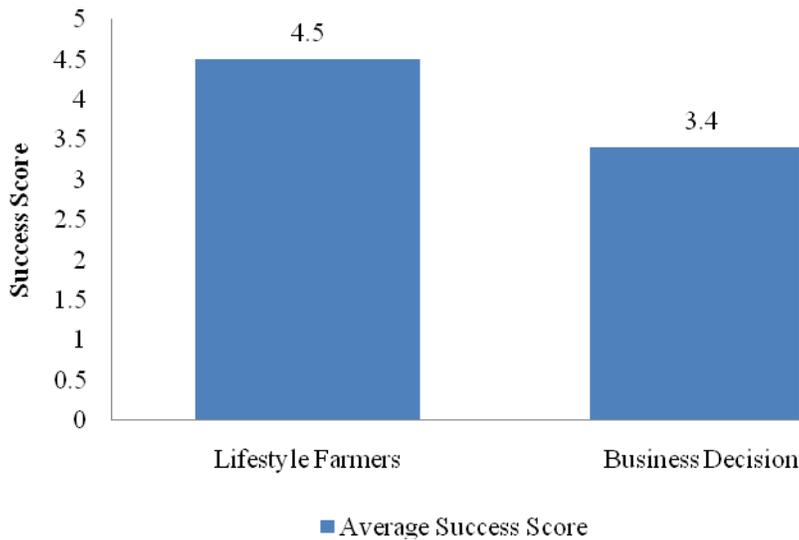


Figure 3-8. Average success scores for lifestyle vs. business decision farmers.

Direct-Retail and Wholesale Marketing Chains

Direct-retail and wholesale market venues are distinct in that direct-retailing usually involves the farmer selling the product to the end-user (consumer or chef), while wholesale marketing usually involves at least one intermediary player who buys from the farmer and then resells either to another intermediary or to the end-user. Farmers reported using a variety of market outlets, both in the direct-retail and wholesale market chains. Table 3-6 shows the percentage of farmers that used various forms of direct-retail and wholesale market outlets as part of their principal marketing strategy.

Table 3-6. Percentage of farmers who used direct-retail and wholesale market outlets. Not mutually exclusive.

Market Outlet	Number	Percentage
<i>Direct-Retail</i>		
Restaurants	6	28
Farmers' markets	5	24
Farm stands	5	24
CSAs	4	19
U-pick	1	5
<i>Wholesale</i>		
Mainstream grocery	17	28
Distributor	15	25
Natural food stores	11	18
Packer/broker	7	11
Processor	7	11
Cooperative	4	7

Market Factors and Perceptions of Risk

When asked the most important threat to their continued success, the majority (36%) of farmers responded that changes in availability and cost of inputs was their primary concern. Changes in certification followed with 16% of farmers claiming that this was the primary threat to their success. The second most important threat to success was increasing competition, with 29% of farmers mentioning this issue. Changes in market share and issues with labor availability and cost were also risks that posed significant threats to farmers (at least 13-19% of respondents claimed these as threats). Market factors such as government program availability for organic farms and access to market had little affect on farmers' success. Neither did farmers find price premium volatility a significant threat.

When asked which market factors offer security to their continued success, most farmers (42%) claimed changes in consumer preferences was the most important. Most farmers claimed that consumers were increasingly demanding and seeking out certified organic products, which ultimately helped their bottom line. The second most important security to their success was the maintenance of price premiums for certified organic products (23% of farmers). Although some farmers claimed that price premiums had fluctuated and even decreased, overall they have maintained steady and were very important to their continued success. Again, market factors such as government programs and certification standards offered very little security to surveyed farmers.

Attitudes and Futures in Organic Farming

Farmers were asked various questions about their attitudes about farming as certified organic and their futures in organic farming. Although there were not delineated answers, I was able to group the responses into distinct groups to better quantify the data. When asked for the

reasons they decided to become certified organic, the overwhelming response (48% of farmers) was that it allowed them to access the more lucrative organic marketplace. Another significant portion of farmers (23%) claimed that they farming organically was a lifestyle and thus being certified came naturally. These reasons were followed by 'best option for small farmers' (16%), 'belief in basic principles of organic farming' (7%) and 'organic standards allows for a fair playing field' (6%). When asked how important it was for the farmer to maintain certified status, 55% said it was 'very important', followed by another 20% claiming it was 'important'. Another 19% of farmers claimed it was neither important nor unimportant to maintain certified status, while only 6% claimed it was unimportant.

Farmers were also asked what their overall plan would be if for some reason it became difficult to be farm organically at their current status level. The two most mentioned plans were to 'cut back on acreage or production' (26%) and 'diversify production strategy' (22%), followed by 'sell land' (16%) and 'quit farming organically and switch to conventional' (16%). Finally, 20% of farmers said they would either drop their certification status or do nothing in particular. When asked if they planned to continue being certified organic for the next 1, 5, and 10 years, over 50% claimed they would be certified up until and beyond 10 years. Twenty percent of farmers claimed they would maintain certification through 5 years, but were unsure about 10 years. Another 17% of farmers claimed they would maintain certification through at least one year, but were unsure about the next 5 to 10 years. Finally, when asked the one reason they would consider dropping their certification status, they overwhelming response (42%) was 'costs to farm organically reduce profit or become prohibitive'. The next most cited reasons were 'integrity of organic standards become compromised', 'costs to certify become prohibitive' and

‘not for any reason’, each with 16% of farmers claiming these reasons. The last 10% of farmers claimed other reasons (i.e. unforeseeable disasters, health problems, etc).

Rapid Market Chain Analysis

The market chain analysis revealed the basic structure of the organic market chain and how Florida’s produce is being bought and sold. Each of the market buyers claimed to buy produce either from the grower directly or through distributors or brokers. Table 3-7 shows the results from the market chain analysis.

Table 3-7. Results from market chain interviews

Type of buyer	Buy from	Buy from location	Buy from size
Packer	Growers	East Coast, SE region	Mid-large
Packer	Growers	CA, FL, Mexico	Large
Processor	Growers, brokers, distributors	FL, CA, GA, SE region	Small-large
Processor	Growers	No data	Mid-large
Processor	Grower	FL	Small-large
Processor	Distributors	Florida	No data
Broker	Growers	CO, CA, WA	Small-large
Shipper	Growers	Fl, CA, International	Small-large
Distributor	Broker	No data	No data
Distributor	Grower	Florida	Large
Distributor	Broker	FL, NY	No data
Distributor	Growers	FL	Small-large
Restaurant	Distributors	No data	No data
Restaurant	Distributor	FL	Large
Restaurant	Growers	Central FL	Small
Retailer	Distributors	Florida	Large
Retailer	Distributors	Fl, CA, Mexico	Large
Retailer	Distributors	CA, FL	Large
Retailer	Growers	FL	Mid
Retailer	Distributors, growers	CA, FL, Mexico	Large, local

Of the buyers that bought from growers directly, the majority bought produce from large-scale operations. They also claimed to prefer to buy from large-scale producers as opposed to small-scale, citing logistical issues as the main reason. The produce bought by the buyers came from all over the U.S. and abroad, especially from Mexico. Although most of the buyers bought

Florida produce, they also bought produce from other major organic growing states like California. After acquiring the produce, it is distributed mostly throughout Florida and the east coast. The price mark-up for the organic produce ranged between 6 and 60%.

CHAPTER 4 DISCUSSION

Characteristics of Successful Farms

There is not one sure-fire formula for success in organic farming. The successful farms participating in this study, however, share several characteristics. Regardless of the amount of acres in production or the time farming as certified organic, farmers with high levels of success had each cornered their portion of the market. This was accomplished through consistently providing quality product in a timely manner. Through time, the level of interaction between farmer and buyer grew to be based on a social as well as a business contract. One farmer with a high success score claimed that her customers had been buying her product for over twenty years, and all decisions on what product she should grow for them was at her discretion. The customer trusted the farmer to make production decisions based on their long-standing relationship. This social relationship develops slowly and requires a significant amount of give and take on the part of the farmer to supply needed product and quality, and the buyer to continuously pay a fair price. The buyer also has to maintain trust by honoring the agreed upon quantity and price at the time of transaction. As exemplified by several formerly successful farms, this type of social relationship becomes more difficult to grow and sustain as the grower puts more acreage in production; the grower and buyer often are at odds of how much one can supply and the other can demand. For example, one interviewed grower with five acres increased his production to ten acres and his regular customer could no longer handle the supply. Thus, the successful farmer scouts the market prior to changing or increasing production; otherwise the social relationship he spent time developing is threatened by misunderstanding or failure to act.

Another common characteristic of successful farms is the ability to monitor and control costs, especially with off-farm inputs. The cost-sales balance has been precarious for most of the interviewed farmers; one year costs were low, while the next year they sky-rocketed, making it difficult to break even that year. However, as the successful farmers noted, one of the benefits of organic farming is the potential independence from considerable amounts of off-farm inputs; not only can one produce compost on his own farm, but the organic regulations and philosophy encourages one to do so. This is where successful farms stand out—they first rely on farm-generated inputs, and then defer to off-farm inputs. However, it should be noted that several successful farms citing this strategy also claimed that regardless of significant cost-cutting, they were still very concerned about competition and lower prices undercutting their bottom line. This indicates that off-farm input costs are and will be a significant factor for organic farms Florida-wide.

Classic Case: Small Farm Success

Small and large farmers each have different strategies to success. Small organic farmers are successful first and foremost by concentrating their market in direct-retail outlets such as restaurants, CSAs (Community Supported Agriculture), and farmers' markets. Direct-retail marketing requires a strong social relationship that is developed over time and solidified through consistent interaction between the farmer and their customer. These small farmers are also markedly dedicated to providing fresh, healthy food for their customer, for which the customer pays a higher premium (perhaps beyond the normal premium paid for organic produce elsewhere).

To examine a 'formula' small farm success case, I critique one farm in particular from this study. This farm has 55 certified acres, but only 20 acres are in active vegetable production. Immediately, this farm has a mechanism to increase their success; they can increase production

and diversify their market with relatively little capital input through simple extensification. In fact, the farmer claimed that they had a waiting list to be put on their CSA program. While they could put more acreage into production and increase their customer base, the farmer said that this would in fact decrease their success, because it would stretch the current farm resources too thin. Here is another characteristic to success: knowing your market and production capacity and planning to produce within your means. This farmer does not change production prior to examining the market and making sure it is the best direction for the farm.

The market chain employed by this farmer is diverse but relies primarily on a monthly box of produce membership similar to the CSA; it differs only in that while CSA customers share the farm's risk by paying up front for the subscription (regardless if the farmer is able to supply what they promised), box scheme customers pay a certain amount per box at the time of receiving the produce and the farmer supplies the product or does not get paid. This farmer also sells his product through a local farmer's market, and less so through a cooperative. Figure 4-1 shows the generalized market chain used by a "very successful" farmer such as this case.

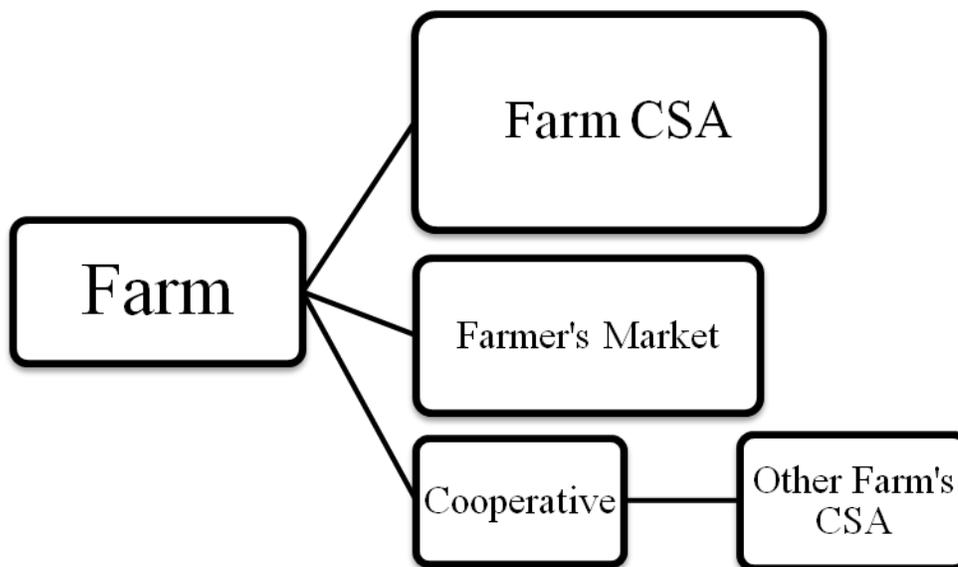


Figure 4-1. "Very successful" direct-retail market chain

Beyond just providing a fresh and healthy product directly to the customer, this farmer is also providing other benefits. The farmer's customers are not only interested in organic produce, they also want to participate in a local farm experience. They value the community involvement that comes with their box-scheme subscription. They also enjoy the fact that they are supporting a local farmer. Farmer market customers get to know the farmer, and gain the feeling of 'ownership' through this social interaction. These customers will go out of their way to buy their fruits and vegetables from the same farmer because this relationship has intrinsic values. Successful small farmers use this other aspect of direct-retail marketing; not only are they eliminating the middleman and getting the best price for their product, but they are forming strong, long-lasting community relationships at the same time. This two-fold strategy ensures dedicated customers who come back time and time again while also paying what the farmer considers a fair price.

Classic Case: Large Farm Success

Large-scale farms are generally thought to benefit the most from economies of scale by having better access to resources and technologies than small farms (Ellis and Biggs, 2001). The results from this study confirm this assumption and add another dimension by revealing strategies in which large-scale organic farms obtain better and broader access to the organic marketplace and affiliated industries. Most successful large farms in this study relied entirely on wholesale market chains and also kept the chain down to one or two intermediaries before the end-consumer bought their product. A strategy like this ensures a higher farm-gate price, an increased presence in the regional market, and more concrete seller-buyer relationships. Wholesale intermediaries depend on these farms for consistent quality and volume; the farms depend on the intermediaries to move the production as quickly and efficiently as possible.

A case study of one large farm exemplifies the economies of scale concept through implementation of innovative management practices from farm to supermarket. This farm has 1000 acres in production, but spreads the risk by owning only 500 acres and contracting another 500 acres among various other growers. From the contracted farmers, they receive a product grown and managed by their particular specifications while avoiding the cost and labor issues associated with such large-scale production. What makes this farm unique is that it has expanded the business to include not only production, but packing, processing, and distribution channels within its corporate entity. This means that the corporation controls almost every aspect of business from the farm-gate to the end-retailer, without sacrificing too much profit to outside intermediaries. Figure 4-2 shows the generalized market chain utilized by this farm.

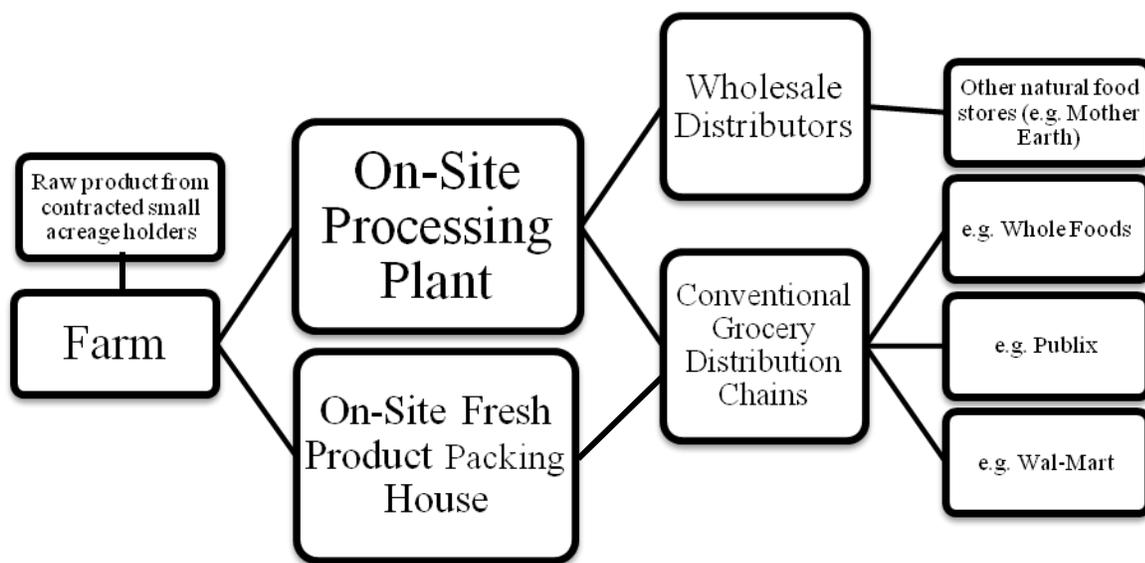


Figure 4-2. "Very successful" wholesale market chain

Beyond applying an integrated marketing chain, this farm also has the advantage of being ‘veteran’ in the organic market. This farm has six more years than the average time certified organic for all other farms in this study. They also have double the time farming in general than the average time for all other farmers. This means that they had a significant jumpstart on

forming relationships with other growers, distributors, researchers, and other affiliated organic players, especially while the market was still relatively nascent. Again, the social contract so important to a successful farm is apparent in this farm's market strategy. Part of their mechanism for staying relevant and informed within the organic market is to participate in major industry associations, conferences, and research projects. In this way they maintain their position in the market as a major player and simultaneously stay informed about possible threats to their success such as the arrival of large-scale international imports. Overall, this farm stays involved in many aspects of production, processing, retailing, and marketing and by doing so maintain a competitive edge. This requires increased resources within the company structure, but is seen as worth the extra cost. In return for this effort, the farm is in a position to react quickly to market fluctuations, and adjust accordingly to meet quantity and quality demands of their customers.

Characteristics of Struggling Farms

One of the most prominent characteristics of struggling farms in this study was the inability to access the organic market at an adequate level. Even if a farm had solid access to one market outlet for one year, the next year this same outlet could become unreliable. These farms had very little market diversification; they relied on one or two major outlets to sell their product. When these outlets were unable to purchase the farmer's product, the farmer was forced to either lose their crop that year, or sell it at conventional prices. Because the majority of struggling farms in this study were small scale, they were generally unable to access a variety of market outlets such as distributors, processors, or even direct-retail outlets. One farmer in particular noted how difficult it was to enter the organic market at all without name recognition within the sector. Another difficulty that over half of the struggling farms experienced was competition from other small farms claiming their product to be certified "naturally grown" or "grown

organically”, which according to the farmers in this study are labels that mislead the public and make “certified organic” seem less valuable or reliable. Overall, these farms faced stiff competition from both wholesale and direct-retail competitors, thus greatly inhibiting their entrance or continued presence in the organic market.

Another characteristic that the majority of struggling farms had in common was the fact that they had significantly more time farming conventionally than they did farming certified organic. While on the one hand this attribute might contribute to one’s success, in this case it may have created a situation in which ‘old habits die hard’. The longer amount of time spent producing and marketing in the conventional market, the more accustomed the farmer becomes to certain methods of doing things. For whatever reason the farmer switches to farming certified organic, he still does not quite grasp that the rules of organic production and marketing is different in many ways from conventional farming. In fact, for the farmers that reported a success rate of 2 or less, this was a common complaint; they simply did not know where to start to produce organically, nor find a market to buy their product. Furthermore, the organic market simply is not as developed as the conventional market and thus is not nearly as accessible, despite positive growth reports in the media. Thus, a struggling farmer may increase his success after marketing their product in the organic sector for several years, during which time he can develop more concrete customer relationships and learn to gauge the current demand.

The final characteristic common to struggling farms is the dominant reliance on input-substitution methods and the subsequent vulnerability to fluctuations in price and availability of such inputs. Although most farms use some amount of off-farm inputs, this group of farms cited the cost of fertilizers and fuel to be “crippling” to their overall financial situation. Initially, the majority of these farms entered the organic market for the price premium on organic produce; the

perceived ‘niche’ opportunity seemed to outweigh the increased costs of input-substitution production. This method of production may be influenced by the fact that these farms were long-term conventional farmers recently switched to certified organic. According to the National Organic Standards Board (NOSB) definition, "organic agriculture is an ecological production management system that promotes and enhances biodiversity, biological cycles and soil biological activity. It is based on minimal use of off-farm inputs and on management practices that restore, maintain and enhance ecological harmony’’ (Agricultural Marketing Service, 2008). Farmers who were accustomed to conventional production methods such as using large amounts of off-farm inputs to control pests and increase quality face an immediate difficulty in farming organically; they either have to accept an initial loss of yield and quality to the trial and error process inherent to organic farming as defined by the NOSB, or they have to pay increasing costs for approved manufactured inputs that replace their conventional counterparts. Taken as a whole, relying on an input-substitution approach to organic farming is a major contributing factor to farmers’ low success rate. Table 4-1 summarizes the characteristics of successful and struggling farms.

Table 4-1. Generalized characteristics of successful and struggling farms

Characteristic	Successful Farms	Struggling Farms
Business strategy	Relies on ‘social contract’	Has no ‘social contract’
Off-farm inputs	Controls cost by minimizing use	Uses inputs regularly
Access to market	Diversifies sales outlets	Relies on one or two outlets
Years farming organic Vs. conventional	More time organic	More time conventional
Type of crop	‘High end edibles’	Mono crops (i.e. citrus)
Size of farm (acres)	<5 acres or >100 acres	Between 10 and 100 acres
Principle market strategy	Direct-retail	Wholesale

Threats and Securities to Persistence

This study focused on twelve different factors that either posed a threat or security to the farm's overall success. There were several commonalities among the participants responses, regardless of the farm size or major crop. Following is a breakdown of the most common threats to the farmers' success.

Threats to Farm Persistence

Off-farm input cost and availability

When asked the most important threat to farm success, over one-third of the farmers cited the increasing cost and sub-standard efficiency of available off-farm inputs. According to the majority of farmers, fertilizer costs have increased from 20-50% in the last year alone. This may be due to a variety of reasons, including increased shipping costs and the rising cost of oil. It is a problem sourcing inputs in Florida; many farmers have to order their fertilizers from as far as Kentucky. After discovering this problem, I performed a search of the OTA's organic service directory for input suppliers in Florida. According to the OTA, there are approximately ten consistent suppliers of OMRI-approved fertilizers and pesticides (Organic Trade Association 2008) in Florida. While these ten companies are the closest source for at least 75 organic fruit and vegetable farms, they could possibly supply other types of farms (such as livestock, poultry, and hobby farms) all over Florida.

At the time of this study, many farmers expressed another concern with inputs: rising fuel prices. Most farmers use fuel in some capacity or another—to run their tractors, cars, and delivery trucks. Some farmers claimed that their fuel costs had doubled in the last year alone. It is possible that the increasing fuel prices may also lead to a better local market for organic producers, as it may become too costly to ship produce from Mexico and California to Florida's

market. One Florida-based distributor claimed that acquiring local produce first was their main strategy to remain competitive, because shipping and delivery costs had recently become “unruly”. It is too soon to tell if the increasing costs of fuel will significantly affect the organic market in either way; it is possible that the most efficient use of energy means importing large quantities of produce from mega-producers in California and Mexico. It is also possible that soaring shipping costs will put a crimp in global organic distribution channels, thus benefitting the local and direct-retail producers the most.

Regional and international competition

Another significant threat to a farm’s success is increasing competition. Most farms--regardless of their size--claimed competition from either California or Mexico to be not only a major current concern, but also a future concern as well. This perceived threat is not unfounded; since, 2000 Mexico has increased organic production area by nearly 248,000 acres (Tovar, Martin and Gomez Cruz, 2005). Over 98% of Mexico’s organic production is for export and competes with the Florida organic market for large and small producers alike, especially during the winter growing season. One farmer claimed that after the passing of the North American Free Trade Act (NAFTA) in 1992 (United States Trade Representative, 2008), she lost all of her avocado buyers to Mexican producers, and the farm nearly went out of business. Mega-producers with headquarters in California regularly rotate their crop to include a growing season in Mexico, where inputs and labor supplies are cheaper and more available. This transnational rotation puts producers like these into a prime position to strongly compete and corner the market, especially during the off-season (November-March), during which time Florida producers also grow the bulk of their crops. All the blueberry producers included in this study claimed the same thing: the price premium for blueberries is strong at the beginning of the harvest season, but steadily declines once California and Texas enter the market with large

amounts of berries. By the time the small Florida producer is at peak harvest, the price premium has gone from \$30/box to \$12/box, barely allowing them to break even. Figure 4-3 shows the major sources of competition according to interviewed farmers, and the certified acreage for each.

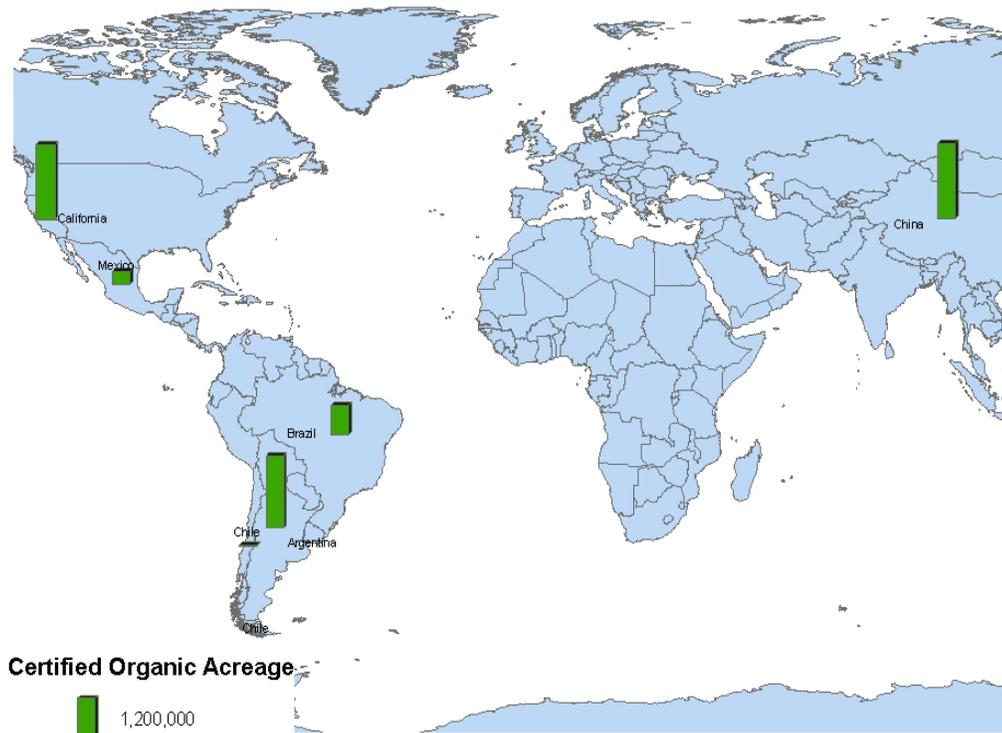


Figure 4-3. Countries and states that compete directly with Florida organic growers and their certified acreage.

Small producers also feel heavy competition from large producers within Florida.

Several farmers spoke about previous business relationships with mainstream natural food stores that suddenly disappeared; the reason from the company for severing this relationship was that they wanted to spread their 'local' buying power to other growers. When one farmer inquired as

to who was the new grower, he was told it was the largest producer of organic tomatoes in Florida. Small producers face hurdles to break into the local distribution sector since there are only two major organic distributor companies in Florida. Several small farmers complained of being unable to even get a call back from the different distributors when inquiring about possible purchasing. Based on interviews with various intermediaries in Florida, the main reason for this lack of communication was because small producers on a whole are perceived as unable to provide the volume of product needed in a reasonable timeframe. The intermediaries also said that since most small producers are unable to provide adequate safety and quality records, it is expensive and inconvenient to buy from them. This may explain why small producers that rely on wholesale market chains for the most part experience lower success and greater financial difficulty.

The issue of competition is not limited to wholesale market chains; many farmers using a direct-retail market strategy claimed stiff competition, especially among farmer's market venues. While direct-retail marketing was the best way for small producers to achieve higher levels of success, it was not necessarily a given that it would significantly affect sales for the better. For example, one farmer noted that despite selling in a farmer's market with particularly educated and affluent customers, he still competed heavily with the one other organic producer at the market, as well as the non-certified growers claiming an "organically grown" product. This phenomenon of labeling a product "organically grown" is in fact illegal for producers with sales over \$5,000, but is rarely enforced, especially on such a small scale (Agricultural Marketing Service, 2008). Albeit seemingly trivial, the practice of non-certified growers labeling their product as "organically grown" is a very real and urgent threat for small farmer's market retailers

because it undermines a marketing advantage (certified organic) that costs significant amount of time and money to achieve.

Certification standards and requirements

While just one-third of interviewed farmers claimed that certification standards and regulations were either the first or second most significant threat to their success, the majority had complaints about various aspects of certification standards as they stand currently. First and foremost, the cost of certifying is prohibitive for many small farmers; beyond the initial cost to apply, the farmer is also responsible for the yearly inspection costs (Quality Certification Service, 2007). Depending on the size and location of the farm, the total cost can range from \$500 to thousands. In previous years, there was a cost-share program included in the Farm Bill where producers could apply for help paying certification fees. In the last two years however, the cost-share program was suspended. Most farms cited the cost share-program as being an important factor to continuing farming as certified organic; in fact, the possibility of costs to certify becoming too prohibitive was the second most important reason why farmers would drop their certification status. Thus, despite this threat not being at the forefront of small farmers' concerns, in combination with increasing costs to farm organically and more competition, costs to certify may in fact become a reason not to certify at all.

Another significant problem posed by being certified organic is the amount of time and effort required to complete the initial application and to stay within on-going regulations. Many farmers claimed that the initial application and subsequent status maintenance is frustrating at best and nearly impossible at worst. Their complaints were centered on the confusing nature of the rules themselves, rather than their certifying agency's application protocol. However, many farmers also expressed frustration with their certifying agency for being "picky and touchy on certain products". They claim that some products and production methods that are allowed

elsewhere in the United States are not allowed in Florida, where they would be more beneficial. This is because each certifying agency has some flexibility in how they interpret the NOP rules (Agricultural Marketing Service, 2008), thus allowing for certain methods in different regions of the country. One farmer experienced a discrepancy such as this and it cost him significant time and a revoke of his certification status for a small portion of his land (by first using an approved product which later is deemed unallowable). He was unable to sell the crops grown on that portion as organic for three years. Between the increasing costs of certifying and the frustrations connected to the certification process, it is possible that many small farms will find that being certified organic is not in their best interest.

Factors Associated With Farm Persistence

Increasing consumer demand for organic products

Despite there being significant barriers to small farm success in organic farming, the market is developing in a way that offers some security. Nearly half of the farmers claimed that increasing consumer interest in organic foods is an important factor to their success. However, farmers not only mentioned organic as an important trait that consumers look for; they also seek out “local, sustainably” produced food as well. The strategy of “stacking” labels (i.e. sustainable, local, organic) is an important marketing tool that several farmers take advantage of, especially for higher-end buyers such as chefs. Some farmers even claimed that their ‘localness’ was more important to their customers than being organic; the certification was just a bonus and they would continue to buy from them regardless of their certification status. Farmers who were within 50-100 miles of major cities (>100,000 population) also held an advantage in terms of accessing established direct-retail and wholesale markets. Figure 4-4 shows the influence of major markets on farm success.

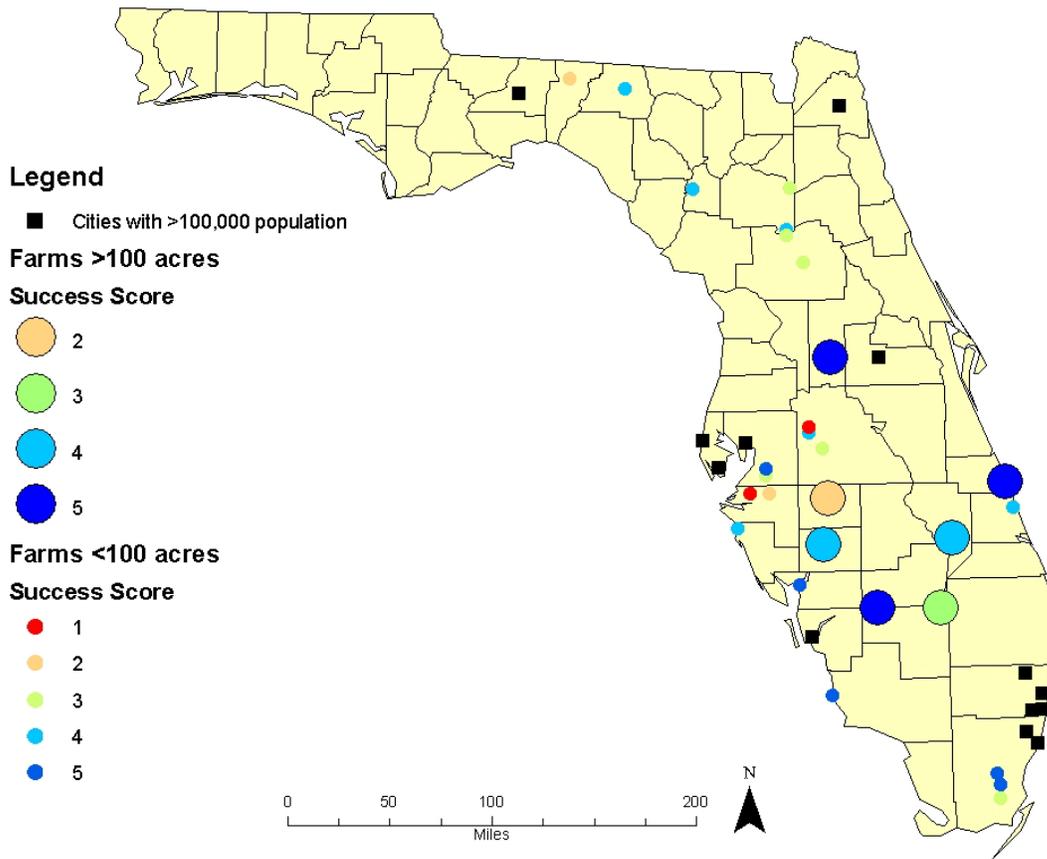


Figure 4-4. The influence of proximity to major markets on success scores.

For farmers that regularly relied on wholesale market venues, increasing consumer preferences for organic was especially significant for their continued success. While direct-retail marketing seems to be the best venue for small farmers, when the local market is underdeveloped it makes better sense to move the product through wholesale distributors who have greater access to mainstream and natural food grocery stores. For a farmer to sell his organic produce to a wholesale distributor, he must present his up-to-date certificate proving his eligibility. As discussed earlier, trends show that the organic market for fresh fruit and produce sales is concentrated more each year in mainstream grocery stores, with currently 38% of sales taking place in venues such as Whole Foods, Wild Oats, and Publix Greenwise Markets (Organic Trade

Association, 2007). This situation places the small farmer in a difficult position; while demand for organic continues to increase, they are still unable to access the most patronized market venues without the help of at least one intermediary. On the other hand, large-scale farmers benefit from this trend because it allows them to move large volumes of produce through centralized distribution market outlets. Large scale farmers also retain name recognition because they often have branding labels already established (i.e. packing boxes, stickers), which allows mainstream market venues and customers to ask for their product by farm name. Small farmers are unlikely to have their farm name legally branded, and so their product usually gets repacked and mixed with other growers' produce, essentially severing any potential for brand recognition. Nonetheless, since most farmers perceive increasing demand to be an imperative factor for their success, it is important for the industry to collectively continue campaigning for the benefits of certified organic agriculture.

Price premiums for certified organic produce

The price premium for certified organic produce was the second most important security to the farmer's success. However, after tabulating the farmer's responses in relation to price premiums, it was apparent that on average, most farmers believe that premiums are mostly holding steady, or at worst, fluctuating between small and non-existent. This means that while higher prices for organic produce is significant to success, they are not meeting the growers' expectations. The only group of farmers that claimed a steady increase in prices were the "high-end edible" producers (products grown especially for gourmet markets and chefs). The majority of responses were focused more on the correlation between the seasonal decrease in price premiums and the market entrance of large-scale producers from California and Mexico. One farmer claimed that a box of his organic fruit sold for \$40 at the beginning of the season, and within a month of California's products entering the market the price dropped to \$12/box, at

which point this farmer could no longer produce at a profit and decided to suspend all harvests for the season. While farmers agree that price premiums are very important to their continued livelihood, it is also clear that the premiums could quickly become a rare occurrence due to increased competition.

One of the fundamentals of competitive markets is that the price equilibrium is found at the intersection of consumer demand and producer supply. Once the price is low enough to stimulate more demand, then more supply is injected into the market, thus leading to a hypothetical market price that satisfies both consumer and producer (Samuelson and Norhaus, 2001). With increasing competition both nationally and internationally, price premiums may continue to come down until they match conventional agricultural prices. Several studies (Padel and Foster, 2005; Dimitri and Greene, 2002) show that the number one consumer barrier to buying organic produce is the price. Thus to continue to grow the market for all producers, large or small, the price needs to come down to more comfortable levels. A study from the ERS (Oberholtzer, Dimitri and Greene, 2007: 2) goes on to say,

laws of supply and demand, however, make it unlikely that price premiums contributing to higher profits and market growth can coexist over the long run: as long as higher profits exists, new suppliers will enter the market, and once market supply increases faster than demand, price premiums and the commensurate level of higher profits are likely to decline.

However, while most farmers acknowledged the importance of the price premium to their success, they also noted that the current premium barely outweighs the cost to farm organically. Although a recent USDA study (Oberholtzer, Dimitri and Greene, 2007) claims that price premiums have remained steady despite market expansion, it fails to address how the fluctuation

in premiums can affect the small producer. Table 4-2 summarizes the market factors that pose the greatest threats and securities to farm persistence.

Table 4-2. Most important threats and securities to farm persistence

Market factor	Number farms	Percentage
<i>Threats</i>		
Off-farm inputs	11	36
Competition	6	20
Certification regulations	5	16
Other	8	28
<i>Securities</i>		
Consumer preferences	13	42
Premiums	7	23
Market access	4	13
Other	6	22

Evidence of Organic Industrialization in Florida

According to several studies (DeLind, 2000; Guthman, 1998; Guthman, 2004) evidence of organic industrialization falls into four major categories: concentrated corporate ownership, capital- and technology-intensive production methods, vertically integrated distribution networks, and implementation of formula standards. This study has found evidence of the first three categories through organic farm interviews and a rapid market chain analysis.

Concentrated Corporate Ownership

Corporate concentration of organic products and brands is widespread and ranges from fresh fruits and vegetables to processed drinks, cereals, and convenience foods. While some of the more recent studies conducted in California show a steep increase in corporate ownership among organic producers, organic agribusiness appropriation is still relatively underdeveloped in

Florida. Because most organic farms in Florida are small-scale, much of the production is spread out among over 70 producers, and only in certain agricultural sectors is concentrated ownership seen. The citrus sector is experiencing the greatest concentration of ownership in both organic and conventional citrus, with only a few processors buying the majority of production throughout Florida. Several citrus growers mentioned the narrowing market, especially for fresh juice processing. The main problem for organic citrus growers was the rapid consolidation of packing and processing plants throughout Florida; this consolidation ultimately led to a small window of opportunity to get their product harvested, shipped, packed and processed as organic.

There was also extensive indication of corporate concentration among the distribution channels in Florida. Among all the farmers interviewed, only five were participating in an arrangement similar to a grower cooperative. The majority of distributors had growers with whom they regularly did business; some growers were actually contracted to grow for these distributors. Once the distributors acquired the raw product, it was resold to various processors and packers around the country and internationally. By the time the final product reached the end consumer, the price had increased from 10-60%.

Capital- and Technology-Intensive Production Methods

As discussed earlier, one of the most common characteristics across farms was the reliance on input-substitution production methods. This was especially evident in large-scale farms, but was also relatively common among small producers as well. Because the cost of fertilizers and pesticides was cited as the most imminent threat to a farm's success, it is apparent that these technologies are becoming more prevalent and important to maintaining organic production overall in Florida. Since the NOP has outlined which products an organic farmer can and cannot use, it has become easier for input manufacturers to supply products that are exactly to organic standards. While the original intent of organic production was to approach farming

from a whole-systems strategy that minimized off-farm inputs (Agricultural Marketing Service, 2008), the increasing ease of purchasing already-approved organic products quickly replaced the difficult and time consuming process of trial-and-error production that adheres more closely to the original intent. Most farmers interviewed stated that they would like to have even more manufactured choices for controlling insects and weeds than current supply. It was very rare for a farmer--regardless of the size of operation--to employ beneficial predatory insects or cover crops for weed reduction. Interestingly, one farmer claimed that it was actually the NOP standards themselves that created the situation in which farmers relied more on manufactured inputs. He argued that the standards were so rigid that they left no room for experimentation on the farm because the farmer could risk the chance of losing his certification. Instead of finding ways to be more sustainable on the organic farm, it was easier for him to forego the risk and stick to the outlined allowable products.

In addition to off-farm inputs, large scale farms were also employing high-technology solutions to drainage and water distribution problems inherent to vast amounts of land. One farmer employed laser-leveling tractor implements to ensure the soil had proper drainage for the desired crop. Technology such as this greatly improves production by minimizing loss of irrigation resources and crop rot. Not only is this technology too costly for most small farmers as it requires large quantities of capital input, neither is it practical on small tracts of land. It would take large-scale production to see the benefits of such a capital investment. One small farmer in this study had adjusted his technology needs by employing various factory-line packing machines, such as cullers and quality control belts. Although this type of technology is not considered cutting-edge, it does allow for the small farmer to ensure better quality and safety control, which makes him more competitive in the wholesale market. Overall, this study shows

that industrialization is occurring, however at slower rates than shown in other parts of the country. However, it is notable that industrialization occurs across farm size; it is not only a condition of large-scale production, as found in other studies.

Vertically Integrated Distribution Networks

While only a few farms were involved in both production and distribution, vertical integration became much more apparent through the rapid market analysis. Several distributors and processors had entire production and distribution networks working under the same company ownership. These companies control every aspect of the business from crop type to end-user delivery. This allows for them to carefully monitor and take advantage of the supply and demand equation on the organic market, while at the same time avoid profit loss to outside intermediaries. They are also able to take advantage of economies of scale through ensuring the needed resources to supply a timely and quality product all over the United States. Vertical integration is especially beneficial in the current market because of the recent food-related illnesses that led to public questioning of untraceable food products. Since one company can provide records of the time, place, and method of production, they have a competitive edge against other intermediaries that procure their product from several other sources besides known growers. Furthermore, the scale of such integration allows for the capital and logistics to ensure food safety from production to retail—something most small farmers are incapable of doing. Neither are the small volume buyers able to guarantee an acceptable level of safety control, since small volumes are repacked to be consolidated into large shipments across regions, thus losing all farm identification.

Beyond the organic market chain in Florida, there is also evidence of vertical integration among several producer/processors. The same farm that was outlined earlier as a “very successful” case shows several characteristics of integration, especially in their ability to control

every aspect of the business from production to distribution. It also ensures that the processing arm will always have sufficient quantity to supply the distribution arm. This form of management greatly influences the organic market, since mainstream grocery retailers need constant and high volume shipments to meet their customers' demands. The same type of producer/processor arrangement also takes place among small farms, albeit on a much smaller scale and across a more local distribution network. For small farms, vertical integration is also known as "value-adding" because they add another processing step in between production and sales to decrease costs and increase profit. However, as exemplified in other small companies gone mega-scale (i.e. Earthbound Farms), value-adding is often the first step to market consolidation and vertical integration.

Organic Market Chain Analysis: What Does it Mean for Small Farmers?

A "rapid market chain analysis" (Ferris, et al., 2006) was used in this study to create a concise map of the organic market, especially as pertaining wholesale buyers and sellers. Because the majority of farmers in this study utilize a wholesale market strategy, it is important to understand how small and large producers fit into the chain. This analysis also helps to explain why lower success rates were found when small farmers used a wholesale market strategy.

Tracing a Product from Farmgate to Retailer: Chain Structure and Price Inflation

From the farmgate, the first intermediary who acquires the raw product is usually a broker or distributor who buys directly from the grower. Occasionally a broker will assist the farmer in marketing his product to other distributors at the best market price in exchange for a commission of 7-12%. Once the product is acquired by the distributor, it is repacked using the distributor's label and brand, thereby eliminating farm origin information. The distributor may sell the repacked product to other distributors or processors, or directly to a retailer such as

restaurants and grocery stores. If the product is sold to a processor, it will be processed into a value-added product (i.e. juice, preserves) and sold to distributors or retailers. Finally, the end-consumer will buy the product, sometimes after it has exchanged hands three or four times. At this point, the consumer is unaware of who grew the product, let alone where it was grown.

Figure 4-5 shows a typical market chain in which a raw product travels from farm to retailer.

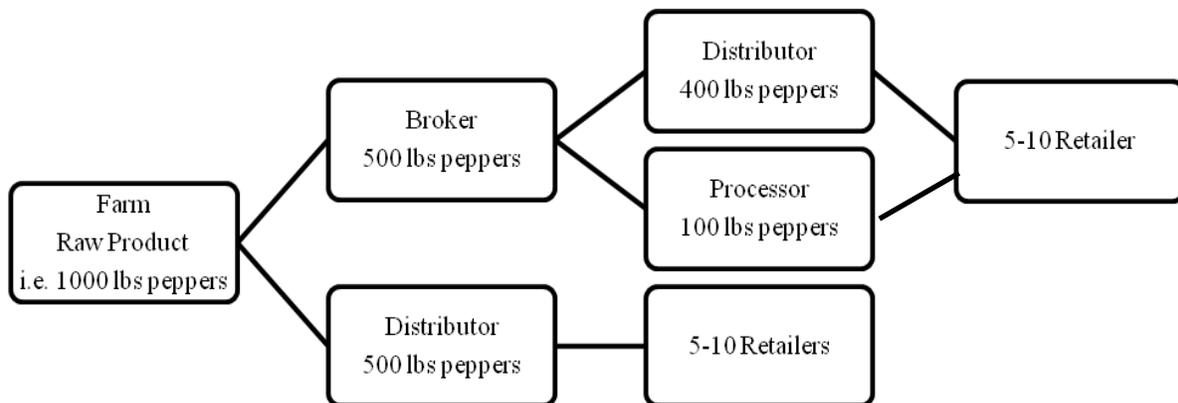


Figure 4-5. Typical wholesale market chain from farm to retailer

is so significant about this market chain is how much the price is inflated at each point in the chain. The longer the chain or the more intermediary players through which the product is exchanged, the more expensive the product becomes (due to cost injections such as packing, labels, and shipping). For example, a typical market chain such as Figure 4-5 would result in a price difference of almost 56-79% per pound of product from farmgate to end-consumer. Figure 4-6 shows the average market price at each stage of a typical wholesale market chain using prices from Boston wholesale markets for organic strawberries in August 2006.

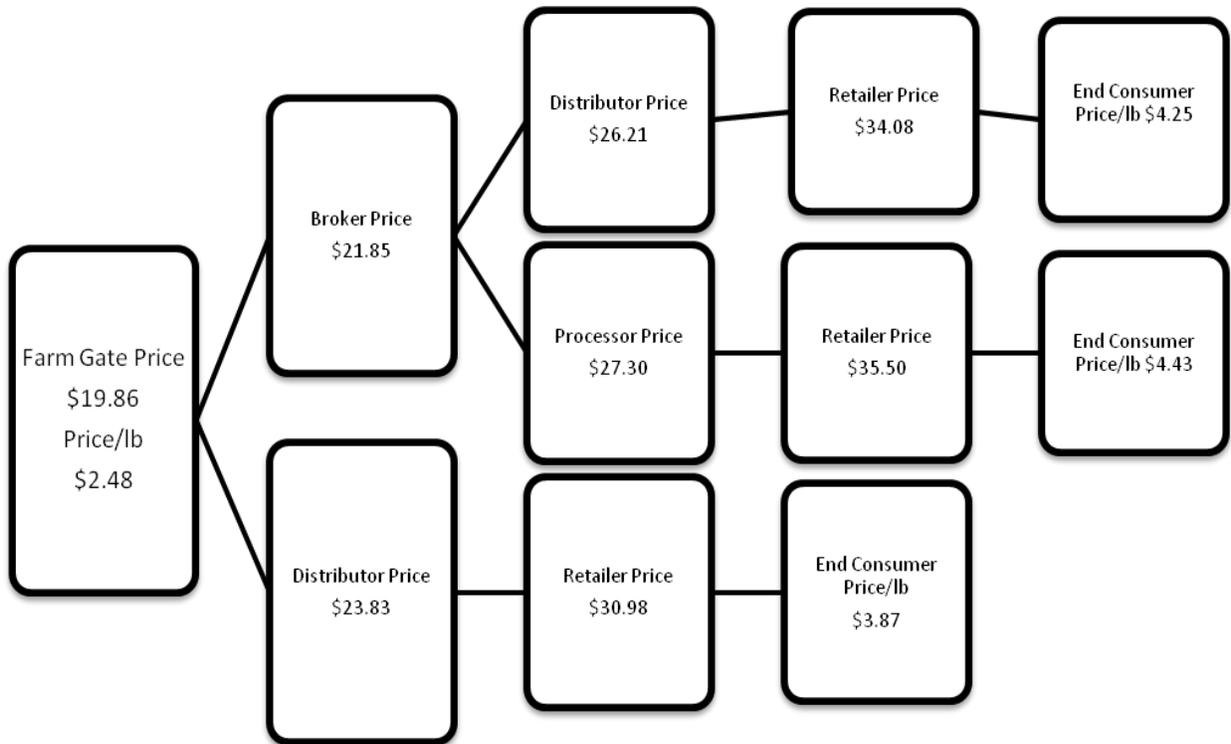


Figure 4-6. Typical price mark-up as product travels the market chain. Farm gate price based on August 2006 USDA Organic Price List (Economic Research Service, 2008)

By the time the end-consumer buys a one-pound container of organic strawberries, he may be paying the retailer nearly double what the farmer received per pound for the same strawberries. Furthermore, the consumer will be unable to discern where and when the strawberries were grown, or whether a fair price was paid for them in the first place. This market chain is typical not only among large-scale producers but also small producers as well. If a farmer were instead to sell the same one-pound containers through a direct-retail outlet like a farmer's market, he would receive retail prices and the consumer would receive the freshest product available. The disadvantage to the direct-retail strategy however is the uncertainty of selling the harvested volume. Again, wholesale markets allow the farmer to move larger quantities at one time, thus reducing costs and production losses overall.

Buyer/seller preferences

This study also examined the buying and selling preferences of the various market chain players at each stage. This information is useful for growers to determine the more likely candidates on which to focus their marketing efforts. The analysis took into account the regions in which intermediaries buy and sell a product, in addition to the size and type of business from which they prefer to buy and sell.

Most distributors or brokers buy directly from the growers, or send out “procurement representatives” to assess the grower’s ability to meet their company’s needs. However, as a product travels further down the market chain, it becomes more unlikely that the raw product will be acquired directly from the grower. Instead, processors and retailers are far more likely to deal only with distributors that can provide larger volumes and greater variety at one time. Although restaurants and chefs were a common direct-retail outlet for many of the farmers participating in this study, the market analysis showed that the majority of restaurants prefer to deal with distributors for logistical reasons. One chef stated that she tried buying directly from a grower, but the relationship failed after the grower was unable to meet her expectations for timely supply and variety. Product quality was less important to the chef than was supply and efficiency requirements. Almost all retailers except for one buyer club used distributors to fill their organic fruit and vegetable needs. Again, logistical constraints appeared to be the main barrier for small farmers to establish direct-retail relationships with mainstream grocery outlets. Even the more traditional direct-retail relationships between independent natural food stores and farmers seemed to be rarer than is portrayed in organic industry surveys. This may be a result of the increasing presence of distributors and associated lower prices.

Company or producer size also plays a role in buyer/seller preferences. While many of the intermediaries buying directly from growers claimed to buy from small- and large-scale

operations, they went on to say that they preferred to buy from large producers only. Again, the overwhelming reason for this preference was issues with supply and demand, food safety requirements, and shipping logistics. One intermediary aptly mentioned the difficulty and expense of sending out loading trucks all over the state just to pick up a pallet of product. Distributors have to streamline their operation even more given the rising costs of fuel and other petroleum containing-products (i.e. packaging). Of the intermediaries who did not have any preference either way in terms of operation size, the company mission seemed to be more dedicated in general to protecting farmer's interests and ensuring conservation of farm resources. As one buyer club owner said, "We like to support our local farmers, regardless of the increased costs". This sentiment is similar to the social relationship that is so common among successful farmers and their market outlets.

CHAPTER 5 CONCLUSION

This study examined the potential market risks and securities for small organic farmers, especially as the organic market expands. Specifically, it links farmer risk perceptions with actual industry trends. Given past research on the increasing industrialization of the organic market and production methods, this study also addresses evidence of industrialization occurring in Florida's organic market, especially as it contributes to or threatens small organic farm persistence.

The vast majority of organic industry reports and surveys place the organic market in a time of double-digit growth. These statistics paint a picture of expanding opportunity for all types and sizes of growers, and significant farm outreach has resulted from the growing popularity of organics. History has shown, however, that as certain products grow in popularity and the probability for profit is likely, more players enter the market and boost productivity, which leads to an overall shift in market dynamics. A shift is occurring in the organic marketplace, with increasing globalization and industrialization taking place among the growers and distribution networks. While increasing awareness and sales in the organic sector is overall a positive sign for farmers nationwide, it has also caused a shift from niche-marketing to organic food- network integration and international competition. Since small organic farmers have seen a renaissance from the organic market in recent years, there has been more interest focused on protecting small farm resources. Despite these efforts, this study suggests that there are still significant problems facing small-scale producers, especially in terms of market factors such as increasing input costs, national and international competition, and increasing reliance on wholesale market chains.

Implications for Small Organic Farms

This study shows that many of the same problems that are impacting large-scale organic producers are also equally impacting small-scale producers. Rising off-farm input costs and increasing regional and global competition affects price premiums across the board, regardless of the quality and quantity of product one can produce. Thus, small farmers who rely primarily on wholesale market strategies are competing against farms operating with 1,000's of acres, which have many market outlets and benefit from economies of scale. As the market continues to grow and supply meets demand, price premiums are likely to decrease. When this happens, small farmers relying on an input-substitution method of production may be unable to break even, let alone make a living family wage. A situation like this greatly threatens small farm persistence, as it will no longer make financial sense to continue as certified organic or to continue farming in general. Even for farmers who rely primarily on direct-retail outlets, the opportunities for growth in this area seem to be slowing down as well. Competition in farmers' markets and CSA subscriptions is directly related to consumer interest in local foods in general, and not just in organic. Small direct-retail organic producers compete not only with mainstream grocery stores for sales, but also with other small local producers claiming an "organically grown" or "naturally grown" product. As more players enter the market, each producer's share narrows, forcing them to consider other marketing outlets, including wholesale distributors. In combination with rising costs of farming organically and swelling competition from all sides, the small farmer is increasingly at risk for lower success rates, both in the financial and quality of life areas. To stay afloat, many small farmers move to wholesale markets, believing them to be easier in terms of logistics and management. However, as this study shows, wholesale market chains offer little respite from the constant battle to make a living farming as certified organic.

Although small farms make up over 80% of organic producers, only approximately 3% of organic produce is bought nationwide through direct-retail outlets; rather the trend towards wholesale market distribution indicates a major threat to small farm persistence. As the rapid market analysis shows, the majority of intermediaries strongly prefer to do business with large-scale producers and companies, because they can offer logistical efficiency and food-safety assurances. The small farmer usually works on his own or with his family to manage, produce, and market their products. It is energy and capital-intensive to meet the strict standards required to access the wider and more lucrative mainstream organic market. Large operations have the means to dedicate employees full-time to quality control, safety regulations, and shipping and receiving. Thus, small-scale farmers will almost always be at a disadvantage within the wholesale market.

This study suggests that small farmers who wish to make their living from farming organically will need to dedicate significant energy and time to developing a long-term marketing strategy that is based in social relationships. The small farmer does have an advantage in the current market, as many people are increasingly concerned for the health and the safety of their food, global climate change, and sustainability. Consumer concerns should take a large role in the small-farmers marketing strategy. Small farmers can appeal to consumers' desires for local, fresh, and healthy food more so than large-scale producers. However, a local customer base does not happen overnight; it must be cultivated through providing quality and variety of products on a consistent basis. The small farmer must be ready to respond to changing trends in customer demand; if consumers are more interested in one crop type over the other, than the farmer should be aware of this and adjust accordingly. Overall, a small farmer can exploit the direct-retail market more effectively by being flexible, patient, and most importantly, consistent.

Implications for the Organic Industry

The organic industry is made up of growers, processors, distributors, retailers, consumers, and researchers. Each of these players welcomes positive trends in consumption and sales of organic products. They are all connected and all rely on increasing demand for organic products. However, not all interests are created equal, and so some trends in the organic market affect the players differently. This leads to the greater need to monitor the progress and direction of market dynamics, especially in terms of meeting the original intent of organic regulations. For example, it has been found in this study and other studies that organic agriculture is moving away from a systems-based approach to more industrialized production and distribution methods. Specifically, input-substitution production is increasingly common, and appears to be prominent in both large and small-scale operations. As discussed in Chapter 2, the NOP list of allowable and unallowable substances greatly contributes to the substitution method. Instead, industry and research leaders should refocus their efforts to address the decline in systems-based organic farming. In the long-run, this approach is more cost-effective and sustainable. It also allows farmers to rely more on farm-generated resources, rather than outside manufacturers, thus minimizing costs and vulnerability to fluctuating costs and availability.

The United States has a rich agricultural history to which small farms have contributed significant knowledge, rural employment, and cultural diversity. While more acreage was concentrated into fewer hands, industrial agriculture upset the balance that small farms offered in terms of social, economic and ecological benefits. The development of organic production presented a niche opportunity for small farmers again by utilizing certain marketing and production methods difficult to recreate on large scales. The literature suggests that small farms are an essential component of the rural landscape, with intrinsic economic, social, and environmental values. The emergence of organic agriculture allows small farms to reconnect

with the consumer, thereby regaining their place in the rural landscape. However, as the popularity of organic labeling and marketing grows, the small organic farm will face mounting competition and costs. There is also the possibility of decreasing price premiums with entrance of large agribusiness firms. This study examined the market factors that pose the greatest threat to small farm persistence in a growing organic market.

APPENDIX A
FARMER INTERVIEW QUESTIONS

PART 1: Farm Profile

1. How many acres do you currently farm as certified organic?
 - a. What amount of this acreage is leased, rented, or owned?
 - b. Are you planning on changing your acreage in certified organic status in the next year or so?
2. What crops do you currently grow as certified organic?
 - a. Is there one or a few crops you concentrate on?
3. How long has your farm been certified organic?
 - a. How long have you been farming in general?
4. What is your farm's annual income? This can be a ballpark figure.
5. What type of business are you?
 Sole Proprietorship Partnership Limited Partnership Limited Liability Company (LLC) corporation (for-profit) cooperative other (please specify)
6. In general, what is your marketing structure? I will list some market venues and you tell me about what percentage your sales come from.
 Wholesale On-site Processing for Retail Farmer's Markets CSA's Restaurants/Chefs other (please specify)
7. I'm going to list a few factors that many farmers describe
8. as being components to their success. As I do this, please rate from 1 to 5 how successful you feel your farm has been with each factor. 1 very unsuccessful, 2 is somewhat unsuccessful, 3 is neutral, 4 is somewhat successful and 5 is very successful
 Farm makes at least \$20,000 profit each fiscal year Farm provides at least one half of household's employment/income Farm provides complete household employment/income I am able to expand in acreage/invest in machinery Farm provides lifestyle that myself and family enjoy I am able to continue farming at my current level
9. Overall, how successful do you feel your organic farm is? Please answer with the same 5 point scale used above.

PART 2: Market Chain Description

Next I'd like you to take about five minutes and describe your typical market chain. You can either verbally describe it or draw it on a piece of paper. I'm interested in learning about all the hands your product passes through before getting to the customer. It does not have to be exact; I'm more interested in how you understand your market chain to be. (Allow for about 10 minutes; no set questions).

PART 3: External Market Factors/Risks

In the last ten years or so, the market for organic products has expanded at a rate of 20% per year. The expansion has caused changes in the organic market structure and players. When I ask these next questions, I'd like you to think about external factors that influence your farm's success, especially those that have changed as the organic market has expanded. In this case, external market factors are considered those that you have very little control over. An example of these would be labor availability or land-price values.

1. In the time that you have been certified organic, how has your particular market share change?
 - a. If your market share has changed in different directions over the time you were certified organic, please tell me about the time frames in which it changed and how.

2. If your market share is being replaced by another source of organic produce, where is the source coming from?

3. Tell me about your main problems with accessing the different market venues you traditionally use.
 - a. Probe: Distance to market, venue not patronized at sufficient level, wholesale broker doesn't need your product, etc.

4. In the time that you have been certified organic, how has your labor needs changed?
 - a. Probe: Labor availability goes up, down, quality goes up, down?

5. How has Florida's land prices influenced your farm's ability to expand in acreage?

6. In the time that you have been certified organic, how have your off-farm inputs changed?
 - a. Cost? Availability?

7. In the time that you have been certified organic, how has crop price variability influenced your farm's success?
 - a. Probe: Has price premiums for your organic produce changed? Has it gone up, down, stayed the same?

8. In the time that you have been certified organic, how have changes in consumer preferences influenced your farm's success?

9. Since you have been certified organic, in what ways have government payments, programs, and credit availability for organic farms influenced your farm's success?

10. Since you have been certified organic, how have changes in organic certification standards and government regulations influence your farm's success?
11. Overall, of the major external market factors we talked about a few minutes ago, which three or four are the most important to your farm's success? (PI will list factors discussed if needed).
- a. Which factor poses the greatest threat to your farm's success?
 - b. Which factor poses the greatest security to your farm's success?
12. Are there any other external market factors that we haven't talked about today that you feel are important to include in this study?

PART 3: Management Strategies

Ok, now that we have talked about some of the more important market factors influencing your farm's success, I would like you to think about ways in which you have managed these changes. When thinking about these questions, please focus especially on the top three or four factors you cited as the most important to your farm. Those were _____, _____, _____ and _____. (Fill in with factors from question 11).

1. Regarding the factors we discussed a few moments ago, how has your management strategies changed in response to them? (List factors if need be).

Ok, we are almost done. I just want to ask you a few more questions about your feelings about organic farming and your future in organic farming.

Part 4: Organic farming: attitudes and future

1. Why did you decide to become certified organic?

2. How important is it to you to continue as a certified organic producer?

3. What is your overall plan for your farm should it become difficult to continue at your current success level?
 - a. Probe: Sell acreage, reduce acreage, change crops, change marketing strategy, drop organic certification status, etc?

4. In the next year, do you plan to continue farming as certified organic? How about in the next five years? Ten years?

5. If there was one thing that would make you drop your organic certified status, what would it be?

6. Is there anything else you would like to add about any of the topics we discussed today?

APPENDIX B
MARKET CHAIN ANALYSIS INTERVIEW QUESTIONS

Introduction

My name is Lindsay Fernandez Salvador. I am a Master's student in the Geography Department at University of Florida. I am researching Florida's organic farms and their position in the larger organic market. The specific objective of this interview is to explore the various players in the organic fruit and vegetable chain. The information gathered here will only be used for my thesis and subsequent journal publications. Please be assured that any and all information exchanged today is completely confidential and private. If at any time, you do not want to answer any questions, you may decline to answer, or stop the interview entirely. With your permission, let's proceed.

1. I would like to understand your position in the market chain. For example, a product starts at the farm and ends in a customer's hand. There may or may not be people in between through which the product passes. Where do you (or your company fit in)?
 - a. Probe: Are you a harvester, packer, broker, distributor, retailer, or end-customer?

2. From whom are you buying organic fruits and vegetables?
 - a. Probe: Where are the products you are buying coming from?
 - b. Probe: Do you buy from large, medium or small scale producers?

3. To whom are you selling your acquired product?
 - a. Probe: To where are the products being sold?
 - b. Probe: Are these chain stores, small natural food stores, end-customers?

4. From the producers (or companies) you buy from currently, who do you prefer to buy from the most?
 - a. Probe: Large, medium, or small scale producers (or companies)?
 - b. Why do you feel that way?

5. To the people (or companies) you sell to currently, who do you prefer to sell to the most?
 - a. Probe: Large, medium, or small-scale companies (or end-customers).
 - b. Why do you feel that way?

6. If you sell the product to another player in the organic market chain, what is your typical price mark-up? Use your most common or sold product as an example if needed.

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