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Nature and Culture of Strawberry Farmers on California's Central Coast: A Case Study

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NATURE AND CULTURE OF STRAWBERRY FARMERS ON CALIFORNIA'S CENTRAL COAST: A CASE STUDY

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ABSTRACT

NATURE AND CULTURE OF STRAWBERRY FARMERS ON CALIFORNIA'S CENTRAL COAST: A CASE STUDY

by James Stewart D'Albora

As United States (US) agriculture continues to experience declines in farms and farmers, the organic sector steadily increases in size. Furthermore, survey data show that almost half of the new organic farmers are not conventional farmers who are transitioning to organic, but urban dwellers who have migrated to a new rural setting. Migration theory is used to look at non-economic influences that may be driving these new organic farmers. Through in-depth interviews with 11 organic and conventional small-to-larger strawberry farmers on California's central coast, this study identifies two distinct cultures that now inhabit the agricultural industry of this area. Two differences between these cultures are that organic farmers are less resistant to regulation and are more environmentally aware than conventional farmers. However, both groups share an entrepreneurial spirit and a positive view of community. The findings support urban-rural migration theory that recognizes important non-economic reasons for moving from urban to rural environments.

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Introduction

The environment and public health are continuously damaged through the daily operations of US industrial agriculture. From soil erosion and habitat destruction to ground water contamination and air pollution, industrial agriculture is having a significant impact on the land (Nielsen & Lee, 1987; Pimentel, Hepperly, Hanson, Douds, & Seidel, 2005). In response to these harmful effects, organic agriculture has been utilized to mitigate some of the damage caused by years of soil loss and chemical use.

While farmer numbers have experienced decades of decline, organic farming is experiencing rapid growth in both the number of farmers entering the industry and the number of acreage under production. Sociologists have surveyed farmers extensively, and often find that a wide range of cultural and behavioral differences exist within the greater farming community. Understanding who comprises these groups of farmers can inform policies that look to develop a more environmentally benign approach to agriculture.

Purpose

To gain understanding about the cultural reasons behind current changes in agriculture, a group of farmers from California's Central Coast were interviewed. As public demand and awareness for a healthier food system has increased, policymakers who oftentimes are unaffiliated with agriculture can benefit from a deeper understanding of farmers. Related to this, the United States Department of Agriculture (USDA) has launched the "Know Your Farmer, Know Your Food" initiative designed to connect

consumers with local producers (USDA Office of Communications, 2009). Agricultural Secretary Tom Vilsack had this to say:

> Reconnecting consumers and institutions with local producers will stimulate economies in rural communities, improve access to healthy, nutritious food for our families, and decrease the amount of resources to transport our food. (p. 1)

By speaking directly with farmers and publishing their experiences, attitudes, and viewpoints, policymakers and agricultural industry leaders can gain insight into how to effectively encourage the development of a more sustainable food system.

Background

Trends in U.S. agriculture. Throughout much of the latter half of the 20th century, US agriculture has experienced a steady decrease in the number of small farmers and a steady increase in the number of very large and consolidated agro-industrial firms (Dimitri, Effland, & Conklin, 2005; USDA National Agricultural Statistics Service [NASS], 2007). A number of technological advancements, an interconnected global economy, and socio-political changes have all played a role in transforming US farming. In 1900, 41% of the workforce was employed in agriculture, and, as of 2000, 1.9% of employed labor worked in agriculture (Dimitri et al., 2005). More recent data shows that the overall reduction in farmers and farm workers continues. At the same time, the organic sector of the US agriculture industry is concurrently experiencing steady growth (Green, Slattery, & McBride, 2010).

Organic farming. Modern organic agriculture started alongside the cultural revolution of the 1960s, when different groups of counter-cultural youths started going "back-to-the-land" to enjoy a more peaceful and less mechanized way of life (Guthman,

2004). Environmental awareness was also a big influence in the US at this time, as is evidenced by the establishment of the Environmental Protection Agency and the related laws supported by the Clean Water Act, Clean Air Act, and Endangered Species Act (Goodstein, 2005). Organic farming was positioned by its early proponents as a way to help protect the environment and people from chemical intensive agriculture. Practitioners of organic farming in California eventually organized themselves, and in 1973, the California Certified Organic Farmers (CCOF) organization was started, one of the first organic certification agencies in the US (Guthman, 2004). Organic rules and regulations were codified in 1990 into a federal law called the Organic Foods Production Act (OFPA), which created the list of allowable and banned substances to which any organic grower must adhere (Klonsky & Tourte, 1998). For example, synthetic and petroleum-based fertilizers, pesticides, herbicides, and fungicides are banned for use in organic systems. Finally, the USDA's National Organic Program became the agency that enforces the national organic guidelines, mainly as a way to guarantee consumer confidence in the organic label (Guthman, 2004). By 2008, organic products accounted for $3.2 billion of farm level sales, retail sales have reached $20 billion, and the market is still showing strong signs of growth (Lin, Smith, & Huang, 2008). In general, organic agricultural practices rely on green manures, crop rotation, mechanical cultivation, and farm biodiversity (Guthman, 2004).

Conventional agriculture. Conventional agriculture, on the other hand, is characterized by a heavy reliance on synthetic chemical inputs, mono-cropping, and industrial-like mechanization (Buck et al., 1997). Conventional agriculture still

dominates the US food industry, accounting for 99% of the total farm output as of 2006 (USDA National Agricultural Statistics Service [NASS], 2007). Even though organic output continues to grow, it is clear from the data that conventionally produced food leads overall US agricultural production.

Theoretical Framework

Since the 1980s, the growth in organic production has prompted social scientists to study organic farmers in regard to their behavioral and attitudinal characteristics and the degree to which they differ from conventional farmers (Beus & Dunlap, 1991; McCann, Sullivan, Erickson, & De Young, 1997). Most of these studies arose from the Theory of Reasoned Action (Fishbein & Ajzen, 1975) or the Diffusion of Innovations theory (Rogers, 1995). Fishbein and Ajzen (1975) proposed the Theory of Reasoned Action as a model for predicting behavior based on understanding an individual's intention, and the influences from that individual's social network. Diffusion of Innovations theory is used by researchers to explain or predict the rate of adoption of new technologies within a given population (Rogers, 1995). However, these theories have not been applied to farmers in the context of people moving into or out of agriculture. For this research, I first explored migration theory (Lee, 1966), which offers an economic, cost-versus-benefit explanation for why human populations move. Next, I examined urban-rural migration theory which focuses on the social and cultural reasons why some people migrate towards rural areas and away from urban ones (Barcus, 2004). Finally, Arnon and Shimai (2010) looked specifically at the non-economic value of community, and how seeking community influences urban-to-rural migration. It is these socio-

cultural influences that are investigated in this research, not simply to understand movements in and out of agriculture, but to understand what non-economic incentives can be developed by policy makers to encourage American farmers.

Related Research

Much of the existing social literature regarding farmer behavior focuses on measuring different farmers' attitudes, perceptions, and behaviors (Bultena & Holberg, 1983; Kaltoft, 1999; Guthman, 2004; Willock, Deary, Edwards-Jones, Gibson, McGregor, Sutherland et al., 1999). The literature also focuses on comparing organic or alternative farmers with conventional farmers (Beus & Dunlap, 1991; McCann et al., 1997; Fairweather, 1999; Abaidoo & Dickinson, 2002). Overall, the literature has consistently shown that alternative/organic farmers differ from conventional farmers with regard to age, gender, and number of years of farming as well as attitudes toward nature and environmental stewardship (Beus & Dunlap, 1991; Duram, 1997; Midmore, Padel, McCalman, Isherwood, Fowler, & Lampkin, 2001). Specifically, alternative/organic farmers tend to be younger, female, farming for less time, and with a greater environmental awareness than their conventional counterparts. A detailed review of the literature includes the following four categories: General Farmer Attitudes on the Environment, Organic Farmer Surveys, Conventional versus Organic Comparisons, and California Farmer Surveys.

General Farmer Attitudes on the Environment

Morris and Potter (1995) surveyed 101 conventional farmers in Southeast England to ascertain their level of commitment to a government incentivized Agri-Environmental Policy (AEP). The AEP scheme paid farmers to engage in prescribed, environmentally oriented farming practices. Adopters of the AEP tended to be younger and have larger farms than the non-adopters, but they were the only two demographic

variables that showed significant differences between the groups. The biggest differences between the groups were determined to be attitudinal and cultural in nature, but these results were found through follow-up interviews rather than the survey itself. Any evidence of shifting attitudes because of the AEP schemes was also slight, as 45% of the farmers rejected the idea on principle even though there were financial incentives to join. In relation to this study, Wilson (1996) found that participation had more to do with structural factors like farm size, with larger farms being more likely to adopt. Other results demonstrated that the paid AEP schemes did little to change environmental awareness and suggested that future studies should incorporate cultural factors when attempting to uncover behavioral motivations (Wilson, 1996).

In a similar study, having a large farm and available financial resources were two characteristics that separated adopters of conservation measures from non-adopters (Upadhyay, Young, Wang, & Wandschneider, 2003). Another interesting finding from this study was the assertion that neighborly influence may play a significant role in persuading more hesitant farmers to adopt a conservation measure. Cultural influence has also been seen in Germany and Scotland, where one study showed that engaging in certain conservation measures did very little to build a farmer's personal sense of cultural capital (Burton, Kuczera, & Schwarz, 2008). Cultural capital was described as a type of social status gained from practicing culturally approved farming techniques and from keeping up a clean appearance of the farm, particularly in the straightness of plow lines and the absence of weeds. Willock et al. (1999) also found that social influences such as family and farmer peers play a large role in farmer behavior.

Organic Farmer Surveys

One of the earlier sociological studies that investigated organic farmers was in Saskatchewan, Canada and revealed that most of the surveyed group adopted organic farming based on higher personal values, rather than the value of generating profit (Molder, Negrave, & Schoney, 1991). This group consistently ranked the environment and healthy food even above farm survival. Another Canadian study, utilizing a survey and in-depth interview methods, discovered that Ontario organic farmers were also more concerned with environmental values than they were with profit maximization (Hall & Mogyorody, 2001). These findings contrast with some later studies that found profit motive a driving factor in the adoption of organic agriculture (Buck, Getz, & Guthman, 1997; Guthman, 2004; Strochlic & Sierra, 2007).

Case studies have successfully been used in the literature to provide real viewpoints, opinions, and "stories" of farmers. Kaltoft (1999) utilized the case study method in his research of organic farmers in Denmark. Six organic farmers were interviewed to explore differences in values and ethics and how those differences influence actual farming practices. The author transcribed and summarized each farmer's "story" in a very simple but useful analysis. One finding was that a variety of ethical viewpoints existed within this small group of Danish farmers, even though they all practiced organic farming. This conclusion, while not assumed to be generalizable due to the small sample size, is found elsewhere in the literature (Abaidoo & Dickinson, 2002; Darnhofer, Scheenberger, & Freyer, 2005).

Duram (2000) used in-depth interviews to analyze how Illinois organic farmers viewed the political, economic, social, and ecological factors that influenced their farming methods and daily lives. Twenty organic farmers from throughout the state were interviewed with open-ended questions and the transcripts were later analyzed by key words and sorting of the texts. Duram found many challenges facing organic farmers in relation to agricultural policy, consumer behavior, and market stability, including the view that agricultural policy has a very important role in shaping the future of organic food in America. Without policy support, most of the farmers saw little possibility in changing the trajectory of the current environmentally damaging agricultural system. Related to this, many of the Illinois organic farmers saw a greater need for education and awareness about food production in general. They not only viewed this as important for their production methods, but also for the public so consumers can make healthier decisions. Furthermore, most of the farmers perceived the current consumer culture that demands inexpensive food to be a major impediment to significant change. While the findings are important, what gives credibility to this article is the use of direct farmer quotes. By interviewing and then giving voice to farmer concerns, Duram (2000) makes a much more meaningful case for US agricultural reform than similar studies that used only surveys or questionnaires.

Conventional versus Organic Comparisons

In the often-cited research by Beus and Dunlap (1991), a proposed scale of measuring farmers' strength of relation to conventional agricultural attitudes vs. alternative attitudes is tested. The tested scale, the Alternative-Conventional Agriculture

Paradigm or ACAP scale, proved to be a valid measurement tool of a farmer's attitude toward farming methods (Beus & Dunlap, 1991). Mail surveys were sent to farmers throughout Washington State who were either members of alternative farming groups or conventional farming groups. The survey contained bi-polar statements consisting of conventional viewpoints on one side and alternative viewpoints on the other. Respondents were asked to indicate which viewpoint they most related to using a 5-point scale placed between the statements, with 3 being a neutral attitude. As a control measure, the researchers also sent some surveys to a random sample of farmers throughout the state who were not distinguished by affiliation with one group or another.

Lower scores were consistently found for conventional farmers and higher scores were consistent with self-identified alternative farmers. Furthermore, the control group score lay somewhere between the two test groups. These findings are consistent with other more recent studies contrasting the attitudes between conventional and alternative or organic farmers (Darnhofer et al., 2005; Egri, 1999; McCann et al., 1997). While the scale and study were useful in describing similar characteristics among groups, the findings were not unexpected, given that environmentally conscious behavior has been found among non-farmers with similar demographics (Straughan & Roberts, 1999). Furthermore, this study was carried out only in the state of Washington, and an evaluation of farmer attitudes in other locations is prudent.

Another comparison study between organic and conventional farmers was undertaken by McCann et al. (1997) to determine differences in environmental awareness, economic orientation, and farming practices in Washtenaw County, Michigan.

Both a quantitative survey and a qualitative interview were used to compare 13 conventional and 12 organic farmers. In regard to environmental awareness, organic farmers more frequently acknowledge the potential environmental problems associated with agriculture. This result was consistent with expectations; however, the interesting finding was that conventional farmers also expressed concern for the environment and an affinity for nature in general. This generalized appreciation of nature points to reasons other than their worldview or attitude for choosing among farming practices. One of the potential reasons discussed was the finding that conventional farmers typically had much larger farms and had been farming for a much longer time than organic farmers. The authors suggested that perhaps the transitional economic costs would be much greater for a conventional farmer already heavily invested in the traditional methods of fertilization, pest management, and soil conservation. In fact, this transitional cost has been found to be a barrier to transitioning to more environmentally oriented practices in other studies (Darnhofer et al., 2005; Willock et al., 1999). In relation to economics, the findings show that both groups of farmers are very concerned with economic viability, but organic farmers showed a higher willingness to risk immediate yields for a larger yield in the future. Also, during the qualitative portion of the study, the most commonly cited drawback to farming for both groups was the lack of financial reward. As expected, the organic farmers were found to use selected conservation practices with much more frequency. However, the survey results showed that conventional farmers carried out far more soil testing than did organic farmers. This finding was inconsistent with the rest of the criteria until the qualitative portion of the study revealed that most of the soil testing

was done for free by chemical fertilizer dealers, likely using the tests as sales tools (McCann et al., 1997). Survey results showed that organic farmers were younger, had been farming for less time, operated smaller farms, and grew a higher diversity of crops. These findings are often supported by the literature (Abaidoo & Dickinson, 2002; Beus & Dunlap, 1991; Lipai, 2007). However, the qualitative portion of the study revealed a deeper concern for the environment by conventional producers than has been previously shown in survey data. This finding further shows the importance of qualitative methods in discovering the underlying issues and realities farmers face in making production decisions.

Abaidoo and Dickinson (2002) used the ACAP index developed by Beus and Dunlap (1991) to compare differing agricultural paradigms in Southwest Saskatchewan to investigate the environmental beliefs of conventional farmers versus alternative/organic farmers. Like Beus and Dunlap (1991), each survey item presented two differing core beliefs or views about nature, government, economics, and environmental values. The farmers were then asked to choose statements they felt represented their own attitudes. As is found in similar comparative surveys in Nebraska (Allen & Bernhardt, 1995) and Colorado (Duram, 1997), the conventional and alternative farmers differed in their core beliefs about nature and environmental values. One interesting finding was that conventional and alternative farmers did not differ on all ACAP scales. Neither group believed in the government's ability to ensure a more environmentally friendly farming system. Another similarity was that both groups strongly believed the market is a positive component of promoting more ecologically friendly farming systems. Related to

this, both Duram (1997) and Allen and Bernhardt (1995) found that both conventional and alternative farmers believed strongly in community building. These findings are in contradiction to the findings presented in the original ACAP study, and show a possible trend of shifting attitudes and beliefs among conventional and alternative farmers. To help understand causation in this area, the authors actually express the need for research involving "…a significant qualitative component…." (Abaidoo & Dickinson, 2002, p. 130).

Farmer Research in California

The book by Miriam Wells (1996) about the strawberry industry of California provides an in-depth look at the laborers who populated the central coast strawberry fields between 1976 to 1988. The aim of the study was to uncover the political and social issues that surround the industry, with a specific focus on labor. However, 45 growers were also interviewed as part of the project. What was interesting to note was the high value the farmers placed on their laborers. Strawberries are a delicate and labor-intensive crop, and farmers were very aware that finding and retaining the skilled labor they needed each year was something that could make or break their business (Wells, 1996). Because of this, laborers were treated with a respect not often associated with farmer-laborer relations. In fact, one surveyed grower even enacted a profit-sharing scheme with his laborers to encourage loyalty.

Mountjoy (1996) studied 46 ethnically diverse strawberry growers in Monterey, California to determine if patterns existed in how different ethnic groups adopt soil conservation techniques. Results showed that ethnicity is a strong predictor of the type of

erosion control measure that a particular grower will employ. The Mexican growers, newest to the strawberry industry and typically have less access to capital, employ the least costly and least effective erosion control measures. The Anglo growers, who had been in the industry the longest, were found to utilize the most expensive and most effective erosion control measures. Finally, the Japanese growers, who had been in the industry for less time than the Anglos but longer than the Mexicans, were found to utilize the most efficient combination of cost-effective measures. Mountjoy (1996) concludes that while some of the variations in erosion control measures can be explained by geographic features of individual farms, he asserts that underlying cultural and social factors do more to explain the differences in techniques.

The ambitious work of Guthman (2004) investigated the entire Californian organic agriculture industry as it existed from its beginnings up to 1998. Through in-depth interviews and surveys of 150 organic growers, and survey and archival data on all registered 1,533 organic growers, Guthman presented a detailed view of the people, processes, economics, and politics that created and continue to shape organic agriculture today. The book argues that organic agriculture in California has been conventionalized significantly by large growers who view organic mainly as a means to a new economic end. While many of the smaller, first-generation growers were found to adhere to the broader philosophies of organic, the study found most of the larger growers simply produce organically by input substitution (Guthman, 2004). Indeed, in one study of California organic growers, only 78% agreed that organic was more environmentally sustainable than conventional (Shreck, Getz, & Feenstra, 2006). The conventionalization

of organic agriculture has also been observed in the New York dairy industry (Guptill, 2009) and in the German organic sector (Best, 2008).

Historically, organic agriculture was thought by many early adopters to encompass not only environmental values, but social values as well (Guthman, 2004). However, evidence from a survey of 188 California organic farmers suggests that most of them do not agree that the organic label should make requirements about social justice with regard to labor relations (Shreck et al., 2006). Many voiced the concern that it simply was not economically viable or practical to pay socially just wages and benefits, especially since many small farmers admitted to not even having their own health insurance. However, survey results did show that the larger farms were much more likely to offer at least one fringe benefit to their employees than the smaller farms.

A recent study in California showed that some row-crop farmers are experiencing a conflict in regard to food safety and on farm conservation practices (Beretti & Stuart, 2008). One hundred eighty-one growers responded to a survey to discover how recent food safety guidelines were affecting their sales. Results showed that 15% of growers had actually removed or discontinued using environmental conservation measures that they had previously adopted because of suggestions made by product buyers or other marketing outlets. Almost 50% of the surveyed growers had been told that they should remove wildlife from their farms, highlighting another structural barrier to adopting conservation measures (Morris & Potter, 1995; Willock et al., 1999).

In support of Guthman's (2004) assertion that organic agriculture in California is conventionalizing, a survey of 90 farmers in Fresno County, California, showed that most

of those who had transitioned to or were considered organic did it mainly for economic reasons (Strochlic & Sierra, 2007). The researchers also interviewed some farmers who had previously been organic but had de-registered and found that over half of them had reverted back to conventional farming. However, several of the de-registered growers still used some organic methods. By using in-depth interviews, some important attitudinal factors were brought to light, including the opinion by some "committed conventional" (Darnhofer et al., 2005) growers that conventional practices were actually more environmentally sustainable and healthier for consumers than organic practices (Strochlic & Sierra, 2007). While the findings here add value to social research, the paper itself could have greatly benefited from the use of tables and/or matrices that would help illuminate basic demographic findings about the interviewed farmers as well as to create some context for the long narrative sections.

The existing literature regarding organic and conventional farmers has shown that there is no single way to categorize them, especially using quantitative survey data. While many of the studies showed clear differences between the groups with regard to environmental attitude, the more recent studies suggest a blurring of the line between organic and conventional attitudes and even some behaviors. Furthermore, none of the researchers included in this literature review approached their studies from a migration theory standpoint, and only a few attempted to study the deeper cultural issues driving farmer behavior. As noted in McCann et al. (1997) and Abaidoo and Harley (2002), a more qualitative approach can serve to help explain some of the surprising similarities and differences being found among farmers of different groups.

Research Hypotheses and Question

Based on the above literature review, four propositions will be evaluated in a comparison study between micro- to mid-sized organic versus mid-sized to larger conventional strawberry growers on California's Central Coast.

Hypothesis 1 – Organic farmers will be more supportive of sustainability than the conventional farmers.

Hypothesis 2 – Conventional farmers will place more importance on economic considerations than the organic farmers.

Hypothesis 3 – Organic farmers will be less resistant to regulation.

Hypothesis 4 – Organic farmers will place a higher value on community than the conventional farmers.

The hypotheses are derived from consistent findings in the literature, and form the framework for the direction of the investigation. To ensure that all the hypotheses are examined, the research revolved around one broad and all-encompassing research question:

Research Question 1 – How do micro- to mid-sized organic diversified strawberry farmers and mid-sized to larger conventional strawberry farmers differ in regard to socio-cultural characteristics?

Expectations

I expect to find more similarities between the groups than could have been expected in the past. With organic farming becoming more mainstreamed and with environmental behaviors such as recycling being very widespread, the researcher expects

to find that these two groups of farmers share a mainly positive view of sustainability and the environment. However, when it comes to economic attitudes, political views, and community concerns, the researcher expects to find significant differences, especially related to the culture and values by which these farmers live.

Methods

Population Area, Demographics, and Sampling

The research focused on 10 strawberry farms existing inside Santa Cruz County and the Pajaro Valley along the northern central coast of California. California's central coast strawberry growing region was chosen as a study site for several reasons. First, California is the nation's leader in overall agricultural output in terms of value (USDA NASS, 2010) and produces 49% of all fresh market vegetables. California is also the leader in organic production, garnering 36% of total US organic sales as of 2008 (USDA NASS, 2007). Secondly, Santa Cruz County is home to the largest organic certification organization in the United States, the California Certified Organic Farmers organization [CCOF], giving the Central Coast a rich and unique history with organics (Guthman, 2004; USDA Agricultural Marketing Service, 2010). Finally, the highest value crop in the area is strawberries, and because of their importance to the region, all the farmers chosen grew strawberries (County of Santa Cruz, Office of the Agricultural Commissioner, n.d.; Monterey County Agricultural Commissioner, n.d.).

Santa Cruz County and the Pajaro Valley were combined as a single study area, as they both are located in what is commonly referred to in the agricultural industry as the Central Coast (Wells, 1996). The Santa Cruz and Pajaro Valley regions of the Central Coast share very similar geographic features, environmental conditions, and socio-political climate (see Figure 1).

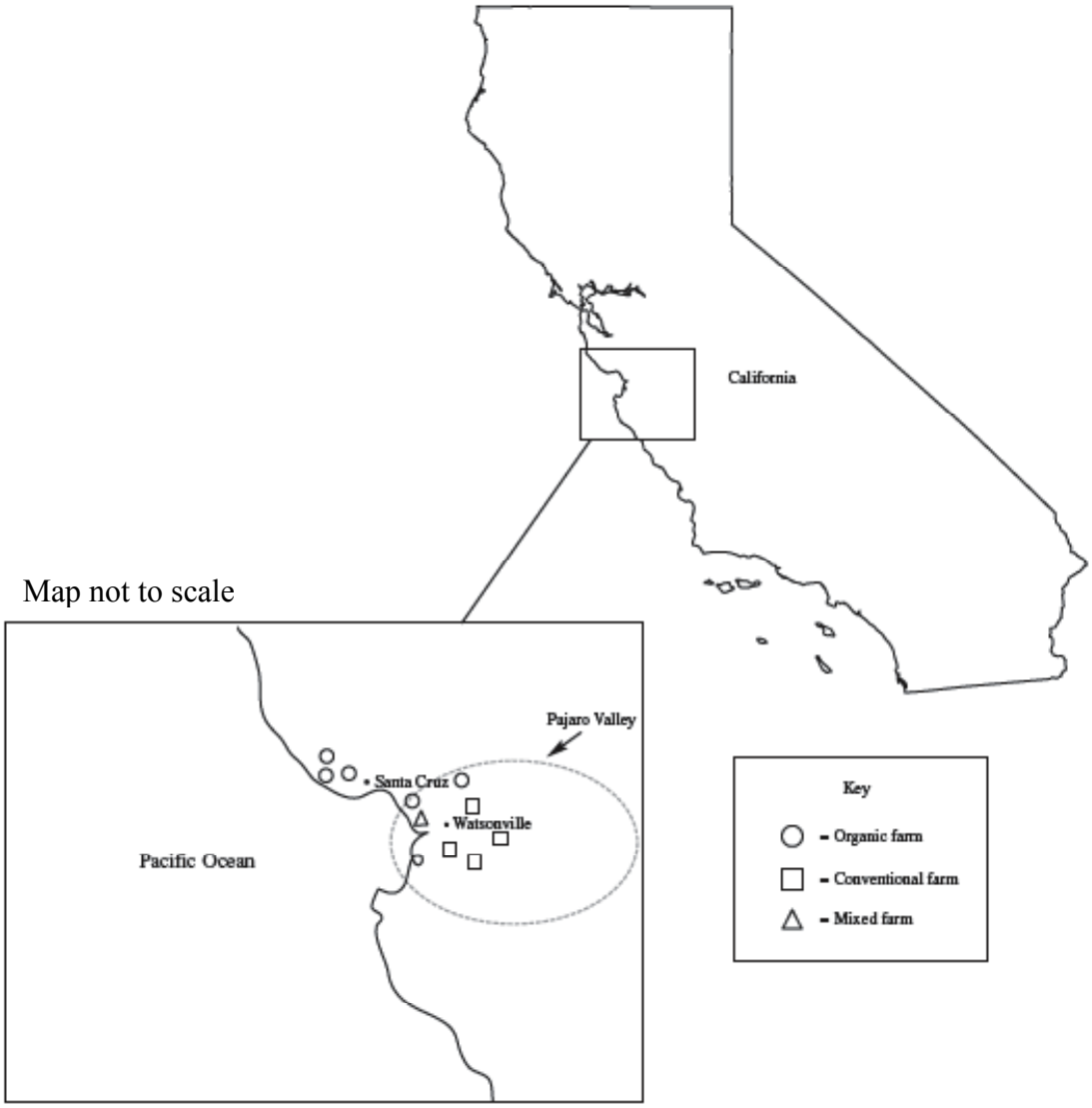

Figure 1. Study area and approximate locations of participating farms

The farms were divided into three groups consisting of four mid-sized to larger conventional strawberry farms; five smaller, more diversified organic strawberry farms; and one smaller strawberry farmer who grew both organically and conventionally. Furthermore, only individually owned farms, family-owned farms, or partnership-owned farms were included in the study. Farms of various sizes, ranging from three acres up to

400 acres, with a median size of 109, were chosen in an attempt to gather diverse viewpoints within each group.

Table 1: Participant Selection Criteria (Not including organic/conventional separation)

Location of Farm	Size of Farm	Products	Ownership
Santa Cruz County and Northern Monterey County (Pajaro Valley)	Less than 500 acres	Strawberries	Family, small partnership, or individually owned

The three dominant ethnic groups that farm strawberries in this region are Anglos, Mexicans, and Japanese (Mountjoy, 1996; Wells, 1996). However, for this research the terms used for ethnic description will be Caucasians, Latinos, and Japanese-Americans. While ethnicity is noted throughout the study, no analysis in relation to ethnicity was performed. The average farm operator age for the study area is 57, and the average strawberry farm size is 54 acres in Santa Cruz County, and 89 acres in Monterey County (USDA NASS, 2010).

Research Design

Since several quantitative studies have already explored the differences between organic and conventional farmers (Abaidoo & Dickinson, 2002; Beus & Dunlap, 1991; Darnhofer et al., 2005; Lipai, 2007; McCann et al., 1997), a qualitative approach will serve to enhance the existing knowledge and possibly open up topics that have been previously overlooked. This project was investigated using the qualitative sociological framework of naturalism (Gubrium, 1997). Naturalists attempt to present the lives and outlooks of the study subjects as accurately as possible. Furthermore, an important aspect of the naturalism approach is to study the subjects in their natural environment,

and this study followed that tradition by conducting the interviews on the respective farms of the participants.

The 10 interview sessions were conducted between December 2009 and June 2010. All the interviews took place either on the farms or in the offices of the farmers, and three farmers guided me on personal tours of their farms in addition to the interview. One interview consisted of two farmers from the same farm, a husband and wife, yielding a total of 11 interviews.

Data Collection

All interviews were digitally recorded and video taped. The interviews lasted from 42 to 88 minutes and yielded well over 100 pages of transcriptions and 10 hours of video taped footage. The survey instrument is included in the Appendix.

I began by contacting organic farmers found in the CCOF (California Certified Organic Farmers) directory located in the study area and who grew strawberries. Between November and December 2009, 30 farmers were contacted by phone call, email, or both and six responded. Three agreed to be interviewed and video taped, one agreed and then later declined, one was not willing to be video taped or recorded, and one declined due to lack of free time.

Once the CCOF list was exhausted, I visited several farmers' markets in Santa Cruz County and the greater Bay Area to try and meet some growers in person. This approach did not yield any interviews for two major reasons. First, the farm owners were generally not present at the market as they typically hired somebody to sell at the stall.

Secondly, the people working the stall were busy with customers and finding the time to engage in a non-sale related conversation proved to be difficult.

Finally, I contacted several farm-related organizations by phone to see whether the organizational administrators and employees would be willing to share farmer contacts with me. I contacted Wild Farm Alliance, ALBA (Agriculture & Land-Based Training Association, CAFF (Community Alliance with Family Farmers), and California Farm Link. This approach did not yield any contacts because the organizations were not willing to share information about their members without a personal connection to the researcher.

I then made a connection with a San Jose State University instructor and alumna who works at Wild Farm Alliance, so I was able to acquire more farmer contacts. This personal connection became my first *key informant*, and her access proved to be the solution to scheduling the final two organic interviews, as I was able to use my contact's name when calling the farmers. A *key informant* in social research describes someone who is socially and personally connected to specific group to which a researcher is attempting to gain access (Esterberg, 2002).

Because of the difficulty in contacting the organic farmers, a different approach was used when contacting the conventional growers. At first, a few conventional farmers were called directly on the phone with no success. So instead of directly calling random farmers on the phone, I contacted the Santa Cruz County Farm Bureau to ask for contacts. I left a phone message and an email regarding my project, and received a phone call a few days later from the Executive Director. He quickly listed off five names and

phone numbers of people I should call. One of those people he listed was not a grower, but the president of a nonprofit organization called Agri-Culture, which is a small agriculture advocacy group. This connection proved to be my second *key informant*, and through him, I quickly secured the four conventional grower interviews and the one mixed grower interview.

Two sampling methods were used throughout this process, purposive sampling and snowball sampling (Esterberg, 2002). Purposive sampling is done when a particular sample of the population is desired for study, instead of a random selection of the population. My purposive requirements were that I wanted at least one female representing both groups, and I wanted ethnic diversity where possible. For example, some male organic farm leads were rejected when a female farmer became available. The snowball strategy works by locating a key informant, then gaining access to other subjects through that original key informant. Subsequent subjects can then also provide contacts to even more subjects, thus the "snowball" effect.

For the conventional side, having a key informant and using the snowball strategy proved to be essential. As one Caucasian male micro-organic grower put it who had been growing for 13 seasons in Watsonville:

> But as far as with, like in Watsonville, and that's probably true with a lot of farming communities, the mainstream farming community is really hard to break into…

And:

> When you walk in there it's not like what do you want it's like, who are you? First question is who are you? You walk into the store and it's like, and who are you? You're not on the list. You're not buying from us.

Even in using a key informant, the purposive strategy was also used. As the relationship developed with my second key informant, I was able to discuss the importance of diversity among his contacts, so that in the end my conventional sample consisted of a Caucasian female, two Latino males, one Caucasian male, and one Japanese-American male. This ethnic mix is consistent with the overall mix of strawberry farmers in the area, as explained in the previous section. For the organic farmers, I was able to interview four Caucasian males, and two Caucasian females.

Data Analysis

The audio recordings of the interviews were transcribed, analyzed, and coded with consistent key words and topics in line with the grounded theory (Strauss & Corbin, 1990). Based on the grounded theory, the transcripts were first thoroughly investigated with an open coding system. In this way, any and all themes that seemed meaningful were highlighted. Second, the transcripts were read again, this time with a focused coding system. During this phase, the previously highlighted sections were narrowed down to the most consistent and compelling themes with a focus on the research questions and expectations. Although the research questions were a priority, I was very interested in any unpredicted subjects that arose. The very nature of a semi-structured interview allows for discussion topics to arise that are not directly addressed by the research questions (Esterberg, 2002). After several exposures to the interview data, it became apparent that some of the most interesting results had more to do with topics not specifically addressed in the survey instrument. From the coded texts, similarities and differences were compared between the organic and conventional farmers' responses, and

the research questions were addressed and discussed in detail (Esterberg, 2002). The video recordings were edited into a 10-20 minute short documentary film using Final Cut Pro editing software. This short film will be used only as a presentation device, and is not included as a formal part of this thesis.

Limitations with the Study

Several limitations deserve to be acknowledged here. For one, the sample size was very small, and purposive and snowball methods do not guarantee representative sample distributions. Therefore, the findings cannot be generalized to a larger group of farmers. Qualitative work mixed with a quantitative survey would help to eliminate some bias, and bring more precision to the results. Secondly, the farmers that did respond to being interviewed might be of a similar personality type, given that they agreed to be recorded and video taped, and this can skew findings. Demographically, I likely presented to the participants as a White, early 30s, educated urbanite. Had I been much older or appeared more rural in character and speech, the topics discussed would likely have varied. Finally, because a semi-structured interview depends on the *interviewer* making in-the-moment decisions about which topics to follow up on, and which questions to ask, the findings and analyses may indeed look different from those of another interviewer.

Results

Basic demographic data is briefly discussed to give context to the interview results. Some findings include the fact that none of the organic farmers came directly from a farming family, whereas four out of five of the conventional farmers were at least 2nd-generation farmers, with one 5th-generation farmer. Furthermore, the organic farmers tended to be younger and operated much smaller farms (see Table 2). These findings are found in similar studies (Abaidoo & Dickinson, 2002; Burton, Rigby, & Young, 1999; McCann et al., 1997). The one conventional farmer who was 1st-generation grew both organic and conventional berries.

Furthermore, all of the organic farmers operated some type of Community Supported Agriculture (CSA) program, and most of them participated in farmers' markets. As for the conventional growers, one independently marketed and sold his product to brokers and buyers, two sold exclusively to Driscoll Strawberry Associates, Inc., commonly referred to as Driscoll's, one sold through a co-op, and one operated a "U-pick" operation as well as sold on-site processed goods such as juices, pies, and jams. None of the conventional farmers went to farmers' markets or participated in CSA programs.

Table 2: Farmer Profiles

Farm Type	Size in Acres	Years Farming	Age	Gender	Ethnicity	Education	Crops	Employees	Volunteers/Interns
Organic	3	3	33	M	Caucasian	BS	Strawberries/ Mixed Veggies	0	30
Organic*	8	M - 13 F - 13	M -47 F - 47	M/F	Caucasian/ Caucasian	M - AA F - AA	Strawberries/ Mixed Veggies	0	30
Organic	8	15	35	F	Caucasian	BA	Strawberries/ Mixed Veggies	1 Seasonal	3/ 3-4
Organic	42	16	37	M	Caucasian	BA	Strawberries/ Mixed Veggies	3 – 5 Full Time/ 12 Seasonal	0
Organic	80	15	>40	M	Caucasian	BS	Strawberries/ Mixed Veggies, Orchard, Goats, Sheep, Chickens	15 Full Time/25 Seasonal	0
Conventional	100	56	>70	F	Caucasian	High School	Mixed Berries, Apples	10 Full Time/ 40 Seasonal	0
Conventional	126	30	46	M	Latino	AA	Strawberries, Blackberries	200 Seasonal	0
Conventional	300	25	45	M	Latino	BS	Strawberries	50 Full Time/ 450 Seasonal	0
Conventional	400	20	35	M	Caucasian	BS w/ Graduate Work	Strawberries, Blackberries, Raspberries	25 Full Time/ 600 Seasonal	0
Conventional/ Organic	19/8	25	50	M	Japanese-American	AA	Strawberries	40 Seasonal	0

***** A husband and wife were interviewed at the same time regarding the same farm.

The interview protocol proved to be a starting point of inquiry, but the topics that surfaced were mainly generated by the farmers. These wide ranging topics have been condensed into the four large categories addressed in the hypotheses, Sustainability, Economics, Agricultural Policy and Regulation, and Culture. While the original focus of Hypothesis 4 was meant to address only community values, the heading of culture will be used in order to allow the discussion of a variety of cultural values, including community. Within each category, similarities and differences in opinion or belief among the groups will be highlighted. The results will then be analyzed in a separate discussion section.

Sustainability

Sustainability was a term that appeared to be on the minds of the farmers during the interviews. Both groups of farmers had seemingly pre-meditated opinions on sustainability. Interestingly, they tended to agree that sustainability was not only difficult to define, but rather impossible to achieve.

Caucasian female micro-organic farmer:

> I just think it's not realistic to assume that any of it [agriculture] is sustainable, I just feel that it kind of isn't [sustainable]…

Caucasian male micro-organic farmer:

> Nothing that we do is really sustainable if you're using tractors and trucks to haul it all around, eventually that's gonna be not sustainable.

Latino male larger conventional farmer:

> Sustainability moves. It's like a little moving thing out in the ocean. It goes with the political will, that's sustainability.

While the farmers showed some agreement about the actual difficulty of achieving sustainability, there were differences in their concepts of sustainability, as

evidenced by the comment made by one Latino male larger conventional farmer, "The biggest threat to ag [U.S. agriculture] is the Endangered Species Act." While the organic farmers complained about process regulations being a burden, there was never any expressed opinion that environmental protection laws are a problem. More differences in the concept of sustainability revolved around the use of Methyl Bromide, a fumigant and pesticide commonly used in the conventional strawberry industry. It is described as "highly toxic" by the Environmental Protection Agency (EPA) (US EPA, 1999), and it is also known to deplete the ozone layer (Ristaino & Thomas, 1997). Even with the widely accepted negative affects of this substance, some conventional farmers defended its continued use.

Latino mid-sized conventional farmer:

> Contrary to belief it's [methyl bromide] not sprayed on and it dissipates into the air. Fumigation is actually injected into the ground and, instantly as it's going, as the tractor is applying it, there's a tarp put on and its burying the plastic over it so none of the gas actually escapes. Some of it does, but very little. So after 7 days they'll come in and remove the tarp and the gases have basically broken down and they're not harmful to our environment.

The mixed farmer also defended the use of methyl bromide.

Japanese-American smaller mixed farmer:

> So there's many sources to bromines and agriculture, I believe globally, our bromine use, or what we use is less than 1% because the ocean is a manufacturer of the bromines and lets go of the bromines. You can research that one too (laughs).

Some of the organic farmers expressed different views about methyl bromide.

Caucasian male small organic farmer:

> The conventional farmers actually go in and wipe everything clean with methyl bromide, which is horrible for the environment and horrible for their strawberries

> and horrible for their flavor and they're doing it right next to schools and houses and I mean its just gross...what it does is it methylates DNA, so it can't replicate anymore, so it pretty much kills everything. I mean you have no more earthworms, you have no more soil fauna or bacteria, I mean you don't have any gophers left, you don't have any field mice you have nothing left in your soil after you methyl bromide it, and then they rip the tarps off and methyl bromide goes up and is a greenhouse gas and it actually depletes the ozone too, its like a double whammy.

Caucasian male micro-organic farmer:

> It's dead, yeah its dead. You're basically growing hydroponically in the soil is just there as a medium to hold your plants. And like, the conventional berry growers they just use so many gnarly chemicals and like its just hydroponics, they put it all through the lines. Every time they water they're just putting food through the lines. It's just disgusting really. But yeah they can just grow berries over and over and over and over again for who knows how long and just kill the soil every time. Put in the fertility you want and berries are really good to grow if you have the good climate so it works for them. But it's pretty disgusting. I would never eat those berries.

This same farmer who made the above comment, also later made the comment that, under certain circumstances, he *would* choose conventional produce.

Caucasian male micro-organic farmer:

> I'd rather buy conventional produce from down the street than get organic stuff from Chile or whatever, by far.

Another issue that surfaced had to do with the difference between purity in organics and sustainability. Compost makes up a large portion of most organic farmers' fertilizing strategy, and all of the organic farmers interviewed used compost. However, many of them were not using their own compost.

Caucasian male micro-organic farmer:

> We can't even make compost on our own farm because it's not certified. It's this total, another thing about being certified, that's totally ridiculous…But here we have to truck it from Hollister, the certified compost, it's really expensive.

Caucasian male mid-sized organic farmer:

> One of the things we don't do here is we don't make our own compost because of the organic rules now are so difficult to follow.

A recent issue with composting that was mentioned by one organic grower was that the California Department of Food and Agriculture (CDFA) found synthetic insecticide residues in three green waste compost products certified for organic production.

Caucasian male mid-sized organic farmer:

> It was horrible for them [commercial compost producer] because all of a sudden they couldn't sell to anymore organic people, because if you buy their compost and spread then you're gonna get decertified. So I mean sustainability is kind of like, it's sustainability against purity, because [commercial compost producer's] sustainability was probably higher than the chicken ranch that is still quote unquote organic compost.

A second topic related to sustainability was the issue of imported organic food, towards which both organic and conventional farmers displayed skepticism.

Caucasian male micro-organic farmer:

> Organic food like flown from South America?…The people that thought of organic or coined it would roll over in their graves right now.

Caucasian male larger conventional farmer:

> What does organic from Peru or from Chile mean? How do you know? CCOF isn't down there. USDA is not down there.

A third concern voiced by the some farmers was in regard to perceived problems with, including the possible conventionalization of, the organic industry.

Caucasian male micro-organic farmer:

> You definitely are growing differently but now you're just using different chemicals and different sprays than the conventional people, they're probably

more benign to the environment, but they're definitely a far cry from what the original people thought organic was all about.

Caucasian male mid-sized organic farmer:

So you can grow food organically but it doesn't mean that it's very sustainable…it may be a step in the right direction…but it doesn't mean that we are very sustainable at doing that.

Caucasian male mid-sized organic farmer:

What has happened is that since the USDA has gotten into the organic standards, there's a certain type of farming that most conventional farmers, I would say most, which you know, it's kind of a derogatory term, maybe not to them but to us, to organic farmers it's a derogatory term called calendar farming.

And:

Most people who spray even organically for late blight would spray a copper compound and spraying metal on your food is just not something I'm very into.

One conventional grower shared strong opinions about organic products.

Latino male larger conventional farmer:

The organic in my mind is a value added product. It's not any safer to eat, it's not, I wouldn't even say it's better for the environment…Point at which mountain I should tear down so I can use it's minerals for organic farming. Well, that's unsustainable.

However, it was not just a conventional farmer criticizing organic.

Caucasian male micro-organic farmer:

The real kicker is that they're not checking anything. Its all trust based. And I definitely know of farms who lie to the inspectors to get the organic certification and they're not checking, they're not doing any soil tests or any plant tissue testing, its strictly trust based.

And:

Just cause it says organic don't believe the label is my general feeling about it, if you got it at Safeway? Yeah right, I just say yeah right. I don't believe that at all. Not for a second.

Caucasian male mid-sized organic farmer:

> I think the organic standards are really important to have something as a reference and something that we can enforce…On the other hand, I think it's just a label that is only as good as what a particular farmer or particular organization or agency can implement.

Given the common complaints about organic and fears of conventionalization, at least one larger organic farmer conceded that it might be a good thing for big grocery store chains to make organic popular and accessible to a wider market.

> Walmart has organic now, and they never had it in the past…While they push down the prices, more people can afford it and more people are buying organics which is better for the land and better for the people eating it…so it's kind of like…a two-edged sword.

Finally, the organic farmers were asked if, given the stated problems with organic, would they be in favor of a higher standard or certification, such as a sustainability certification? This concept was met with both interest and skepticism.

Caucasian female micro-organic farmer:

> I get a little nervous when the federal government is defining these sorts of things…that said I would love for sustainability to be on the radar on a national level.

Caucasian male mid-sized organic farmer:

> So I wish there was something that was, how should I say, superseded organic, but there's not really anything right now that just seems, oh wow, this is it.

Caucasian male mid-sized organic farmer:

> So I still believe that we need to have standards that differentiate that kind of growing that is truly sustainable.

As for farm structures relating to sustainability, the organic farmers, excluding the mixed-grower, all used cover crops, compost, crop rotation, crop diversity, and adhered

to the USDA organic standards. The conventional farmers, on the other hand, all used methyl bromide fumigation, synthetic fertilizers, and most grew no more than three crops. There was an exception from a mid-sized conventional grower group who grew six types of fruit and stated very directly that her farm was sustainable.

Caucasian female mid-sized conventional farmer:

> You know I knew you'd ask me all these good questions. We are sustainable, we are not certified organic but we do not do all the sprayings. Our apples aren't going to New York or Europe or anything, they're just right here and we watch our trees very closely and we take care of them very nicely so we don't have to do all that heavy, heavy spraying for them. And, if you notice a couple little shrubs out there in the orchard there its our natural fertilizer its called bell bean...we grow it for about six months...and then it's been disced up into the ground now chopped up because it's high in nitrogen and that's what the apples want. And it makes beautiful fertilizer in your ground, so we just chop it up and put it right in the ground. And it works beautifully. So we're pretty natural.

In relation to the above assertion, another conventional grower spoke to environmental concerns, one of the same growers who had also defended the use of methyl bromide.

Latino male mid-sized conventional farmer:

> We really want to take care of the ground. We really, really look at what our carbon footprint is. More than any other company this company here really takes care of the carbon footprint...So that's one of the things why we're looking at carbon footprint. What's your carbon footprint in this whole grand scheme of our lives? What are you doing to make it better for the nation or for our country?

And:

> A lot of people think we're just out to make money, but if we don't maintain the soil, the land, you know we have to take care of it for generations...But rotating crops, putting cover crops and putting compost into the ground, tilling them right, it's just really care taking of soils.

One conventional farmer expressed a concern over population pressure on the water resources available to Californians.

Caucasian male larger conventional farmer:

> And the fact is if you go and read Cadillac desert or water of the west book, there's dozens of them, I've read of half of them, we shouldn't have ever made the west what it is. I mean its just a huge urban area and...there's always gonna be that conflict of, urban use, ag use, environmental use, and that's never going to go away because we created this oasis that probably never should have been as big as it is. Well it's too late for that. There's already a million people here and still growing and it's hard to say that one water user deserves more water than another.

Two conventional farmers talked about switching to organic.

Caucasian female mid-sized conventional grower:

> I know people come everyday and ask if we're organic and we tell them sorry we are not organic because we did try a couple times to go organic but we lost so much fruit. And it was hard for us because you have to wait three years to transfer over, and it was hard for us to do that when you have apple trees like this behind me that are in their 60th and 70th year old orchard, you know, you don't want to lose that fruit. Different maybe if you were just starting to be a farmer you know where you could wait the three years for the soil to turn and get it ready to be organic, but its hard for us now.

Caucasian male mid-sized conventional grower:

> A few years ago, we actually had 60 acres that we fallowed for two years, and we were gonna go into organic. And that was the first year that this little critter [Light Brown Apple Moth (LBAM)] showed up, so we had a fear of it, and I don't know what we would do. That site that we tried to make organic was the same one where we got quarantined last year. And the material that the USDA was making us use is the only material registered for organic production for that, well I shouldn't say the only, there a couple of others, but bottom line is they don't work, they don't kill it. So if that had been organic last year, we would have never harvested anything. Yeah, worthless, 60 acres after you invest in it for two years and don't even pick a berry.

And:

> So that's been, at least with in our shipper, the organic market's a little bit over saturated anyways, cause people aren't buying fruit.

The concern about market saturation shows that this farmer might be putting economic considerations above environmental ones.

Economics

Economic pressures are nothing new to small farmers. Other than the usual concerns about successfully running these businesses, one major concern, at least for the conventional growers, is labor. One conventional farmer stated that labor accounts for 80% of the cost of each basket of fruit that he sells. Strawberries are a labor-intensive crop, as no machine can successfully pick the delicate fruit (Wells, 1996). This means that thousands of workers must be called upon each season to work in the fields in this area. Simply from a job creation perspective, these conventional farmers accounted for the creation of around 1,100 seasonal jobs and about 85 full-time positions. This contrasted sharply from many of the smaller, more diversified organic farmers who tended to use their own labor or that of interns and volunteers. However, one organic farmer was very vocal about this discrepancy, and he made it a point to not use free labor as many of his organic counterparts do.

Caucasian male mid-sized organic farmer:

> The other rule was that everybody would get paid. And a lot of, you know good on 'em, but a lot of smaller organic farms and other CSAs, and I would say a majority in this area use interns, or very unpaid or lowly paid employees…I didn't want to use these kids that are like 18 or 20 and really love to be farming and come out here and just slave away for people.

And:

> If they can't afford to live in Santa Cruz County off the wages that you pay them, then that's obviously not sustainable.

The topic of labor could have easily fit under the other categories of sustainability and policy, but economics was chosen because of the substantial impact farm labor has on the local economies (California Department of Finance, 2010). However, from my findings and the comments of the above farmer, organic agriculture's heavier labor demand may not always come in the form of paid labor.

As for the conventional outlook on labor, what stood out was the sense of respect these farmers seemed to have for the people that worked their fields. More than once, it was explained to me in detail why berry pickers were highly skilled farm workers, and that their work cannot be taken for granted. Also, since berries are highly labor-intensive, the large number of workers required each season keeps employee relations high on these farmers' lists of priorities.

Latino male larger conventional farmer:

> The minute you do anything that would tag you as untrustworthy; you're done in ag…Same goes with employee relations. If I bounce a check, it's over. If I mistreat them, it's over, cause I'm counting on the reputation and have them come and work and so the whole ag is all based on reputation.

Caucasian female mid-sized conventional grower:

> Last year we had a little bit of a struggle, labor was a little hard last year…But we hope that the labor will be there.

While labor supply is obviously a concern to these farmers, the public perception of immigrant labor is also of major concern.

Latino male larger conventional farmer:

> But so far as the conventional, right now we're under fire I think, I feel under fire, I would like to have a workable immigration, or guest worker program. We don't have one.

Caucasian male larger conventional grower:

> I just get a little bit irate when you hear about how farm workers and illegal immigration is draining this country and draining our healthcare and this and that. We're all paying taxes…they're [laborers] pulling off of the [health] insurance that they put a few bucks into and we put a hell of a lot more [money] into. And they get it [health insurance] for their families if they want.

And:

> So I just don't think the general public has any idea what goes on. We really get the feeling that they're thinking we're out there cracking the whip or something, and it's just not like that at all. Hell, tomorrow is my dad's birthday and we didn't even know this till yesterday but our people went out and bought a goat, and they've already planned this huge surprise party for him.

Other than the one Caucasian male mid-sized organic farmer who mentioned his commitment that everyone get paid, no other organic grower mentioned significant concerns regarding labor, except the comment that they themselves worked very hard.

Agricultural Policy and Regulation

No topic got the farmers talking as quickly or as passionately as the topic of overall policy and regulations. The overall sentiment tended to be that there was too much regulation going on in California with regard to agriculture. However, the specifics of complaints against policy varied greatly between the organic and conventional growers. The organic farmers did mention some burden in simply keeping up with their own organic certification, let alone the broader regulations that affect them on a daily basis. However, the organic farmers often mentioned having a problem with the US

policies that subsidize commodity crops. One organic farmer claimed that the biggest problem facing America regarding food is the consolidation of the food industry.

Caucasian male micro-organic farmer:

> It's not like it's foolish, subsidies necessarily, it's just very short sighted. Its not really thinking about the health of the people because people are fat now...Yeah, so not too stoked on government food policy at all. Not at all.

And:

> When people ask me, like, who's your competitor, I just flat out say the federal government is our biggest competitor.

Caucasian female micro-organic farmer:

> If the federal government wanted to be assisting with food production there's a bazillion better ways to get good healthy food into peoples homes and hands than subsidizing commodity crops like corn and soybeans.

The conventional farmers did not mention subsidies at all, and tended to point out problems with water regulation, housing policy and urban encroachment onto farm land, and the required inspections, paperwork, and general administration of running a farm business.

Latino male larger conventional farmer:

> Ag policy gets developed as much as the airport policy gets developed and that is, people move in around an airport and all of a sudden don't like the airplanes flying overhead they want to change the policies of how the airport operates. Well, Ag is under the same pressure. We get encroached on by development, and then Ag policy is developed. And generally we have the losing hand.

Caucasian female mid-sized conventional farmer:

> It's the paperwork that's unbelievable what you have to do today…It's amazing all the book work today compared to what it was years ago. There just wasn't that stuff.

One policy issue mentioned by both groups was the tendency for laws to require all farms, regardless of size, crop, or geographic location, to follow specific and strict rules. For example, one Latino conventional farmer mentioned that even in the cool climate of Watsonville, he is required to provide shade for his employees throughout the day. This law, he asserts, was likely created for the central valley regions, where summer temperatures easily reach 100 degrees. But in Watsonville, this farmer thinks it is an inappropriate application of a well-meaning law.

Latino male larger conventional farmer:

> Regulation I think, the biggest problem with California is they paint with too big of a brush. Regulation that may be appropriate with one crop or one location is not appropriate for the entire state.

Caucasian male larger organic farmer:

> So I'm not against any kind of policy, but it needs to be implemented and or differentiated based on the various types of food systems or food operations and farming operations that exist. So a small farmer should not have to carry the burden of what a larger farmer would have to.

The mixed farmer and one conventional farmer stated that the laws are made in Sacramento by people who are not farmers, and who do not have a practical understanding of the realities of farm work.

Japanese-American male smaller mixed grower:

> These people make laws and regulations in Sacramento but they don't get out to the fields and see how the application's being done.

Another common complaint among most of the conventional growers was the opinion that too much environmental regulation would drive farmers out of business.

Latino male larger conventional farmer:

> I'll see it happening within a few years is that policies will be made to not allow people to invest in ag. And the investments will be going off our shores and going to other countries and to get them back would be impossible.

Caucasian male larger conventional farmer:

> Some of these assembly bills and senate bills that are coming this way are trying to put more regulations on us and they don't realize that these rules are gonna make it so difficult for growers to even produce food here that where we gonna look for next, China?

Contrary to the consistently negative statements about regulation, there were also instances in which some conventional farmers referenced regulation itself as a way of proving that their food was safe. Three of the conventional farmers specifically mentioned the view that California is the most heavily regulated state in the country with regard to agriculture. With this statement was the implication that *conventionally* produced food grown in California was safer than food produced elsewhere.

Caucasian male larger conventional farmer:

> California's the most regulated growing region, as far as agriculture goes. I mean we're more regulated than any state in the nation, and this nation is more regulated than any country…If its coming from here, you know damn well that that food was produced with really high efficiency, every chemical that was put on it was regulated.

Japanese-American male smaller mixed farmer:

> There's a lot of chemicals that are registered federally that cannot get registered in California because it's a lot more strict…Some see it as a handicap, but to produce a safe product, that's what's important…It's strict in a good way.

Latino male mid-sized conventional farmer:

> California's even stricter than national, and we even go beyond that…I never wash my own fruit, that's how much I believe in it. I mean, my kids go out and

> they eat it right off the vine, so if I didn't believe it was safe I wouldn't let them eat it.

Since the farmers had so many opinions and comments about policy and regulation, it was interesting to hear their thoughts on participating in the political process.

Japanese-American male smaller mixed farmer:

> For me I'm a small farm, I can't get really involved in things, I used to be more involved, but it just distracted from the ranch…it's exciting to do those things, but nobody pays you to do it. I had to take care of what made money for me is my farm.

This particular farmer mentioned things like equipment repair, late-night paper work and health issues as the main reasons for removing himself from the political process. Most of the farmers did mention how much work was involved in farming, both physical and administrative. However, another conventional grower saw political participation differently.

Latino male larger conventional farmer:

> I don't really associate with farmers, and that is the fault of a farmer. A farmer's independent…and that's why I think farmers are such an easy target because we don't get along with each other. And that's our downfall when it comes to legislative issues. We don't agree. We can't agree.

This was a very interesting viewpoint that was corroborated through accounts from other farmers, organic and conventional.

Caucasian male mid-sized organic grower:

> There's definitely a misperception of all the farmers sitting on the beach and singing Kumbaya together, but it just ain't happening you know what I mean. It's a business like anything else, you know, all of the other farmers try to keep me out of the farmer's markets…I wouldn't say it's any friendlier than being realtors in the same town.

Caucasian male larger conventional grower:

> But when it comes down to it we're still very grassroots, and we're less than a percent of the population and I think very few of those people even care or have the time to actually speak to the public or make something forthcoming, its more just like gripe about it at the coffee shop. I'm sure there's a big percentage of our 1% that just stay to that side of it. So there's just a few of us that really say anything.

Latino male larger conventional grower:

> Well I run my ranch, and the way I run it I really don't want to broadcast how I do it because what I'm doing is working. And they don't want to broadcast what they're doing because they don't want me to know. So then we get together when it comes to policy, well, everybody's kind of quiet, nobody wants to say anything, and then we disagree when somebody does say something. So we lose every time it goes to policy.

The descriptions and opinions about policy and regulation show that these farmers are very aware of the needs and importance of regulation, but they feel overwhelmed and disenfranchised from the processes and applications of lawmaking. However, there was no evidence the organic farmers felt they would stop farming because of over-regulation, whereas the two larger conventional growers expressed concern over this possibility.

Culture

The farmers differed the most in terms of their cultural differences. Most striking was the fact that all the purely organic farmers essentially changed a major part of the culture of their parents by becoming first-generation farmers, whereas four out of four of the conventional farmers came directly from the farming community.

Caucasian male larger conventional farmer:

> I am fifth-generation. So, grandpa was, his dad was, and then I guess it had to have been his dad that came over from Yugoslavia...

Latino male larger conventional farmer:

> They gave him [my father] 5 acres of strawberries to take care and that was his thing, and of course I was 8 years old at the time, I had a younger brother and everyone else was older...So in the summer we'd be picking strawberries or the whole family would be out picking strawberries, irrigating, weeding, planting, you know everything for taking care of the strawberries at all levels.

Latino male mid-sized conventional farmer:

> As a young kid when my dad had berries I was actually harvesting, irrigating, doing everything that a regular person would do and it was just kind of in my blood, just kind of doing that.

Caucasian female mid-sized conventional farmer:

> I married into the family, my mother and father were also farmers and I swore I'd never marry a farmer because we never got to go anywhere when I was a young girl...So its been in the family for 72 years. With my father-in-law buying it, and then it's still in the family farm. We're still here. So we're still doing about the same thing.

> In contrast, none of the organic farmers were raised in agriculture.

Caucasian male mid-sized organic:

> Definitely the first time I've owned my own farm...you know, started out doing farmers' markets up there and then pest control and then managing and then like the last 5 years I was like farm manager...

Caucasian female micro-organic farmer:

> I grew up in the suburbs of St. Louis, none of us come from a farming, immediate farming family, [business partner is] from East Bay area, [business partner is] from Boston area so, kind of rural suburban kids that went to college and found the gospel of agro-ecology and just started pluggin away at it.

Caucasian male micro-organic farmer:

> Our parents, who were like baby boomers, they all like moved off the farm and got all urban and uh, didn't do farming, so now there's some people going back to it like myself.

Caucasian male mid-sized organic farmer:

> I don't come from a farming background, but I've really always been an urban kid, and always consider myself a city kid gone farmer.

The mixed grower is also a first-generation farmer, although he married into an established, conventional farming family.

Another cultural difference that appeared during the interviews was in regard to the importance of high technology. Conventional growers also showed more affinity for participating on a large and industrial scale.

Caucasian male larger conventional farmer:

> We are extremely advanced to any other production region. There's a lot of high tech stuff out there and I don't think people realize or even have an idea...tractors have GPS where you tell it the width of the tractor, the width of your implement and it will drive everything but turning around, and that way you have no overlap so they're getting the absolute max efficiency for field usage and everything, there's a lot of cool stuff out there.

Latino male mid-sized conventional farmer:

> We ship it to the UK, Europe, Middle East, Asian Countries. I was lucky enough to be one of the few growers in the world that, during the China Olympics, I actually have photos where some of my product went into China. For the first time ever American product [strawberry] was in China, and so I was kind of proud to be able to do that.

The organic farmers tended to think in biological terms rather than in technological ones.

Caucasian male mid-sized organic farmer:

> I see the farm really as a living organism, and the health of that living organism is what determines the health of your crops.

Caucasian male micro-organic farmer:

> But you're really in touch, in tune with nature, you have to…Here on the central coast, the seasons are kinda hard to tell, but we have seasons and you really know they're happening when you're farming, umm, you listen to all these little clues from nature, from the soil, from the weather.

One aspect of culture in which the farmers tended to share similar experiences and views was regarding the importance of community. However, their concepts of who that community was seemed to differ greatly, with the conventional farmers discussing mainly their community of other farmers and the organic farmers pointing to a larger community that included customers and even nature itself.

Latino male larger conventional farmer:

> And even my kids go to school, a private school, and being from the Pajaro Valley, the people who attend the school, the parents, they're farmers too. So the people I trade ground with which is the [neighbor] family, in turn, I go to school meetings, [neighbor] is there, farmer. [Neighbor] you met, farmer, actually we have kids in the same class. But it's really neat, you talk to the people in the valley, it is a farming valley.

And:

> But we're community people more so than most people, we really believe in the community.

Caucasian female mid-sized conventional farmer:

> Yeah, I go to lunch every Friday with a group of farmers and we chit-chat about what's going on.

Caucasian male mid-sized organic farmer:

> And [we] started with a concept that's called community supported agriculture, it was very at its infancy at that time. And it was a way, what inspired me about that concept was just the connection to the land and the food we grew with the consumer, with the people that ate that food, and more and more that was the most satisfying way to grow food was knowing who the food was going to and vice versa...I think we're at a place now where we really feel like we're connected

to a beautiful community of people as well as the community of plants and animals and workers that makes it all happen.

Caucasian female micro-organic farmer:

> We don't get off the farm much, we socialize with people, like our customers, with people that are interested in organic farming. Like, so I don't know if they're our peers, but they're our community. You know, and so, we do Yoga on the farm on Sunday mornings in the good seasons, and we do Friday night movies that people come with their bottle of wine and their blankets and their kids and their snacks and hunker down under the canopy and watch whatever movie we throw in that's kid friendly.

Caucasian female micro-organic farmer:

> Myself, most of my friends are not farmers, but they are farm savvy. And they're organic savvy, you know, they're into food, into cooking and that sort of thing, but most of my nearest and dearest are not farmers. But I like farmers, I mean I have a lot of farmer friends too, by virtue of being in the farming community.

One conventional farmer expressed concern over young people leaving agriculture, and thereby leaving the farming community.

Caucasian female mid-sized conventional farmer:

> One is farming in his grandfather's ranch, his father took over next and he took over next and he's got two grown boys. And I spoke to him not long ago and I said are your boys gonna take?- no, they already said they're not gonna be farmers. You know what they said? I'm not gonna work like you dad, you work too hard, both of those big ranches, the children are not going to.

This same farmer stated that her love of what she does comes largely from her constant social interactions on the farm:

> That's why I'm still here. That's what I tell everybody. People say, what do you live on the ranch for? Why don't you move off the? Never, never, I say if I'm bored in my home, all I have to do is walk out there to the pie shop, walk out to the picnic area and say hi folks how are you where are you from? And we'll start a conversation and we can talk for half hour. I met people from all over the world just being right here on the ranch and I love it. I absolutely love it. Or I'll find somebody that's same nationality as me, who is a Croatian, and they'll start, you're a Croatian!? And they'll start talking to me in Croatian and we'll get

> talking, talking, and they're almost from the same area that my father was, when he was alive back in Croatia. Its amazing the people I've met here. I am having people come this year from England, they were here visiting two years ago, they're coming back and I always say, well if you come back, I have plenty of room in my hotel, I call my house a hotel, and they stay with me. They're gonna come and stay with me in September for a week. And so that's how you meet people though. You know it's just wonderful, wonderful. And I think people that come on the ranch are people that appreciate the farmer, and that's what I really like here. And when I go to farmer's market, they appreciate that farmer bringing that product to them right there. And it's the same thing, and I wish we had some more farms where you could go on to a farm...

The mixed grower showed similarities with the conventional group in regards to community.

Japanese-American male smaller mixed grower:

> Socially? My best friend's a farmer. Family - just trying to balance that, it's both.

Finally, by simple observation, cultural differences were apparent among the groups based on the appearance of the farmers themselves and the appearance of the farms. Three out of four of the conventional growers wore button-up shirts, whereas four out of five of the organic farmers wore T-shirts. Similarly, three out of four of the conventional farms were characterized by uniform rows of berries, with no hedgerows or other non-crop vegetation. Meanwhile, all of the organic farms had much higher levels of crop diversity and wildlife habitat, and appeared less orderly or geometric. Also, three of the organic farms had designated areas set aside for where events and gatherings could take place. Only one of the conventional farms had this type of area.

The interview results provide data designed to show corroboration or contradiction with the original hypotheses. All of the hypotheses were generally

supported by the comments of the farmers, except the fourth hypothesis, which was rejected due to the overwhelming support of community displayed by all the farmers.

Discussion

Overall, this qualitative study into the lives of 11 farmers on California's central coast provides an in-depth look at the opinions and thoughts of some of the people who grow strawberries for Californians and the rest of the world. While some of the opinions on important topics such as sustainability, economics, and regulations varied widely, the overall sentiment on the importance of community was consistent throughout.

The results as they pertained to the hypotheses and the research question generally coincide with many of the results found in the existing farm survey literature. Much of the existing quantitative results show organic farmers to be more environmentally aware and less influenced by economic concerns than the conventional growers (Beus & Dunlap, 1991; Duram, 1997; Midmore et al., 2001); the present study confirmed this trend at a more personal, qualitative level.

Although organic farmers tended to exhibit more environmentally aware concerns and comments, most of the conventional farmers and the mixed farmer displayed high levels of environmental concern as well. McCann et al. (1997) found similar results in Michigan through the qualitative portion of their study. Santa Cruz and the Pajaro Valley region is commonly known as the "birthplace" of organic agriculture in the US (Guthman, 2004), and social influence from the wider community may add to all farmers' awareness, and possibly their adoption of some organic techniques. Bultena and Holberg (1983) showed a strong correlation between social influence and the implementation or rejection of soil conservation practices. The accrual of "Social Capital" or "Symbolic Capital" was shown to be a critical in the decisions of German and Scottish farmers "to

change or (maintain) farm behavior" (Burton, Kuczera, & Schwarz, 2008, pp. 32). Social factors were found to play an important role in farmer behavior in other studies as well (Mountjoy, 1996; Willock et al., 1999). The conventional farmers and the mixed grower in this study have perhaps incorporated more environmentally benign behavior because of their social proximity to the large organic community inhabiting the central coast. Furthermore, the conventional growers did not appear to be philosophically determined to farm conventionally, whereas the organic farmers would not farm any other way. Looking long-term, if society continues to demand organic food and resource pressures mount, it is conceivable that the conventional growers will adopt organic methods, not out of philosophical changes, but out of a desire to exhibit socially acceptable behaviors.

The results also corroborate the theory that community life may play a role in encouraging urban-to-rural migration (Arnon & Shamai, 2010). Through Community Supported Agriculture (CSA) and many other on-farm community events, the organic farmers interviewed seemed to be actively engaged in building community. In contrast to the idea of community displayed by most of the conventional farmers, the community to which the organic farmers have entered is not comprised mainly of their peers, but is made up of their respective customers, employees, and sometimes nature itself. The ability to increase the size of their respective communities by entering the rural agricultural lifestyle may have played an important role in the decision to move.

Community life may be also a reason the interviewed conventional farmers remain in farming. Conventional agriculture continues to lose farmers, but this group has remained. Several conventional growers mentioned the importance of their farming

community, and there was no indication that they valued their community any less than the organic group. Maintaining community and even building community are two factors that have been shown to be very important to both conventional and organic growers (Allen & Bernhardt, 1995; Duram, 1997).

Future qualitative research on conventional farmers should focus on measuring the non-economic reasons for continuing to farm. By categorizing these reasons, policy instruments can be designed to promote the continued existence of these factors so that farmers are encouraged to stay in agriculture. Future research on organic farmers should investigate the extent to which these farmers rely on internet technology. With CSA's and other direct-to-consumer marketing strategies being employed, it would be useful to understand the types of programs and methods that are employed by farmers to reach their market and how new farmers can replicate these strategies.

Conclusion

Ultimately it was found that all farmers interviewed believe they were working hard and doing their best to provide safe and healthy food to consumers. Entrepreneurship, affinity for the land, and belief in community were commonalities between organic and conventional farmers. Important personal incentives motivated many of the new organic farmers in their migration to rural areas and may motivate established conventional farmers to stay in agriculture.

This study suggests that policies should focus attention on promoting or enhancing the non-economic benefits of living a rural farm life. Recommendations include promoting community-building events through established government agencies

such as the National Resources Conservation Service (NRCS) or through the National Institute of Food and Agriculture's (NIFA) extension services. In addition, to further encourage direct consumer and producer relationships, the USDA should develop an online community-building web site that helps consumers find and contact local farms across the nation. These agencies, instead of providing financial grants or incentives, should be promoting the non-economic benefits of rural life that can lead to revitalizing a dwindling American agriculture.

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Appendix

Interview Protocol

Project: Nature and Culture of Farmers in Santa Cruz County: A Case Study
Investigator: James D'Albora
Protocol #: S0904066

1. Will you tell me about your farm?

2. How big is your farm?

3. What types of products do you grow/sell?

4. How do you decide which foods to grow/sell?

5. Have you experienced problems with soil fertility or pests? How do you deal with those problems?

6. How long have you and/or your family been farming? How many generations?

7. How many employees to you have? Full time, part time and seasonal?

8. Do you identify with your farmer peers or non-farmers more? Why is that?

9. What do you think about sustainable agriculture? What is your definition of sustainable agriculture?

10. Given your definition, have you tried to incorporate sustainability into your farming process? What have been the results?

11. How do you feel about agricultural policy and regulation as it affects your farm? How about its effect on the US as a whole? The world?

12. Do you think the US should adopt a "sustainable" set of standards, similar to the organic standards? Why?

13. What do you want non-farmers to know about farmers?