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Sustainable Food: New York Organic Dairy Market Conditions and Recommendations for Policy Reform

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Sustainable Food: New York Organic Dairy
Market Conditions and Recommendations for Policy Reform

By
Dylan Hawkins

Submitted in partial fulfillment
of the requirements for
Honors in the Department of Environmental Policy

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ABSTRACT

HAWKINS, DYLAN Sustainable Food: New York Organic Dairy Market
Conditions and Recommendations for Policy Reform, June 2011

ADVISOR: Dr. Elizabeth Garland

This paper questions the sustainability of the American dairy industry through an examination of the current organic milk industry of New York State, with special attention paid to three interests: consumer welfare, farmer welfare, and the environment. Many consumers envision an agrarian ideal of grazing cows on pasture when they think of a dairy farm; milk-marketing companies often perpetuate this image. Unfortunately, most dairy cows in America do not enjoy such idyllic lives. History shows that consolidation of the American food system has led to major transformations in dairy farming. As a result, consumers have had limited access to high quality milk, farmers have struggled to earn a living, and environmental concerns have been raised.

As indicated through a review of current literature, some believe organic dairy farming has emerged as a remedy to these problems. Through an examination of the history of milk in American and a comparison to current market conditions, I show that the organic dairy industry is susceptible to the same consolidating pressures that transformed the conventional dairy industry. Using results of a survey of consumers, several suggestions relevant to state and federal food and agricultural policies are made. This study is part of growing body of literature on slow food and economic and environmental sustainability.

Dedicated to my family for their everlasting love and support of my biggest dreams

“Do your work with your whole heart, and you will succeed - there's so little competition”- Elbert Hubbard

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Next, I would like to thank Dean Sparks and Jean Tsai of NYFoods for helping me to develop a clear direction for my research. Their explanations of the current organic milk industry helped to expose a number of issues which otherwise would have been very difficult to uncover. Their interest in my research has been a continuing source of inspiration.

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Table of Contents

INTRODUCTION	1
CHAPTER I: A REVIEW OF LITERATURE	6
A) Organic Literature	6
1. Organic Food Activism	7
2. Organic Food Science	8
<i>a. Health Benefits</i>	9
<i>b. Environmental Impact</i>	9
<i>c. Health of Farmers</i>	10
<i>d. Ability to Produce Food</i>	11
3. Corporate Response	11
B) Literature on Organic Milk	12
1. Nutritional Value of Milk	12
2. Safety of Milk	13
3. The Environment	15
4. Herd Health	15
C) Literature on Industrial Organic vs. Local Organic	16
1. Activists	17
2. Industrial Organic Response	19
D) Conclusion	19
CHAPTER II: MILK: A HISTORY OF CONSOLIDATION AND COMPROMISE	21
A) The Original Challenge	22
B) The Twentieth Century Technological Treadmill	25
1. Changes in American Economy and Ideals	26
2. The First Steps on the Treadmill	27
3. Technology on the Farm	30
4. The Farm Crisis	31

C) Post World War II- Industrial Agriculture.....	33
D) The Rise of Organic	35
1. Early History	35
2. Contemporary Movement.....	36
3. History Repeating Itself	37
CHAPTER III: STOPPING THE CYCLE- DECENTRALIZED DAIRY.....	38
A) Slow Food Movement: Localizing Agriculture.....	38
B) Benefits of Decentralization and Localization	42
1. Economic Benefits	43
2. Environmental Benefits	44
3. Culture of Cuisine	44
C) Alternative Marketing	45
D) NYFoods: A New York Solution	47
E) Challenges and Barriers for NYFoods	48
1. Getting Retailers to Carry NYMilk.....	48
2. Getting Consumers to Buy NYMilk	50
3. Getting More Consumers to Buy NYMilk.....	50
CHAPTER IV: EXPERIENCE AND RESEARCH	52
A) My Experience.....	52
B) My Research.....	53
CHAPTER V: POLICY SUGGESTIONS AND CONCLUSIONS.....	63
A) Leverage Points	63
1) Promotion.....	64
2) Education	65
B) Policy Suggestions	66
C) Conclusions.....	70
APPENDIX A: SURVEY.....	72

List of Figures and Tables

Table 1.1- Conventional vs. Organic Agriculture.....	20
Table 1.2- Conventional vs. Organic Dairy.....	20
Table 1.3- Industrial Organic vs. Local Organic.....	20
Figure 3.1 Organic Industry Structure.....	40
Figure 3.2 Organic vs. Conventional Milk (COP) and Returns.....	42
Figure 4.1 Age and Sex Distribution of Survey Respondents.....	54
Figure 4.2 Annual Household Income of Respondents.....	54
Figure 4.3 Consumption of Local and Organic Foods Based on Income.....	55
Figure 4.4 Information Consumers Look For.....	56
Figure 4.5 Consumer Rating of Various Claims.....	57
Figure 4.6 a Factors Contributing to Food Buying Decisions.....	58
Figure 4.6 b Factors Contributing to Food Buying Decisions For Organic Consumers.....	59
Figure 4.7 Information Consumers Look for Based on Organic Consumption Characterization	60
Figure 4.8 Opinions Based on Local Sourcing Characterization.....	61
Figure 4.9 Information Consumers Look for Based on Local Sourcing Characterization.....	62
Figure 5.2 Real California Campaign Label Product Labels.....	65
Figure 5.3 Farm Bill 5-Year Allocation of Budget in (\$ Billion).....	67

INTRODUCTION

For as long as I can remember I have had a passion for good food. It is a running joke in my family that we don't celebrate holidays, instead we celebrate food. It's true; holidays generally consist of my entire family spending the day in the kitchen. One of my first vivid memories was from Christmas as a very young child, but it was not of opening my presents or even sitting on Santa's lap, instead, it was the overwhelming taste of horseradish.

As if it were something in my blood, passed down from my grandparents, through my parents, and to me, at the ripe young age of eight years old, my interest in cooking took off. I routinely woke up early on weekends, rummaged through my fridge and experimented with bizarre combinations of leftovers and eggs. While my two older brothers and parents were hesitant to indulge in my creations, I always found them delicious. My family always encouraged my cooking. My grandfather frequently sent me recipes that he clipped out of newspapers and magazines. When I had cooked all of his recipes, I turned to the "Yellow Cook Book," which was a large binder that contained an extensive archive of family recipes that my grandfather and my grandmother had compiled.

My second grade teacher, Mrs. Minimi brilliantly created a country of the month program. We studied a country for a month, and at the end of the month we got to taste the country's cuisine. I gladly volunteered my parents to make the French lunch. Fifty quiches and God knows how many cream puffs later, I thought I was an expert on French cuisine.

Luckily, I was not alone on my culinary adventure. My next door neighbor, Joshua shared a similar passion. We started out with mud pies and progressed to the more difficult leaf-and-stick soup. As we grew older, leaf-and-stick soup radically transformed into elaborate multi-course dinners—spinach and goat cheese tarts, rustic potatoes, lamb shanks, ravioli, you name it. By the time we were twelve, Josh's parents had handed over the responsibility of making New Year's Eve dinner for a dinner party of 20 people, and although we had a bit of supervision, we did a lot of the work ourselves.

Our earliest recipes also encouraged another of my passions. The Cicada shell tea, and earthworm and salamander meatloaf recipes both required that we spent long hours getting dirty. We had to climb trees, turn over rocks, and even sometimes, although now it seems a bit unnecessary, camouflage ourselves with mud in order to make it easier to hunt. These experiences built my love and passion for the environment.

Many years later, after my freshman year at Union College, I decided that I wanted to be an Environmental Policy major. I thought about law, forestry, wetlands conservation, remediation of Superfund sites, recycling, and renewable energy, but I was very unclear of what aspect of Environmental Policy most interested me.

This past summer it all clicked, with the help of my long-time cooking partner Josh. Although he is a year younger than I, I often admire his infinite wisdom. Josh had decided to dig out an old pond on his property that his parents had filled in when we were young. His idea was to create an aquaponic system, in which he raised tilapia and then filtered the wastewater from the tilapia over a bed of clay pellets, which plants grew in. Along with the aquaponic system, Josh also wanted to start a beehive and grow an organic garden. As these were a large and ambitious goals, he naturally enlisted my help.

One day about halfway through July, after hours of laboring in the hot sun, Josh pointed me to a patch of small greens at the edge of the garden. He said, “Try that.” Without hesitation I plucked a leaf from the ground and popped it into my mouth. I chewed a bit and exclaimed, “Wow, mustard greens!” That's when it all hit me.

On a small piece of land in Leonia, New Jersey, five minutes from the George Washington Bridge, Josh had used the land around him, and with a little bit of assistance from hundreds of busy bees, he had created extraordinary flavor. Until then I had never realized the huge overlap of my two passions, food and the environment.

Prior to this work, I thought that I knew a lot about food. Through my research, I have realized that this is one of the biggest problems our society faces. Even those who think they know a lot about food don't know the whole picture.

Long-time farmer and cultural and economic critic, Wendell Berry, explains this quandary most eloquently.

“I begin with the proposition that eating is an agricultural act. Eating ends the annual drama of the food economy that begins with planting and birth. Most eaters, however, are no longer aware that this is true. They think of food as an agricultural product, perhaps, but they do not think of themselves as participants in agriculture. They think of themselves as ‘consumers.’ If they think beyond that, they recognize that they are passive consumers. They buy what they want — or what they have been persuaded to want — within the limits of what they can get. They pay, mostly without protest, what they are charged. And they mostly ignore certain critical questions about the quality and the cost of what they are sold: How fresh is it? How pure or clean is it, how free of dangerous chemicals? How far was it transported, and what did transportation add to the cost? How much did manufacturing or packaging or advertising add to the cost? When the food product has been manufactured or ‘processed’ or ‘precooked,’ how has that affected its quality or price or nutritional value [Berry 1990:145-147]?”

Berry's main assertion is that people have failed to think about food holistically. They have failed to see the connection between food, farmer, and the environment. Instead they

understand food as just more goods they buy from the Supermarket or grocery store. Berry believes that this is a flawed view towards food. As a result of this failure by consumers to connect with these fundamental issues behind food, American farmers and moreover rural communities in America have suffered.

As a consumer born and raised in metropolitan New York, Berry's words ring loudly for me. For the majority of my life I failed to see the big picture behind food. Even as a consumer with a passion for the environment, I failed to understand the huge impact industrial agriculture has on the earth and how much consumers have to do with perpetuating that model.

As I became more interested with the deeper roots of food, I thought about food and which of them we are most distanced from. For most products I could begin to envision the chain of distribution. I thought fruits and vegetables are picked from the ground or trees, they are then shipped to a distributor, who then distributes them to grocery stores. When lettuce is improperly washed, we are often reminded of its sandy-soiled origins. In the case of meat, livestock are brought to a slaughterhouse, where they are slaughtered and then distributed to butchers, and butchers cut up large pieces of meat into special cuts. But one product perplexed me more than any other: Milk. I contemplated, how in the world does milk get from a cow into a plastic jug?

As a long time and large consumer of dairy, I was troubled by the fact that I could not easily retrace the origins of milk. With just a little bit of research, I immediately began to realize that there is an extensive body of literature on the food industry, and that milk and dairy have received a significant amount of attention in that literature because of the variety of issues relevant to milk and dairy.

In the first chapter I discuss some of the current literature on agriculture and the organic movement, with special attention paid to milk. In the second chapter, I show how the American food system and especially dairy has been transformed by the industrialization of agriculture and American society. In the third chapter, I discuss potential ways to reverse this cycle and move towards a goal of more sustainable system of milk production and distribute safer and healthier milk to urban consumers. In addition, through a case study of NYFoods, an alternative organic marketing company, I discuss the barriers to achieving this goal. In the fourth chapter, I present results of my survey of consumers and use these results to discuss several points of leverage, which I believe are important for New York to begin to explore with the goal of supporting State agriculture and social welfare. Lastly, I take a look at federal legislation and its flaws in achieving a just and sustainable food system. I also suggest New York's role in pressuring for a more just and sustainable food system through State initiatives focusing on local and organic dairy. I hope this work, at the very least sheds a bit of light on some of the dark corners that are ignored by most American consumers.

CHAPTER I: A REVIEW OF LITERATURE

A literature review is necessary both to inform readers of the different viewpoints that have influenced and established the current milk production models and patterns of consumption, as well as to inform readers of the discrepancy that exists between current scientific literature and government policy. By analyzing the literature on organic food, on organic milk, and on the industrial nature of our food system, a reoccurring interaction presents itself. In a broad sense, industry and government have pushed for a highly industrialized and centralized system to assure cheap and abundant food. Activists, on the other hand, have fought to maintain the quality of food, and in many ways, the quality of life. Both parties have used science and propaganda to advance their agendas. Few, if any, scholarly sources have comprehensively discussed this interaction as it pertains to organic milk. This lack of a comprehensive literature accounts for legislation on the federal level that fails to provide adequate support to a sustainable and just food system. It also accounts for legislation on the state level that fails to provide adequate support for a sustainable and just model for dairy production and distribution.

A) Organic Literature

Contemporary literature on the American food industry has either praised the highly centralized and industrialized structure that currently exists for its efficiency and ability to produce large volumes of food for a low price, or it has criticized it for deteriorating food quality, degrading the environment, and overall sacrificing quality of life. A variety of activists have proposed organic farming and food as a solution to the multitude of problems associated with conventional farming and food. Conventional

farmers, on the other hand, have argued that organic farming methods are not capable of producing the quantity of food needed to feed the country and that the benefits from organic farming are negligible.

1. Organic Food Activism

My interest in organic milk was sparked through my exposure to literature and other media produced by contemporary food industry activists. “My Father’s Garden”, a documentary comparing the life of Fred Kirshenmann, a pioneer of organic farming, to the life of his neighbor, a conventional farmer, shows that chemical intensive farming has had a tremendous impact on farmer health and the environment. Many activists have chosen to focus on the damage that industrial farming has had on the environment, while others have attempted to show how the food system as a whole has led to the degradation of our environment, our communities, and our own personal health. Eric Schlosser’s Fast Food Nation, a “New York Times” Bestseller, attempts to expose how the health of the American diet has been destroyed by a process of industrialization and consolidation, resulting in corresponding transformations to the environment and economy.

In Food Politics, Marion Nestle exposes the power of major players in the food industry and how they are able to influence government leaders and even health professionals. In Defense of Food, by Michael Pollan, Pollan suggests that food has been simplified to nutrients, and that as consumers have become increasingly concerned with nutrition, they have become increasingly oblivious to common sense, blindly staring at nutrition labels and failing to truly understand their food. In another of Pollan’s books The Omnivores Dilemma, Pollan traces the origins of four meals from his plate back to the farm and thereby raises many questions, most notably, what are the moral and

ecological consequences of our food choices? “Food Inc.” a popular documentary released in 2008 and shown in over fifty large cities throughout the United States and Canada, compiled work by Schlosser, Pollan, and many others in an effort to further popularize these issues.

Other activists like Daniel Imhoff have tried to raise awareness of confined animal feeding operations (CAFOs). In his book CAFO: The Tragedy of Industrial Animal Factories, Imhoff explains that not only are CAFOs inhuman and morally wrong but that they are environmentally unsound. Many activists have used documentaries as a medium to express similar beliefs. “Living a Nightmare: Animal Factories in Michigan,” a product of the Michigan Sierra Club, shows how CAFOs have affected Michigan farming communities. The bulk of activist literature and media is designed to be emotionally-charged; its goal is to raise awareness of the current system and stimulate further activism.

Each of the individual writers and filmmakers has challenged the American food system in a sensationalist manner, attempting to evoke response often on the basis of morality, cultural values, and health concerns. They portray corporations like Monsanto as evil and greedy and attempt to show the profound negative influence they have on the lives of all Americans each and every day. In contrast, organic food and farming are presented as a straightforward and overarching solution to a plethora of problems.

2. Organic Food Science

Scientific literature is less one-sided than activists would prefer. Both organic proponents and opponents have used different studies to support their claims. While science aims to be objective, this literature review reveals that ultimately, scientists

cannot escape their biases. The funding source for scientific studies often determines the final spin of any given article.

a. Health Benefits

The Organic Food Center reviewed nearly 100 articles comparing the nutritional benefits offered by organic plant-based foods in comparison to those offered by conventional plant-based foods and found that, “The average serving of organic plant-based food contains about 25% more of the nutrients encompassed in this study than a comparable-sized serving of the same food produced by conventional farming methods (Benbrook et al. 2008:3-6).”

Yet, the United States Department of Agriculture (USDA) has taken the stance that organic foods are no more nutritious than conventional foods. The Food Standards Agency of England recently funded a review, published in the “American Journal of Clinical Nutrition” that supported the claim that no significant difference existed in nutrient levels between organic food and conventional foods (Dangour et al. 2009:680-682).

b. Environmental Impact

While scientific literature regarding health benefits of organic products is conflicting, literature regarding the environmental impacts of organic farming in comparison to conventional farming is fairly one-sided. A comprehensive study in Europe published by the University of Hohenheim, suggested that “In no indicator category did organic farming show a worse performance when compared with conventional farming (Stolze et al. 2000: V).”

A six-year study of three apple production systems found that when compared with conventional systems, organic systems “had higher soil quality and potentially lower

negative environmental impact (Reganold et al. 2001:927.” A review by Hole and others, comparing conventional farming to organic farming suggested that due to the exclusion of chemical pesticides and fertilizers, organic farming was more conducive to biodiversity (Hole et al. 2005: 127).

c. Health of Farmers

In 1993, the United States Environmental Protection Agency (USEPA), National Cancer Institute, and National Institute of Environmental Health Science created a study known as the Agricultural Health Study. This study aimed to monitor the health of men, women, and children in farming communities with specific research goals of studying human health risks from pesticides. This study was formed in response to the increase of specific types of cancer in farming communities, particularly leukemia, non-Hodgkin’s lymphoma, multiple myeloma, soft tissue sarcomas, and cancers of the skin, lip, stomach, brain, and prostate. Over the past 17 years, research has been conducted in farming communities throughout Iowa and North Carolina in an attempt to discover the health risks associated with pesticide use, in addition to other potential occupational hazards. Recent analysis of the concentration of pesticides in the urine of fathers, mothers and children found that the average level of pesticide concentration was higher amongst individuals in farming households than in non-farming households (Curwin et al. 2007:55-64).

Separate research in 2006 found that the incidence of Parkinson’s disease was higher among individuals exposed to pesticides for more than 400 days of their life (Kamel et al. 2006:365). Farmers who use pesticides are also more likely to wheeze than those who do not (Hoppin et al. 2002: 688). Fungicides have been shown to cause retinal

degeneration (Kamel et. al. 2000:624). Further research within the Agricultural Health Study has suggested pesticides may also be linked to hearing loss, asthma and other respiratory disorders, and depression.

d. Ability to Produce Food

Recent science has suggested that contrary to claims made by companies such as Monsanto and Syngenta, organic farming, not conventional farming, is actually a more feasible means of producing enough food for the world. Since 1981, the Rodale Institute Farming Systems Trial has aimed to compare conventional farming to organic farming on a number of bases. The collaboration of numerous research studies has suggested that organic farming is likely to improve soil quality resulting in more sustainable farming practices and overall a more sustainable means of producing food for the world.

3. Corporate Response

There is also a body of literature, which praises the American food industry for its astounding accomplishments. This body of literature cites advantages such as cheaper food, greater variety of food, longer shelf life, diversification of the American labor force, and land efficiency.

“America’s Heartland,” a weekly PBS television series funded by Monsanto, celebrates American agriculture and its ability to produce food for our country. Books like Feeding the World: An Economic History of Agriculture, 1800-2000, point to the transfer of labor as one of industries major contributions. Economists praise the conventional food industry for its ability to produce more with less. The United States government including agencies such as the USDA and the United States Food and Drug Administration (USFDA) continue to support conventional industrial agriculture despite contradictory evidence.

B) Literature on Organic Milk

Literature on organic milk in many ways mirrors the literature on organic products in general. Activists have found numerous problems with conventional milk and educated the public about many of these problems. The government and industry routinely combat the activists' claims arguing that their claims are exaggerated. The discussion surrounding organic milk is even more passionate — not only are there environmental and health concerns, but issues of animal rights and the well-being of children.

Milk is very different from spinach, strawberries, or even eggs. The cows that produce milk are large, living, breathing mammals and unlike many other similar forms of livestock, they are not raised for their meat. Farmers therefore are able to develop relationships with their cows. Literature from farmers has suggested that organic dairy farming is healthier and more humane for cows. Thus both animal rights activists and farmers have aligned themselves with organic dairy farming practices. Milk is also a unique product in that it represents a significant part of many American children's diets. For this reason American mothers, as well as other consumers, have rallied for organic milk in order to increase milk's safety and nutrition.

1. Nutritional Value of Milk

a. Activist Literature

The vast majority of literature that suggests that organic milk is healthier has been based on intuitive beliefs motivated by assumptions associated with culture and social values. Often this literature fails to prove that organic milk actually embodies a higher nutritional value and only makes claims that conventional farmers use antibiotics and

growth hormones.

b. Corporate Response

Anti-organic activists picking up on their opponents' lack of scientific proof have contested the differences in the nutritional quality of organic milk in comparison to that of conventional milk and have also suggested that the difference in price is therefore not justified.

c. Science

Scientists have begun to acknowledge that there are compositional differences between organic and conventional milk. A study in Italy found that organic samples all contained significantly higher levels of trans-vaccenic acid, conjugated linolenic acid, linolenic acid, and beta-carotene than did conventional samples (Bergamo et. al. 2003:638-629).

A similar study conducted in the United Kingdom compared the types of fatty acids present in organic milk from 17 different farms to conventional milk from 19 different farms. Researchers found that the organic milk had a higher ratio of polyunsaturated fat and n-3 acids to monounsaturated fat and n-6 acids than the conventional milk (Ellis et al. 2006:646-649). Both studies acknowledged dietary differences of herds as potential causes for compositional differences in milk.

2. Safety of Milk

a. Activist Literature

Contemporary activist literature like Samuel S. Epstein's What's in Your Milk? attempts to do several things. The first is to educate consumers about the dangers of recombinant Bovine Growth Hormone (rBGH), the second is to ban the use of rBGH in

the United States, and the third is to expose the cover up by Monsanto and the FDA. The primary concern of most activist groups is to publicize the dangers of rBGH through newspaper articles. The American Nursing Association, Farmers Union, Rural Vermont, the Organic Consumers Association, and the Cornucopia Institute have plastered information all over their websites and called for consumers to take political action. While literature by these groups has been published publicly, a great deal of literature, in the form of letters and petitions, is directed at politicians in order to maintain the right to label milk products as rBGH free. A recent decision by the Sixth Circuit Court of Appeals in Ohio overturned the ban on labeling products as rBGH free; consumers in Ohio now have a right to choose.

b. Corporate Response

For a long time Monsanto and the FDA maintained that rBGH posed no real threat towards humans. Monsanto funded the creation of a campaign known as ‘Milk is Milk’ and suggested that grocers, in order to create a more expensive alternative, exaggerated the harms of rBGH by publicizing that they would take rBGH milk off their stores shelves. Today, the distributor of rBGH, Elanco, continues to advertise Posilac (the generic name for rBGH) as FDA-approved and note its ability to increase milk consumption. The corporate response largely focuses on the ability of rBGH to reduce the carbon footprint per gallon of milk while it ignores the potential human health risks and definite risks to dairy cows.

c. Science

Extensive research has found that milk produced from cows treated with rBGH contains higher levels of Insulin-like Growth Factor 1 (IGF-1) in milk, and also that the

incidence of cancer is increased by consumption of IGF-1 (Larsson et al. 2005:2097).

Other studies have shown that milk from cows treated with rBGH has a higher somatic cell count, typically as a result of pus from cows' udders (McClary et al. 1994:2262).

3. The Environment

a. Activist Literature

Proponents of organic farming suggest that organic dairy must be better for the earth, on the basis of the belief that organic is usually better because of the decreased use of chemical fertilizers and pesticides.

b. Corporate Response

Proponents of conventional dairy often make the argument that the conventional system is actually more environmentally friendly because, with the help of rBGH, it takes fewer methane-producing cows to produce the same amount, if not more milk.

c. Science

A review of the environmental effects of conventional dairy farming in comparison to those of organic dairy found that eutrophication potential was lower with organic production but that methane production by organic cows is higher and that organic dairy farming requires more land (de Boer 2003:73-75).

4. Herd Health

a. Activist Literature

The primary body of activist literature addressing the issue of herd health is in the form of testimonials from farmers who have made the transition from conventional to organic and noticed enormous improvements in the overall health of their herds.

Farmers suggest that organic farming places less stress on herds and as a result cows are healthier and live longer.

b. Corporate Response

Conventional dairy farmers often counter that organic or conventional is not the main issue, rather farm management is. They suggest that a good farmer is the key to good herd health and not necessarily the system which is used.

c. Science

A Danish study comparing conventional dairy herds to organic dairy herds over an eleven-year period found that organic herds required fewer veterinary treatments and in general produced less milk, overall indicating that cows were less stressed (Bennendsgaarda et al. 2003:127-129).

C) Literature on Industrial Organic vs. Local Organic

After reading sections A and B above, organic milk has presented itself as a solution to a variety of health and environmental problems, yet activists continue to argue that the product that is organic milk today still falls well short of perfect. Scientific and advocacy literature has broadly attacked the American food system for being highly industrialized and offers organic agriculture as a healthier and more sustainable means of producing food. However, another body of literature focuses around the comparison between local organic foods and industrial organic goods. Activists suggest that local production and decentralized distribution chains are necessary for maintaining the integrity and ideals behind organic, while industrial organic proponents suggest that large-scale organic has many of its own benefits. Both critics and supporters of organic

food whether they are scientists or advocates have begun to express their concern that organic food and agriculture have come to resemble their conventional counterparts, and not vice versa.

1. Activists

Activists have voiced concern that industrialized organic dairy is a threat to truly organic milk. They argue that large dairy operations fail to embody the ideals that organic agriculture originally intended. They have maintained that the industrialized version of organic dairy farming favors large farms and forces small organic dairy farms out of the market. Moreover, they have claimed that the quality of our food, the environment and local economy suffer as a result of the industrial model.

a. Slow Food

Activists protest that localization of the food industry is critical for both the economy and the environment, while industry and government have countered that a centralized and industrialized system is far more efficient. Four sectors have joined the movement for localization of the food industry and moreover our economy: 1) Small farmers struggling to compete with large industrial operations, 2) Consumers who value food quality, 3) Environmentalists, and 4) Americans concerned with the food systems' negative influence on American culture.

Slow Food Nation, an event in August of 2008 gathered a panel of illustrious advocates made up of farmers, chefs, authors and scientific experts including Wendell Berry, Eric Schlosser, Michael Pollan, Carlo Petrini, and Alice Waters to present the case for transforming the American Food System. Topics of discussion at the conference included scaling down the carbon footprint, reviving food culture, human rights, social

injustice and ecological justice. Through discussions at the conference, several themes emerged as vital to the movement for slow food: food quality, the environment, the economy, and a broader encompassing theme of improving the quality of life for all living in America.

b. Food Quality and Variation

Literature praising slow has been written by gourmands and top chefs across the country. Slow: Life in a Tuscan Town a collection of photographs and text by Douglas Gayeton and Alice Waters shows how through preserving local food traditions and honoring local farmers and producers, rural Italians have been able to maintain the rich culture surrounding their food. Chefs like Alice Waters appreciate the differences in regional variations; they understand delicate and subtle differences in composition, texture, and taste. For those who value and appreciate food, slow food represents a much more appealing model than mass-produced, generic food. These people will acknowledge that this preference is in part an ideology, but at the same time will testify to the grave that there is an actual difference in the quality of food.

c. The Environment

Advocates for slow food have raised the idea of food miles (the distance food travels from farm to table). The Omnivores Dilemma asks consumers to question where their food has come from regardless of whether it is organic or not. Furthermore, it asks consumers to acknowledge the environmental burden of shipping food thousands of miles from farms through a long chain of distributors.

d. The Economy

In addition to increasing the quality of food and the environment, the slow food

movement looks to improve the economy. In Deep Economy: The Wealth of Communities and the Durable Future author Bill McKibben posits that challenging the American model of consistent economic growth is vital to increasing the strength of relationships within our communities and within our families. He argues essentially that more is not always better and that strengthening our economy can be done by supporting local prosperity.

2. Industrial Organic Response

Others acknowledge that big organic has potential benefits. In Tomorrow's Table author Raoul W. Adamchack suggests that large scale organic would have the effect of increasing the total amount of land farmed organically, which would thereby reduce soil erosion and the use of dangerous synthetic chemicals (Ronald and Adamchak 2008: 24-25). Furthermore, industrial organic, as a consequence of economies of scale, might reduce the cost of organic products and in doing so make them available to more consumers.

D) Conclusion

Through a review of literature, it has become clear to me that there are many contested issues surrounding organic foods, organic milk, and decentralized food production. Analysis of these bodies of literature seems to reveal several truths (as illustrated in following tables).

Table 1.1 Conventional vs. Organic Agriculture

	Consumer Health Benefits	Farmer Health Benefits	Environmental Impact
Conventional Ag	Debated	Lower	Higher
Organic Ag	Debated	Higher	Lower

Table 1.2 Conventional vs. Organic Dairy

	Consumer Health & Safety Benefits	Farmer Health Benefits	Environmental Impact	Heard Health Benefits
Conventional Dairy	Lower	Lower	Debated	Lower
Organic Dairy	Higher	Higher*	Debated	Higher

*It can be assumed that because organic dairy relies on feed crops which are also produced organically that organic dairy overall helps to perpetuate healthier farming communities.

Thus, based on the literature which exists, organic agriculture and organic dairy emerge as winners over their conventional counterparts in terms of consumer health, farmer health, environmental impact, and health of cows.

Table 1.3 Industrial Organic vs. Local Organic

	Environmental Impact
Corporate Organic	Higher
Local Organic	Lower

Furthermore, local organic offers a more environmental-friendly alternative than does corporate organic.

Therefore, when looking at the literature surrounding contested claims, local organic dairy emerges as a more sustainable food choice than either corporate organic dairy or conventional dairy. Yet the vast majority of Americans do not choose this option. More shockingly in New York City where there is a large market for organic milk, few consumers chose to support local New York State organic dairy farmers. In order to understand these puzzling contradictions we must look to history.

CHAPTER II: MILK: A HISTORY OF CONSOLIDATION AND COMPROMISE

“Some Day in the future when dairy farmers market their own milk on their own terms, and city people eat and drink milk for the sake of both health and the economy, some scribe will hunt up the record of today. He will tell a new generation how a middleman profiteering system enriched itself in the mid-twentieth century by establishing itself between consumers of milk, whence they exploited the former and robbed the latter with a revised scheme then already a century old [Dillon 1941: 27, emphasis added]” –John Dillon, former editor of “The Rural New Yorker

In order to understand the current state of the dairy industry in New York State, it is necessary to look at its history. Through analysis the history of New York State dairy industry, we can see that consolidating pressures on the industry have made providing high quality milk to New York City consumers for a price that is both affordable and sustains New York State dairy farmers an intractable challenge since the early 19th century. We also can see that as fundamental ideologies, technology, and the locus of society transformed throughout the 20th century, consolidation increased and milk was also transformed. By looking at the dynamics between dairy farmers, milk dealers, government, and ultimately consumers in relation to a few of the biggest transformations of milk, it becomes even clearer why the current industry has become so highly consolidated.

Currently, American sentiment to return to a more pure form of milk is growing yet, the sentiment to move away from consolidated dairy has not yet gained enough support. Many dairy farmers and few consumers have pushed for a less consolidated alternative but have met barriers. By understanding the relatively short but certainly byzantine history of milk distribution in America, we can see that history is indeed

repeating itself. The organic milk industry is falling to the very same consolidating pressures that shaped the conventional milk industry. To insure the prosperity of New York State dairy farmers, to improve the quality of milk distributed to New York City consumers, to reduce the environmental impacts of the current system, and to address humanitarian issues associated with raising livestock, policy adjustments are necessary.

A) The Original Challenge

There is evidence that for thousands of years milk has been consumed by humans. In early agrarian days, milk was produced on each man's farm for personal consumption or was traded for with nearby neighbors. Thus the story of the distribution of milk does not really begin until the early 19th century in America's cities. At this time, most milk distribution was done by hand because quantities were low, but as demand increased and people began to move away from farms and into cities like New York, distribution began to become an important issue.

The island of Manhattan even in the early 1800's was not ideal for grazing cattle. However, there was little infrastructure to bring milk from upstate farms to city markets. Thus cows were raised in Manhattan in atrocious conditions. Cows were fed low nutrient, inexpensive brewer's grains amongst other waste products. Brewer's grains and waste were abundant in New York City but, space was not, therefore cows were confined to small pens. To cut down on transportation costs, many stables were built near breweries throughout Manhattan and Brooklyn. The milk produced by cows in these operations became known as swill milk (Dillon 1941:1-2).

By 1842, completion of the Erie Railroad allowed for milk to be transported from

Orange and Westchester County farms to New York City consumers. Consumers soon became accustomed to the taste of the richer milk. Unfortunately, the supply of milk from Orange and Westchester County was not sufficient, and many New Yorkers still relied on swill milk. As swill milk was high in dangerous bacteria and low in essential nutrients, it contributed to serious health problems, especially for young children (Dillon 1941:2-20).

After several decades of campaigning by activists and hundreds of deaths, in 1856 city officials pressed for legislation against swill milk. For ten years Manhattan milk producers fought ardently against proposed legislation, but they were defeated in 1866, when the New York Department of Health was organized. Laws against the production of swill milk in Manhattan were passed for reasons of sanitation, health, and animal welfare. While Manhattan was successful in outlawing swill milk, production in Brooklyn which was under different governmental jurisdiction was not outlawed until 1904 (Dillon 1941:19-20).

In 1844, the Orange County Milk Association was formed to represent Orange County dairy farmers. Through the association, farmers had the ability to settle prices and other terms of sale to city distributors. During the Civil War, many farmers independently negotiated milk prices with housewives and earned premium returns. Following the war, the US population, especially in cities, skyrocketed. A large population away from farms meant that there was a growing market for milk middlemen. Businessmen realized that there was money to be made (Dillon 1941:1-8).

By 1870, dealers began to pressure farmers for lower milk prices. Farmers initially resisted. But farmers were inexperienced and underrepresented in comparison to

the business savvy dealers. During the Orange County Milk War, farmers dumped milk in city streets and forced dealers to pay a fair price with the threat of distributing milk themselves. Dealers responded by paying a fair price, but then swiftly negotiated with the railroad industry to have railroad lines carry milk from farms further west in Otsego and Sullivan Counties. Farmers in these counties were presented with a top price for their milk, a price higher than they made per gallon of milk used for making cheese or even for butter. The farmers couldn't resist. But these sky high returns didn't last long for farmers as dealers quickly dropped prices after the western farmers from Sullivan and Otsego Counties, had agreed to enter the market. Now with milk from Orange Country, Otsego and Sullivan County coming into New York City, the milk supply was larger than ever and prices plummeted (Dillon 1941:7-11).

For thirty years dealers pushed for paying producers the lowest price possible while simultaneously raising the price for consumers. They forced farmers to compete against each other and every five years from 1870-1895, the price dealers paid to farmers for their milk dropped. The first incorporated milk distributor was the Milk Exchange, Ltd. From 1882 through 1895, Milk Exchange Ltd. fixed market prices for milk. Essentially competition between milk dealers was eliminated and farmers were left with little option but to accept low returns (Dillon 1941:12-17).

While milk dealers cunningly cheated New York dairy farmers out of their hard earned dollars, they also fooled consumers. In order to further boost their profits, milk adulteration became a common practice. Cream was often skimmed off the top of milk containers and sold separately. The remaining milk was diluted with water and then chalk, plaster of Paris, and molasses were added to achieve the desired texture and

appearance. In response to such practices, the government began milk inspection in 1876. With lactometers in hand, inspectors tested milk for its purity. Yet, dealers quickly found ways around this. The Washington Square pump eventually became notorious as a location where dealers could bring their milk to add a solution that fooled lactometers and returned adulterated milk to its pure white color (Dillon 1941:20-22).

Through the examples of swill milk and milk adulteration it can be seen that providing high quality, safe milk to urban consumers has been a challenge since the onset of milk distribution. In the instance of swill milk, issues of quality and safety could be blamed almost entirely on producers. Once infrastructure provided a viable means of milk transportation, city reformers were quick to identify hazardous swill milk and the unfriendly means of production as targets. In the instance of milk adulteration, the battle was significantly more difficult. As the 20th century approached, government regulations were put in place, although many times they were too lax to be effective. In 1885, the first commissioner of the New York State Dairy Commission, later to become the Department of Agriculture, recommended minimal purity standards for milk quality. Even as restriction on milk adulteration increased, however, dealers continued to find ways around them (Dillon 1941:22).

B) The Twentieth Century Technological Treadmill

“American Agriculture in the twentieth century is a story of abundant harvest, rapid technological and scientific change, and great prosperity. It is also a tale of desperate men and women, white and black, who struggled- often against overwhelming odds in the form of inadequate land, insufficient credit, and inequitable treatment-to make a living from the soil that would give them dignity and comfort. American agriculture in the twentieth century is also the story of great demographic change as farm men, women, and children moved from the countryside to towns and

cities, seeking a better life. In this respect it is often the history of economic failure that spawned radical organizations and violence. Above all however, American agriculture in the twentieth century is the story of farmers' dependency on the federal government [Hurt 2002: iv, emphasis added].”

1. Changes in American Economy and Ideals

Leading up to the 20th century, it is clear that New York State dairy farmers were losing leverage in a changing market. In the first half of the 19th century, agriculture was America's leading industry. But following the Civil War, the Market Revolution forced a transition away from agriculture and towards “manufacturing, mining, oil refining, railroad building, insurance and banking (Dillon 1941:29).” These companies started out small but quickly gathered savings, then merged or were bought up to form large trusts and corporations. Meanwhile farmers struggled to pay the price of shipping goods, and in the blink of an eye, agriculture fell to industry. Skilled industrial laborers’ wages were higher than skilled farm laborers, and overall profit followed the same trend. Furthermore, farmers received wholesale prices for all of their goods but were forced to buy all of their needs at retail prices (Dillon 1941:28-35).

Farmers struggled with a changing economy but also with changing ideals. Turn of the century urban reformers including educators, ministers, philosophers and social scientists all believed that agriculture was not efficient enough. Cheap and abundant food was a major concern of the interested parties. As author Erna Melanie DuPuis describes, “Urbanites who had witnessed farmers dumping their milk in the streets demanding higher prices failed to understand the difference between farmers and milk distributing robber barons” (DuPuis 2002:70). DuPuis continues, “While many urbanites continued to see the farmer as 'the prototypical American, the independent, self-reliant, natural

productive, middle-class yeoman, the rock of republican government, and conservator of natural morals,' a growing number of city people viewed the farmer as 'the worst in American society' (Dupuis 2002:70).''

Embodying the new American ideal of efficiency through industry, robber barons like Andrew Carnegie, J.P Morgan and John D. Rockefeller built their trusts and corporations large enough that they had the power to fix prices. Americans throughout history have made the association between companies such as U.S. Steel and Standard Oil and the word monopoly, but few have thought of the name Borden Condensed Milk Company. Yet, it was revealed in the O'Malley investigation, an antitrust investigation of Borden that competition over price had ceased. Attorney General O'Malley found that there was a combination of middlemen that had fixed the price paid to farmers for milk. Furthermore, Borden released false information in order to further raise the price of milk to consumers, stating that farmers had raised the price of milk. Consumers were at the mercy of dealers as were farmers. Borden had created a monopoly over the purchasing and sale of milk in New York City. O'Malley also suggested that the price paid to producers prohibited them from earning a profit. Despite the investigation nothing changed (Dillon 1941:33-39).

2. The First Steps on the Treadmill

As New York transformed, the city population continued to climb, and so did the demand for milk. The price for agricultural products continued to drop and the cost for goods farmers needed continued to rise. Faced with this cost-price squeeze many farmers found that the best option was to increase productivity through technology. Based on the principle of economies of scale, farmers could expect to see higher returns

per input. Borden, in turn found it more efficient to purchase large amounts of milk from fewer large farms than to purchase small amounts of milk from a greater number of farms. While conditions on large dairy farms were certainly not as atrocious as those in earlier swill milk operations, large farms, where cows were fed grain from feed lots, were likely to offer less sanitary conditions than smaller farms where cows were free to pasture. By the turn of the century, city officials, physicians, and consumers began to make a fuss about disease that could be transmitted through milk (DuPuis 2002:70-73).

The reform movement pressured city officials to take some sort of action to insure that milk was safe. It became recognized that the further milk traveled before it got to the city, the more hands it passed through, and the greater the chance the milk had been adulterated or contaminated (Dillon 1941:22-23). The growing city, coupled with changing ideals about American farmers, helped to determine the response to this problem. Although two approaches emerged, one prevailed.

The first approach was certified dairy, the second was pasteurization. Certified dairy required inspection of cows and entire farms on a regular basis. This inspection had a high cost. Furthermore standards for certification were high, which increased a farmer's need for capital and for labor. The result was that only highly profitable farms could afford to become certified farms and that the price of certified milk was too high for most consumers. Because the New York state government was responsible for licensing milk operations, it also had to insure that the licensing requirements resulted in a safe milk product for consumers. New York was presented with two options: increase the labor force necessary to regulate milk effectively in a system paid for by taxpayers, or mandate pasteurization, and pass the cost of investment in technology on to dealers. In the era of

industrial efficiency, the answer was clear (DuPuis 2002:77-87).

Pasteurization assisted further nationwide consolidation of the dairy industry. Because pasteurization required investment in technology, only select distributors could afford the transition. Furthermore, pasteurization increased the shelf life of milk, meaning that milk could be shipped longer distances and stored for longer. Both of these factors contributed to an increased preference by retailers for larger milk distributors, and by distributors for larger dairy farms. (DuPuis 2002:80-85)

DuPuis shows that from 1923 to 1940 two milk companies, Borden's and National Dairy, had over 400 mergers and takeovers of other milk companies (DuPuis 2002:81) DuPuis later writes,

“The decision to mandate pasteurization was tantamount to an 'industrial bargain' between farmers, consumers, and large industrialists that enabled public officials to avoid the difficult path of imposing costs on these politically powerful groups...The industrial bargain was basically an anti-agrarian politics that saw farmers as servants of the city, and no longer as political actors with their own contribution to the nation [DuPuis 2002:87-89].”

Thus it becomes easy to see that pasteurization was largely supported by New York City consumers as a means of providing abundant, affordable, and safe milk.

While consumers, government and industry banded together for higher efficiency and lower prices, unorganized farmers stood little chance. One notable exception occurred in 1916 when New York State dairy producers were able to band together to combat the low prices paid by dealers. After an arduous and at times dangerous struggle with Borden, farmers eventually prevailed. The success of dairy farmers underscored the need for farming Cooperatives. If dealers were to be big and powerful, farmers needed

similar bargaining power in order to ensure profits (Dillon 1941:84-112).

Throughout World War I, and the ensuing twenty years, farmers faced a continual uphill battle against dealers. Dealers worked to pay lower prices to farmers to insure large profits while farmers pushed for higher prices to insure their livelihood. As a response, cooperative dairy actions emerged as a way to counter the power of large dealers. But these movements lacked strong leadership and effective communication amongst constituent farmers. Therefore, government was often called upon to regulate prices. However, political motivations rarely matched dairy farmer concerns. Legislation was written with the pretense of assisting farmers in achieving unity and thus power against dealers, but failed to provide farmers with the governing power over cooperatives, thus undermining their strength. The only farmers who had any degree of power were large ones (Dillon 1941:84-131).

3. Technology on the Farm

Pasteurization is a clear example of how urban Americans turned to technology as a solution to the issue of milk contamination. Through the example of pasteurization, it is also clear how technology furthered the consolidation of agriculture. But as mentioned earlier, farmers, too, had turned towards technology as a solution to alleviate financial pressure. So while technology most certainly increased safety and productivity, it also had other effects, in particular, it decreased farmer self-sustainability.

For instance, the development of the gasoline powered tractor eliminated the necessity for animals and workers for labor. The tractor thereby enabled farmers to replace feed crops with cash crops. Farmers who could afford to buy tractors also bought more land because they could cultivate it efficiently, therefore increasing productivity

(Gardner 2002:10-14). Those farmers who could not afford tractors found it difficult to compete with larger farmers who produced more, as a result smaller farmers often sold to larger farmers. Therefore we can see how fewer farmers were producing more.

Technology also increased dependence on external inputs. While farmers traditionally depended on feed crops that they grew themselves to feed their draught animals, now they were forced to purchase gasoline to run the tractors which they also had to purchase. Thus we see that farmers had become reliant on goods manufactured in the industrial world. This is where the cost-price squeeze becomes particularly relevant, as inputs had to be purchased for a high retail cost (Gardner 2002:13).

During this period farmers saw productivity skyrocket. Farmers who were first to invest in technology increased output for high returns, but as others also implemented technology, production rose and prices for goods dropped. Those farmers who were not able to afford the new technology could not compete and thus were eliminated from the market. Many scholars have deemed this process a 'technological treadmill' (Ward 1993:5-12). The word treadmill is used because, even as farmers continue to increase the amount of technology on their farms, returns are ultimately the same. The word treadmill has become widely used by many scholars in describing many aspects of agriculture, including accumulation of land by farmers (Ward 1993:5-12).

4. The Farm Crisis

As farmers took their first steps on the treadmill many of them did not even realize they were doing so. Increases in technology led to higher productivity, yet World War I had created a temporarily high demand for food. After the war ended demand for food fell. As a result the price of farm goods plummeted. Dairy farmers had been fighting

for government support from the earliest days of milk distribution, but now American agriculture as a whole was on the verge of collapse. Farmers, agricultural organizations and politicians discussed how to solve the farm problem, but none could agree.

President Herbert Hoover suggested a voluntary reduction plan in which farmers reduced production in their own best interest. The trouble with Hoover's plan was that farmers were wary about participating. Unless most farmers reduced production, the plan would not work. If only a few did, price would not rise and farmers who had reduced production would be left with less to sell (Hurt 2002:43-64). As was the goal of urban reformers, technology had made food cheap and abundant for urban populations, but it had also created a crisis for farmers.

With the start of the Great Depression in 1929, farmers looked towards the federal government for help. By the time President Franklin Delano Roosevelt was inaugurated in 1933, "Farmers were experiencing the lowest agricultural prices and income since the late nineteenth century (Hurt 2002:66)". As part of the New Deal, Roosevelt introduced the Agricultural Adjustment Act. The plan was to pay farmers to produce less. As part of the New Deal, Roosevelt also oversaw the creation of several agencies to assist farmers including the Soil Conservation Service, the Farm Credit Administration, and the Rural Electrification Administration. Overall, these agencies helped improve the quality of life of American farming families but did little to actually fix the problems that farmers and our economy encountered (Hurt 2002:67-93).

On December 7th 1941, as the Japanese attacked Pearl Harbor, the farm crisis halted. Farmers left their farms to join the military. The war also increased demand for food. Supply had been reduced and demand had increased. Those who continued as

farmers were guaranteed price parity for their products and encouraged to produce as much as possible. The government created programs to enlist Mexicans and prisoners of war to work on American farms to meet labor needs. Agriculture boomed (Hurt 2002:98-104).

C) Post World War II- Industrial Agriculture

By 1945 the war had ended. The technological treadmill which had started up earlier in the century began to accelerate. Electricity had made its way to approximately half of America's farms and four years of exuberant profit again encouraged farmers to invest in more technology. Science and technology again promised to be the solution that would offset declining prices (Hurt 2002:115). Wartime improvements in technology appeared to be a godsend to America's farmers. Ultimately, however, this technology would completely transform agriculture and our environment. Increased productivity continued to be the incentive of farmers, but just as before the increase came with a price: consolidation of farms and an increased dependence on external inputs.

Hart explains American farmers in 1949 were largely self-sufficient. Although technology had started to appear on farms, farmers still produced most of what they needed, but as technology continued to pervade, specialization increased. For dairy farmers, “vacuum-driven milk machines, refrigerated bulk tanks for milk storage, barn cleaners for manure removal, pipeline milkers and milk parlors, feed-handling equipment, and electric fencing (Gardner 2002:15)” were innovations that made producing milk easier. Hart further explains how a successful farmer in 1997 was one who had specialized in “a single crop, maybe two, or a single type of livestock.(Hart

2003:3)” He continues to show that as a result farmers have lost their self-sufficiency “...they buy everything else they need (Hart 2003:3).”

While specialization and technology have made farmers less self-sufficient they have most certainly had their benefits in terms of productivity

“In 1910, USDA estimated that 3.8 hours of labor were required to produce 100 pounds of milk on average in the United States. By 1935-1939, the labor required had been reduced only slightly to 3.4 hours; but by the end of the 1980s the labor had been reduced phenomenally, to 0.2 hours per 100 pounds of milk [Gardner 2002:15].”

Technological innovations in the second half of the 20th century not only increased productivity but once again led to consolidation. In 1949, there were 2,006,800 farms with milk cows. By 1997, the number of farms had fallen to 117,000. While the number of farms fell, the size of farms grew. In 1978, only 844 farms milked 500 cows or more but by 1997, the number of farms milking 500 cows or more had risen to 2,257 farms (Hart 2003:80-81). As the size of dairy farms grew, the shape of them also changed. Modern dairy farms barely resemble those of a century ago. Dairy cows once grazed on pasture, but as industrialization infiltrated agriculture, cows were pushed into confined animal feeding operations (CAFOs).

As the dairy industry has become consolidated, consumers have become increasingly alienated from milk production. Just as alienation of consumers from production at the onset of milk distribution led to transformations in milk, not surprisingly milk has continued to experience transformation. In fact, many of the transformations in milk following World War II closely resemble those from the turn of the century. While the term “confined animal feeding operation” has emerged to describe modern dairy farms, there is a shocking resemblance to early swill milk operations.

Under the scrupulous eye of urban reformers those operations were banned. But a century later and out of the public eye, they thrive. At the turn of the century, adulteration and skimming of cream were tactics used by distributors to boost their profit margin. Today, many of the dairy farmers that remain are those that have turned to comparable practices. They use large amounts of antibiotics and vaccines to keep cows from becoming infected in less than sanitary conditions and synthetic hormones like rBGH are used to increase milk production. While a century ago it was distributors boosting their profit margin, today it is farmers. In each instance the quality of milk has suffered.

As the dairy industry was consolidated and transformed by technology following World War II, so too was the rest of American agriculture. Chemical fertilizers, pesticides, and dangerous insecticides like DDT guaranteed higher output for farmers with a relatively inexpensive investment. Soil which had been depleted throughout the war from excessive production needed a helping hand from fertilizers, while pesticides and insecticides promised to further boost productivity (Hurt 2002:116).

D) The Rise of Organic

1. Early History

Industrialization had found its way to farms. Whether or not farmers had been forced by economic necessity into industrial agriculture as a result of the technological treadmill, or whether they had opted for industrial agriculture in the hope of wealth, seems to be speculative on a case by case basis. But as technology and science invaded farming through the 20th century, another movement also emerged: a movement away from input intensive farming and towards a more sustainable form of agriculture. The

organic food movement has been created by a change in attitudes and behavior by two groups — farmers and consumers. Diamond explains,

In the context of organic dairy, the first group to initiate the movement was farmers. They began to realize the health risks associated with conventional dairy farming, and found organic farming to be a safer and healthier alternative for both their families and herds. As consumers become keener to these issues, activists have pushed for legislation and more stringent certification requirements [Diamond 2006:45-61].”

2. Contemporary Movement

The Organic Foods Production Act of 1990 established a definition of organic foods and required certification of all producers and handlers. While some farmers moved to organic farming for ethical reasons, Diamond explains for many farmers, organic was seen as an economic solution,

“organic certification, by securing a higher price for farmers in return for adherence to a strict set of production guidelines, works to slow down the treadmill of production that forces farmers to invest in increasingly sophisticated technology [Diamond 2006:61].”

Americans can only consume a given amount of food. Thus, profit is limited by consumption. However, returns can be increased by adding value to food items that already exist. Thus farmers have an opportunity to decrease production and increase returns.

Once upon a time in the history of milk, a similar system existed. This system—the Certified Dairy System—mentioned earlier, was essentially destroyed by the government’s decision to mandate pasteurization of milk, which increased costs to private companies rather than raising taxes to support an expanded milk inspection labor force. Perhaps the strong history of consolidation and privatization in American food system encouraged by government, is why Diamond and others, including myself, cast a

degree of doubt on the ability of organic dairy to be a transformative movement.

3. History Repeating Itself

As much of this chapter has shown, the driving force that has transformed milk more than any other throughout history has been consolidation; and it now threatens organic milk. There is evidence that organic milk is succumbing to the same age old pressures; pressures which have transformed milk and dairy farming in negative ways.

A report from the Economic Research Service of the USDA suggests that organic milk has failed to be the transformative product it originally promised to be. Findings indicate,

“To meet the growing demand, the organic production sector has evolved much like the conventional sector. Along with primarily small, pasture-based organic operations located in the Northeast and Upper Midwest, larger organic operations, often located in the West, that use more conventional milk production technologies have increased in number. Economic incentives, driven largely by lower production costs, are behind much of this change [McBride and Greene 2009:iii].”

In August of 2007, Aurora Organic Dairy, one of the country’s largest organic milk labels at the time, was sanctioned by the USDA for numerous violations of organic law. Initially in 2007, Aurora Organic Dairy and retailers who falsely advertised Aurora products including Walmart, Target and Costco were let off the hook. In 2010, an appeals court reinstated the charges (Leonard: 2010).

Several companies have taken the largest market shares for organic milk distribution. The result has largely been repetition of an old idea. Middlemen have established themselves between consumers and farmers. In order to prevent the words of John Dillon from becoming applicable to organic milk, for the sake of farmers, for the sake of cows, and for the sake of milk, something needs to change.

CHAPTER III: STOPPING THE CYCLE- DECENTRALIZED DAIRY

In order to prevent history from repeating itself, and prevent the organic milk industry from falling to the same consolidating pressures that have shaped the conventional dairy industry, it is necessary to decentralize the entire organic dairy industry. This chapter will focus on a case study of NYFoods, an alternative marketing company committed to promoting New York organic dairy products to New York City consumers. While NYFoods offers a viable and sustainable system of organic milk distribution for the state of New York, the organization faces a number of substantial barriers; in a sense the chips are stacked high against them. By discussing these barriers, I hope to identify points of leverage that might be used to improve the current system, and thereby set the stage for proposing some policy suggestions and adjustments that could improve the both the quality of milk and the rural economy of New York.

A) Slow Food Movement: Localizing Agriculture

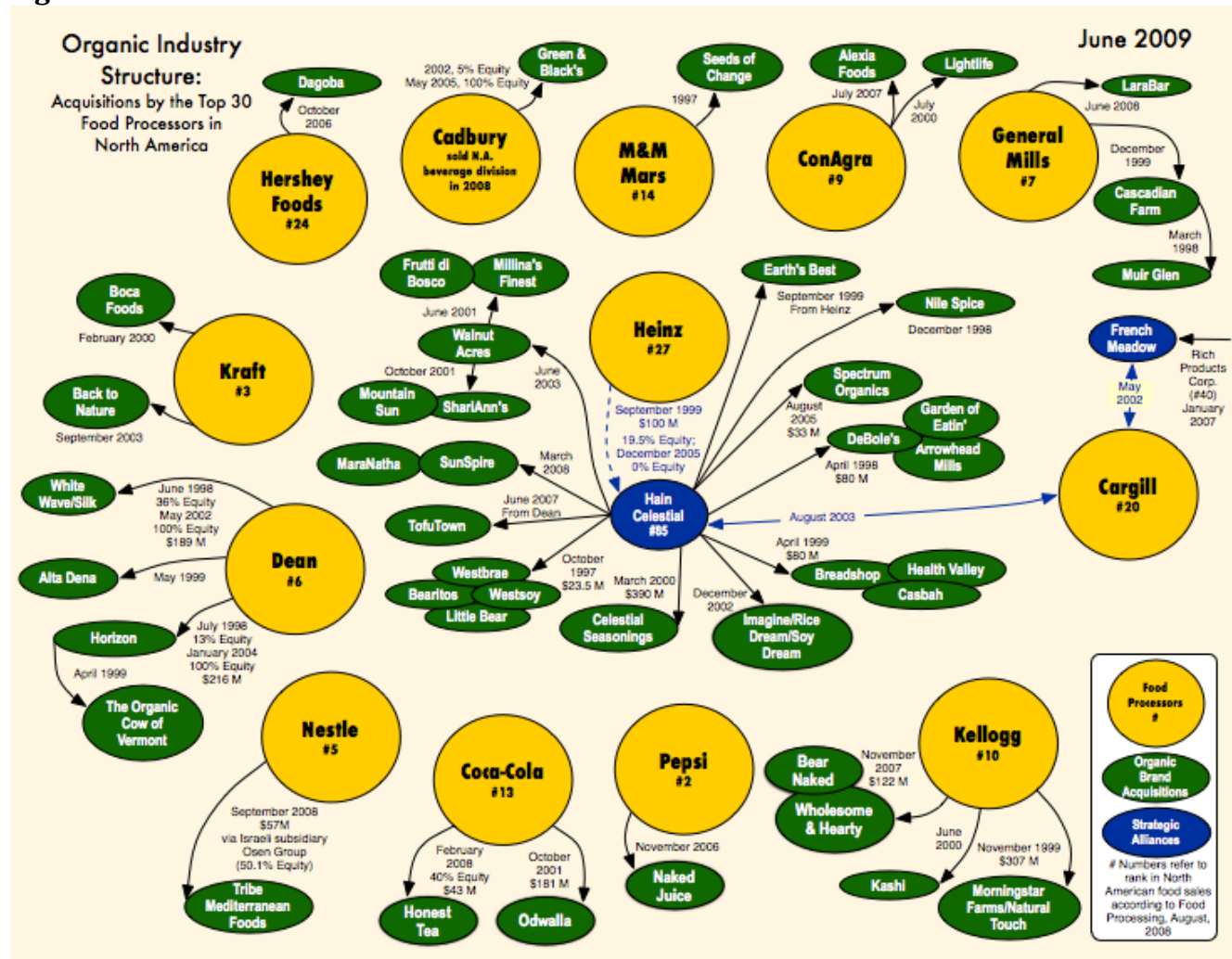
The local food movement, like the organic food movement, was initiated as a grassroots activist movement comprised of farmers and consumers. The primary difference is that the organic movement focuses directly on methods of production and handling, while the local movement focuses more directly on the structure of our food system. The two movements actually share many common goals. Moreover, many constituent members identify with both movements. This is because, as discussion of the history of milk revealed, methods of production and handling have been directly linked to the structure of the food system.

Although the organic movement and the local movement were closely linked at

their beginnings, many consumers have failed to realize this. The organic label has taken on many connotations to American consumers. For the most part these connotations are positive. Many consumers believe that organic foods are healthier, safer, and better for the environment. And, in many cases they are. However, many retailers and marketers have taken advantage of the organic fervor amongst consumers in attempt to grab a larger chunk of change for themselves.

As the market for organic food continues to grow, many large retailers, marketers, and farmers have found this opportunity enticing and lucrative. They have transitioned their operations from conventional to organic. But in many ways, the result has not been the one desired; instead it has been the recreation of an old framework perpetuated by consumers. For reasons that will be discussed in more detail later in this chapter, consumers have demonstrated preference for larger more industrial organic operations.

Figure 3.1



(Adapted from Howard 2009:17) Figure 3.1 indicates that each of North America's top 25 food processors have acquired organic subsidiaries (note Dean Foods acquisition of Horizon and The Organic Cow of Vermont).

A popular and contemporary discussion central to this paper revolves around industrial organic agriculture. Industrial organic agriculture promises to reduce the quantity of chemical fertilizers and pesticides used. It also helps to bring down the price of organic foods to a level competitive with conventional foods. In these ways industrial organic agriculture seems to be an attractive option, yet many worry that by industrializing organic, many of the benefits of organic agriculture are lost. For instance,

consider the environmental cost of shipping organic fruits and vegetables to New York from South America, or of shipping organic milk from California to New York.

The issue that is most critical to farmers is that consolidation of the organic food system has threatened an economic opportunity. The majority of the current market is controlled by three companies: 1) Horizon Organic Dairy, (as seen in Figure 3.1) is a subsidiary of the larger Dean Foods 2) Organic Valley/ Cropp Cooperative and 3) HP Hood/ Stonyfield. Just as dairy farmers from New York State at the turn of the 20th century struggled with Borden for a fair price for their milk, organic dairy farmers in New York today struggle with Horizon and Organic Valley/ Cropp Cooperative to earn a fair price for the milk their cows produce.

The costs associated with producing organic milk are rising and many farmers have argued that Horizon, Organic Valley/ Cropp Cooperative, and HP Hood/ Stonyfield have failed to adjust the pay price accordingly. From 2001 to 2008 the pay price for organic milk increased nearly 30% (Maltby 2010). Research done by the USDA suggests that pay price for organic milk should be higher. Data shows,

“That the base price paid to family farmers in the Northeast in 2007 should have been \$28.50 and needs to rise to \$33 for 2008 rather than the current average of \$27.50. The costs of doing business are rising. Health insurance rises each year with an increase of 78% from 2001 to 2007 and a projected increase of 10% in 2008. Fuel prices have risen by an average of 20% over the last two years depending on the location of the farm. The cost of shell corn has risen from \$168/ton in 2001 to \$380/ton and higher in 2008; barley from \$150/ton in 2001 to \$290/ton in 2007 and is now \$390/ton as well as purchased forages having more than doubled in the last six years(Richardson 2008).”

Figure 3.2

Organic vs. Conventional Milk Cost of Production (COP) and Returns

State	Organic COP ¹ (\$/cwt)	Organic Farmgate Price ² (\$/cwt)	Loss to farmers (\$/cwt)	Conventional COP ³ (\$/cwt)	Conventional Farmgate Price ⁴ (\$/cwt)	Loss to farmers (\$/cwt)
WI	\$28	\$25	-\$3	\$22	\$12	-\$10
VT	\$31	\$27	-\$4	\$25	\$12	-\$13
NY	\$33	\$27	-\$5	\$27	\$12	-\$15

1. Calculated: based on March 2009 ERS Monthly Milk Costs of Production and estimated organic milk cost of production.

2. NODPA.

3. March 2009 ERS Monthly Milk Costs of Production.

4. AMS.

(Adapted from Maltby 2010) The Figure above shows that while organic farmers are losing less money than conventional farmers, they are still losing money.

Many farmers chose to convert to organic production for the economic opportunity that it offered. The chart above indicates that organic certification has offered considerable protection but that farmers still are not receiving the price that they ought to be.

B) Benefits of Decentralization and Localization

As the body of this paper has shown, consolidation has led to negative transformations for milk and dairy farmers, thus a key factor if the organic milk industry is to survive is decentralization. This section has two goals. First, to show the economic, environmental, and cultural benefits offered by localizing food production and distribution and the second, to show the importance of decentralizing control of food distribution. Many activists and scholars have discussed the benefits of localization, while others have focused more on who controls food distribution. For dairy both of

these are critical.

1. Economic Benefits

In an attempt to demonstrate the economic benefits of local food sourcing, Sarah DeWeerdts discusses several studies in a recent article published in “Worldwatch Magazine.” Through a study conducted in southeastern Minnesota, researchers found that when 15% of people's food was sourced locally, “it would generate two-thirds as much income as the region's farmers receive from federal farm subsidies (DeWeerdts 2009).” DeWeerdts reached a similar conclusion in a study of Iowans: “If Iowans purchased a quarter of their produce from Iowa farmers, it would create \$139.9 million in new economic output and more than 2,000 jobs for the state (DeWeerdts 2009).” In the Central Puget Sound Region of Washington State, if consumers “spent 20 percent of their food dollars at local food businesses such as farmers’ markets and locally owned restaurants, it would inject an extra billion dollars every year into the region's economy (DeWeerdts 2009).”

DeWeerdts goes on to explain that small adjustments in the spending of food dollars can have a huge impact for local economies. She explains,

“Every time money changes hands within a community, it boosts the community's overall income and level of economic activity, and fuels the creation of jobs. The more times money changes hands within the community before heading elsewhere, the better off the community is. And spending money at a locally based business has a greater multiplier effect, the theory goes, because locally owned businesses are more likely to re-spend their dollars locally [DeWeerdts 2009].”

While similar analysis has yet to be done for the state of New York, it seems likely that a consumer shift towards local milk could have tremendous economic benefits.

2. Environmental Benefits

There are also environmental benefits to localization of the food system. To start, by decreasing the number of miles food travels, emissions from burning fossil fuels are reduced. As global climate change and air quality have become important environmental issues, food miles have also become a cause for concern. Weber & Matthews (2008), looked at green house gas emissions from production through distribution and found that while production methods are responsible for the bulk (up to 83%) of total green house gas emissions in the life cycle of food products, transportation of food products does still account for as much as 15% of emissions. Interestingly Weber and Matthews concluded that 15% of total emissions were less significant than the total emissions created by perpetuating the dairy and cattle industries; however, Weber and Matthews did not take into account organic production models.

While many items don't require refrigeration throughout transportation, milk does. It can be assumed that refrigeration requires additional fossil fuels. Although New York farmers produce a lot of organic milk, many consumers in New York choose brands which source from farms as far away as Wisconsin and California.

3. Culture of Cuisine

Anthropologists highlight culture and cuisine as beneficiaries of local sourcing as well. Local variations in climate, vegetation, and seasonality help to contribute to variations in food between regions. In the case of dairy, milk produced by cows raised in one area of the country, and exposed to certain forage crops, will likely taste different and have a slightly different composition than milk produced by cows raised somewhere else and exposed to different forage crops. Top chefs would agree that these variations are

crucial to cuisine. Anthropologist Sidney Mintz writes,

“Still, so far as diversity in local foods, in processing, and in distinctive techniques and tastes are concerned, I fear that the aggregate effect of such changes overall has been erosive of differences—a settling for the mediocre—flattening variation, dissolving subtlety. The cumulative, selective process of modernity in action—whether of food, cooking method, cooking medium, plant variety, animal breed, or taste—has repeatedly picked as criteria such things as standardization, efficiency, preservability, convenience of packing and shipping, and underlying it all, the desire for profit [Mintz in Wilk 2006:7].”

Mintz's opinion that taste has been sacrificed for other qualities, namely profit, suggests that ultimately consumers are losing out. Furthermore, as regional cuisines have been eliminated, regional cultures have been eliminated as well.

C) Alternative Marketing

For the sake of farmers and the sustainability of the dairy industry in New York, alternative marketing agencies and strategies are necessary. It seems clear that local sourcing of milk in New York could offer economic, environmental, and cultural benefits. While localization of milk limits the distance milk travels from farm to consumer, it does not decentralize the power over distribution. Chapter II revealed the plight of farmers in their struggle against Borden. Organic dairy farmers today are experiencing a similar struggle with Horizon, Organic Valley, and Stonyfield. To address this problem, both farmers and consumers have looked for ways to cut out middle men.

Several alternatives have emerged as popular means of increasing returns to farmers. Consumer Supported Agriculture (CSAs) operate using a simple businesses model: consumers pay farmers up front for a share of produce. This eliminates a lot of risk for farmers. They know exactly how much to produce and are also protected against

poor yields. Furthermore, consumers feel as though they are participatory members in growing their food (Norberg-Hodge et al. 2002:23). Farmers' markets also eliminate middle men and operate off an equally simple business model. Farmers set up stands where they can sell their products directly to consumers. CSAs and farmers' markets are both attractive options to consumers who have a desire to get closer to their food and for small farmers who have relatively high costs of production due to low economies of scale. CSAs and farmers' markets have been successful for many farmers and have satisfied many consumers. But they are limited in their effectiveness and practicality in the case of organic dairy.

Dairy farming is a labor intensive, full-time commitment. Leaving the farm to sell milk at a farmers' market ensures setbacks. In the instance of New York, most dairy farmers would have to figure out a way to package and refrigerate milk, travel approximately five hours to reach New York City, take time at the market to sell milk, and then travel five hours back to their farms. A few farmers do this because they are able to sell their milk for a premium price, but for most organic dairy farmers this is not a viable option. Furthermore, although a five-hour drive is not a tremendously long trip for food to make before reaching market, the fact that milk quantity is so small means that food miles associated with each gallon of milk are actually quite high.

Moreover, while CSAs and farmers' markets have increased in popularity, the vast majority of consumers in New York City still shop in grocery stores. The relatively small market which they provide is not adequate to sustain a large number of New York organic dairy farmers. Sociologist Thomas Macias has raised several important considerations in his discussion of local foods and society. Macias suggests that local

food initiatives and more generally health food initiatives have had limited effectiveness as they have only reached upper-middle class, educated consumers. These foods have been sold for a high price and have therefore excluded lower income consumers. Therefore, the limited social integration of food initiatives, like the local food movement, has greatly reduced their potential benefits and transformative power (Macias 2008).

A pressing question arises: How is it possible to get a large enough quantity of organic and local milk to New York City to improve the health of a significant number of consumers and to support a significant number of farmers?

D) NYFoods: A New York Solution

NYFoods was founded in 2003 by Dean Sparks and Dan France, two men with a passion for small scale, local, organic agriculture. Dean and Dan, as farmers, had witnessed first hand the hardships of dealing with marketing companies. In a meeting with Dean, he explained to me how his motivation stemmed largely from seeing the tragedies that were afflicting New York State dairy farmers like himself. These tragedies ranged from wide-scale bankruptcy and foreclosure to several disconcerting farmer suicides.

Dean and Dan thought that they could help their fellow farmers. Thus, Empire Organics was created with an unconventional business model. Dean and Dan have willingly taken a smaller margin of profit than other marketing companies. More surprisingly, Dean and Dan have also agreed to pay the farmer first, placing the responsibility of sales directly on their company. Horizon and Organic Valley/ Cropp Cooperative use the model that farmers are paid only after milk has been sold. But for

Dean and Dan, profit it seems has been an afterthought. Their primary goals have been increasing the quality of milk to consumers, increasing the welfare of dairy farmers, and decreasing the environmental impact of their operation. They decided long ago that their products would only be distributed in environmentally friendly packaging.

NYFoods has emerged as an alternative marketing service, providing local organic products to New York City consumers. Despite activist sentiments among many New York City consumers, and a desire for local and organic dairy, NYFoods has struggled to break into the market. The next section will explain in more detail how logistical factors, in conjunction with a lack of consumer awareness have contributed to this difficulty.

E) Challenges and Barriers for NYFoods

In this section I will expose the three largest challenges faced by NYFoods in breaking into the market. These challenges, in the order NYFoods has approached them, are: 1) getting retailers to carry NYMilk, 2) getting consumers to chose NYMilk over conventional milk or other organic brands, and lastly 3) getting more consumers to chose NYMilk over other milks. Some of the intricacies of these challenges were explained to me carefully by Dean Sparks and Jean Tsai, partners at NYFoods; other challenges have been raised by the results of a survey that I designed and implemented in February of 2011.

1. Getting Retailers to Carry NYMilk

Organic and local have become hot topic issues for many Manhattan consumers. For those consumers who are truly dedicated to eating organic and sourcing foods locally,

farmers' markets have become a popular venue to buy these products. But as mentioned earlier, this segment of consumers is relatively small.

Consumers less dedicated to these food issues are more likely to frequent supermarkets and grocery than farmers' markets. Thus the first and biggest challenge arises. In order to reach enough consumers to make NYMilk a transformative power for New York organic dairy, it is necessary for many retailers to carry NYMilk. This is not an easy task.

To start, convincing retailers to carry a new product is difficult. Retailers must be certain that the products they put on their shelves are going to sell. Milk is perishable which adds pressure. Retailers must be certain that the milk they put on their shelves is going to sell and sell fast. This is not an easy decision for retailers to make.

Furthermore, retailers have hundreds of products that they have to manage. Fortunately for grocers, most of these products are delivered by a few distributors. NYFoods distributes their own line of products, which means any retailer choosing to sell NYMilk will be dealing with another distributor. Deliveries must also be coordinated. In New York City this is an important issue. Retailers have a very limited amount of space for loading zones, which limits the number of trucks that can drop off food at a given time. Deliveries can only take place easily at night or very early in the morning, when traffic is minimal. Therefore time and space become restricting factors. Deliveries must be coordinated in a timely and efficient manner. For these reasons, most New York City retailers prefer to have fewer deliveries from fewer distributors.

In the face of these realities, NYFoods took an interesting marketing approach. They started with high-end restaurants and made their pitches to top chefs at these

restaurants. Chefs who have tried their products and cooked with them have realized their superior quality. Several chefs, most notably Mario Batali, have endorsed NYFood's products and are using them in their restaurants. With endorsements from top chefs, convincing other retailers has become easier. Just this year, NYFoods has started distributing to several Manhattan retailers including Whole Foods, Eataly, Freshdirect and Bare Burger.

2. Getting Consumers to Buy NYMilk

Once milk is on shelves, the issue becomes getting it off the shelves. Because of NYFoods dedication to farmers and their small size, they have a very restricted budget allocated towards advertisement and branding. Dean explained if he could stand in every milk aisle of every retailer, he could easily convince every consumer to buy NYMilk instead of any other milk. The challenge is persuading consumers to buy NYMilk through a package in his absence. For NYMilk, brand recognition has been a significant barrier.

Branding and advertising are both crucial to improving brand recognition. As Dean explained, making your product stand out amongst others is difficult. We discussed several important graphic factors including color, font, and even the size of the cow image. Companies like Horizon have an entire division of marketing experts; NYFoods has a total of three employees.

3. Getting More Consumers to Buy NYMilk

NYMilk is now on shelves and in restaurants, and a small number of consumers are buying it. However, there is still a large consumer base in New York which has the

means to afford NYMilk and has the desire to purchase foods which are sustainably produced and is not. Many of these consumers have not yet discovered NYMilk, while others still don't understand the food system well enough to make food decisions that match their ideals. Furthermore, as mentioned previously, many consumers have been excluded by price and as a result, very few farmers are supported.

CHAPTER IV: EXPERIENCE AND RESEARCH

A) My Experience

As a child growing up in a suburb of New York City, I was never exposed to farming communities. My education about food came from two sources: my family and my school. My family taught me the importance of a balanced diet and helped me to discern healthy from unhealthy food choices. My formal education helped to reinforce my family's lessons. Several of my elementary school teachers allowed a healthy snack once a day, and prohibited unhealthy snacks. Fruits and vegetables, cheese and crackers, pretzels and popcorn were popular choices.

As I became older, health courses and science classes taught me to look at nutrition facts before eating foods. Figuring out serving sizes, the type of fat, level of sodium and sugar, and the amount of certain vitamins and minerals all became important considerations. As a wrestler in high school, nutrition became very important. Controlling my weight while maximizing energy became a focus for three months out of the year, and for the other eight months gaining muscle was my priority. Thus, for the first 18 years of my life, my education about food focused heavily on nutrition.

From my own experience I have formulated the opinion that the education system does not take a holistic look at food. Elementary education does not delve into the dangers of pesticides and fertilizers or the huge environmental impact confined animal feeding operations have on our water quality. In fact, I recall my senior year of high school my entire Advanced Placement Environmental Science class was shocked by our brief section on agriculture. Most, if not all students, expected industry to be a major polluter, but not agriculture.

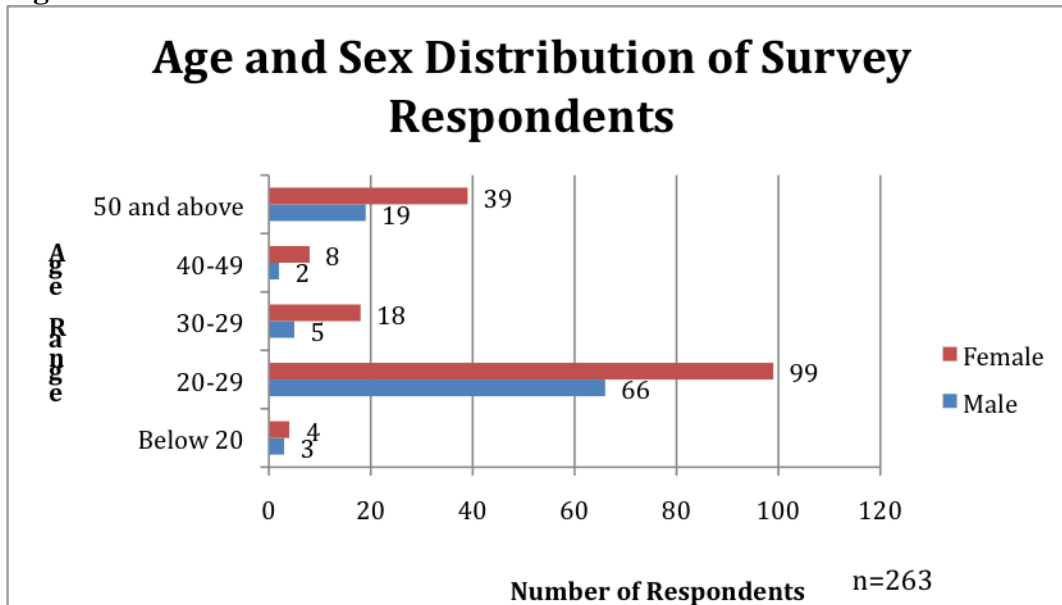
Outside of the public education system, many consumers have begun to take a

look at the bigger picture. In this past year, after extensively researching food issues, I have formulated a hypothesis: Many consumers have reformed their food ideals; they have begun to understand that food production methods are important considerations for our environment and human health. These consumers have been influenced by food activists, they have attempted to educate themselves, and many have simply found the organic food trend to be attractive, but these consumers have failed to adequately investigate their food and still do not understand the whole picture behind food production. For many of these consumers the USDA organic label has been sufficient persuasion, despite the fact that food may be produced in conflict with consumer's ideals.

B) My Research

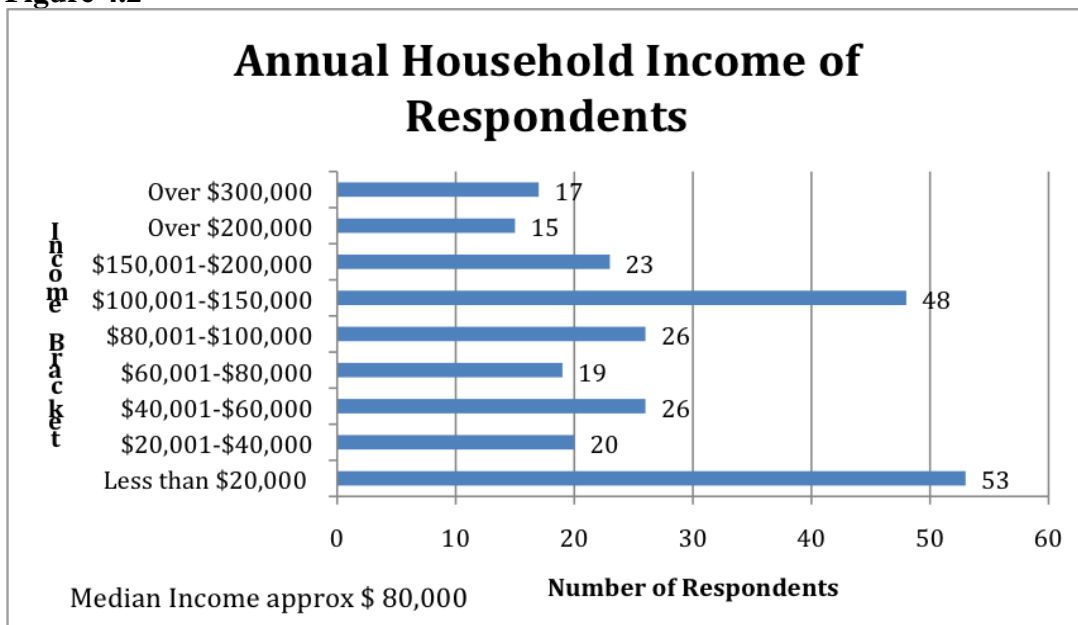
In order to further investigate my hypothesis I conducted a survey (Appendix A). This survey was administered through Impresscity.com and a link to the survey was distributed through Facebook and Twitter with a request included in the invitation, to forward the link to anyone who might be interested in food issues. The survey was distributed between the dates of February 10, 2011 and February 18, 2011. The following charts indicate the sample size, age, sex, and income distribution of those who responded to the survey.

Figure 4.1



Based on the chart above, it is clear that the majority of respondents were female. It is also clear that the majority of respondents fell in the age range of 20-29. This bias is most likely a result of using Facebook and Twitter as a means of distribution, as the majority of those sent the invitation were my peers.

Figure 4.2



The chart above indicates the distribution of annual household income of respondents. The distribution indicates that most responses came from those in the less than \$20,000 and \$100,001 to \$150,001 income brackets. Overall, the distribution suggests that no

bracket was left out, as each bracket had a sufficient number of respondents.

Research collected from this survey supports my hypothesis that there is a large disconnect between the food-related ideals that consumers have and the choices they make when purchasing food. This disconnect has allowed large industrial organic operations to gain the support of consumers who have embraced the ideals of the organic movement but have done little to insure that their food is actually produced in a sustainable way.

For instance, participants were asked to characterize their consumption of organic and local foods based on a series of choices (Ranging from a score of 4, I always buy/eat to a score of 0, Not an important consideration)

Figure 4.3

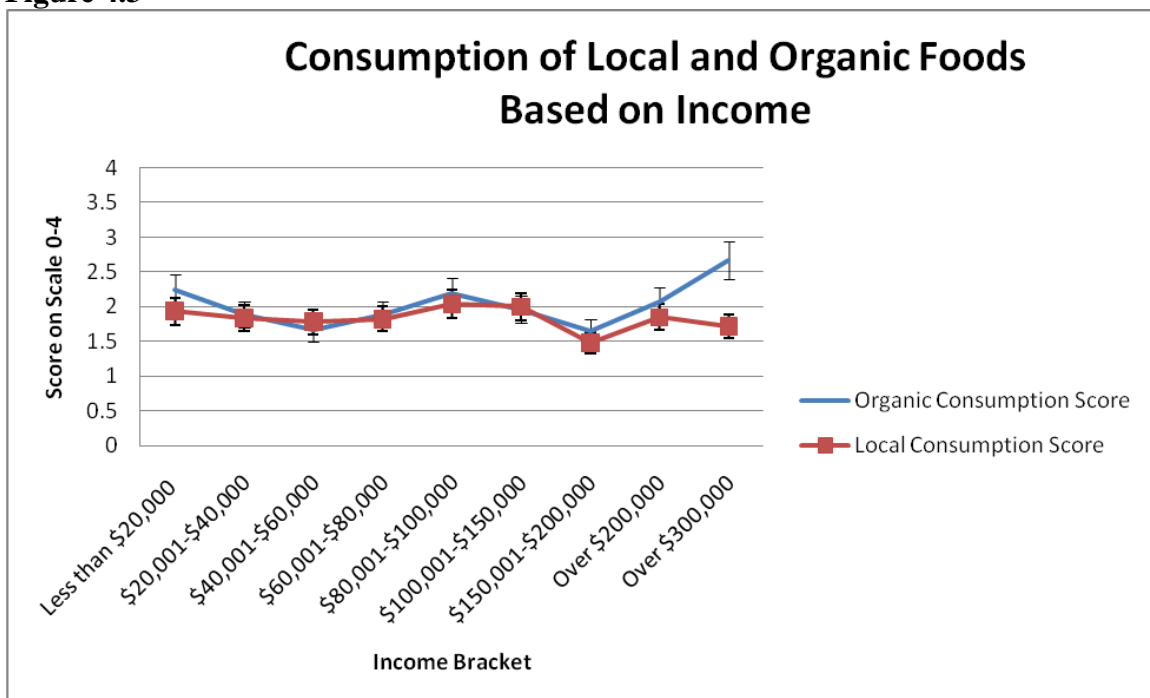


Figure 4.3 shows that participants were more likely to buy/eat organic foods than local foods, especially in households with a family income over \$150,000 a year. It's shocking to note that participants who demonstrated the highest score for organic consumption show average to low scores for local consumption scores.

An interesting paradox also presents itself. Survey participants were asked to rank their opinion on a scale of 1-5 (1 being “strongly disagree” and 5 being “strongly agree”) on the following statements: I look for nutritional information and I look for production information.

Figure 4.4

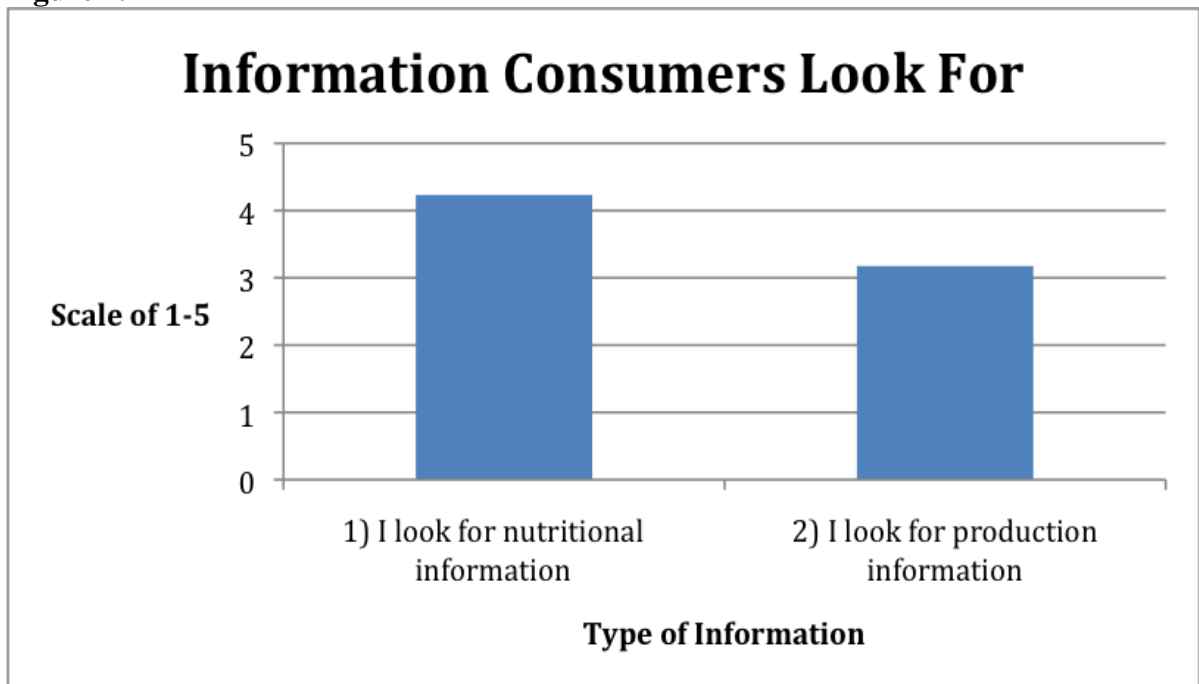


Figure 4.4 indicates that on average, consumers do agree more with the statement that they look for nutritional information than the statement that they look for production information.

Yet, when participants were asked to rank their knowledge of food issues, their satisfaction with the American food system and the importance of farmers on a scale of 1-10 with 1 being “very low” and 10 being “very high, the results below present an interesting paradox in relation to the previous chart.

Figure 4.5-

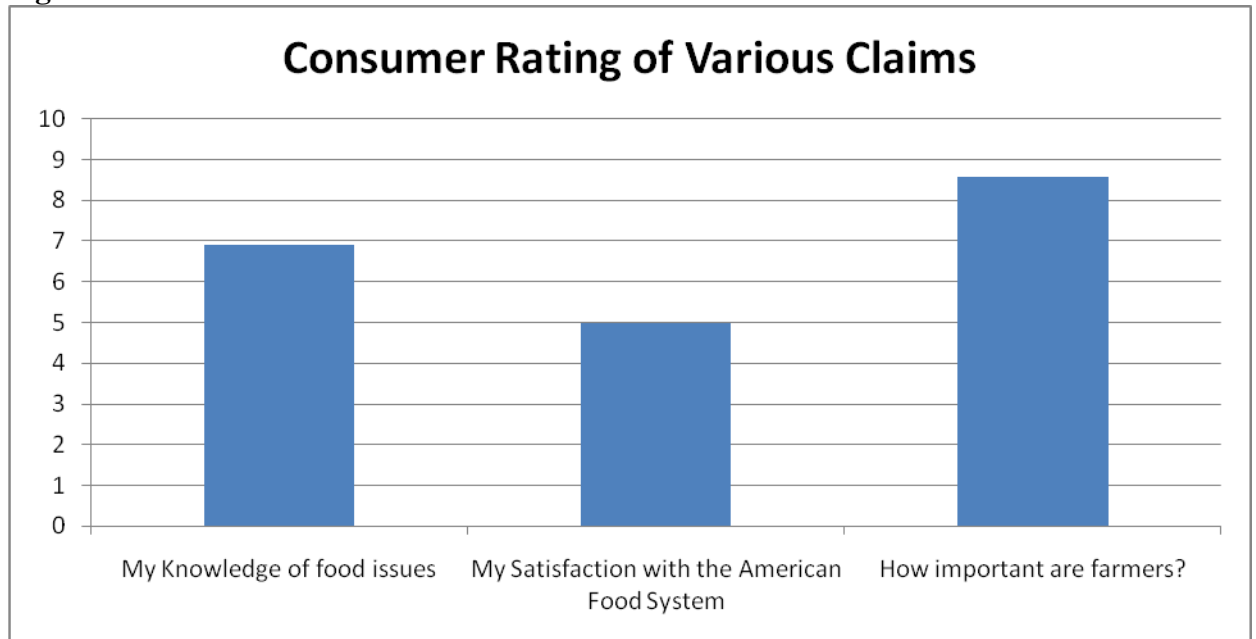


Figure 4.5 shows that, on average, respondents believed that the importance of farmers was very high. In comparison, respondents' satisfaction with the American food system received far less favorable scores.

Participants overwhelmingly expressed a belief in the importance of farmers, yet the average response from participants indicated that production information was rarely examined. The average response also suggested that participants consider themselves relatively aware of food issues, and are discontented with the American food system. This raises an important question: If consumers are not happy with the American food system, think that farmers are important, and consider themselves knowledgeable as to food issues, why don't they look for production information?

Furthermore amongst the following factors—price, nutrition, taste, branding and labeling, and farming methods—participants identified price and nutrition as the two most important factors in determining food choices.

Figure 4.6a

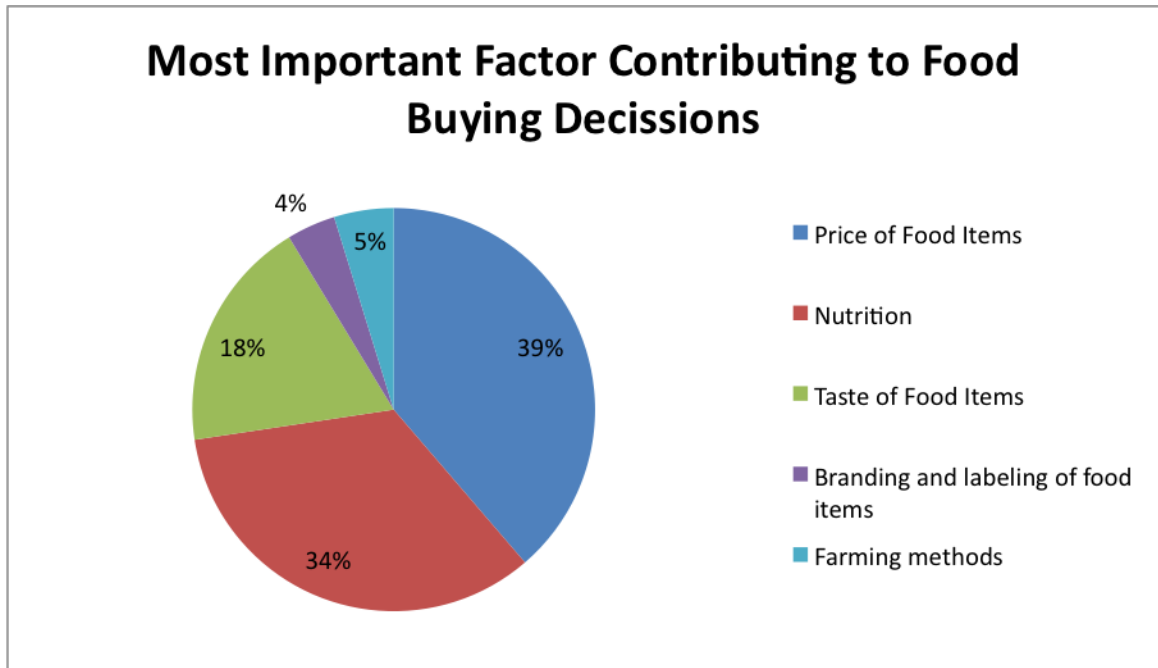


Figure 4.6a presents substantial data that indicates that the most important factors contributing to food buying decisions are price and nutrition. Branding and labeling received little support and placement on supermarket shelves was excluded due to the fact that it received zero responses.

It is interesting that consumers hesitate to acknowledge that they may be persuaded by branding and labeling or placement on supermarket shelves. Despite unwillingness to acknowledge the importance of these two factors, I would argue, and I think advertising and sales experts would agree, that these two factors are extremely important.

An interesting juxtaposition emerges from looking at the same chart but only for participants who identified themselves as consumers who “usually try to buy organic”.

Figure 4.6b

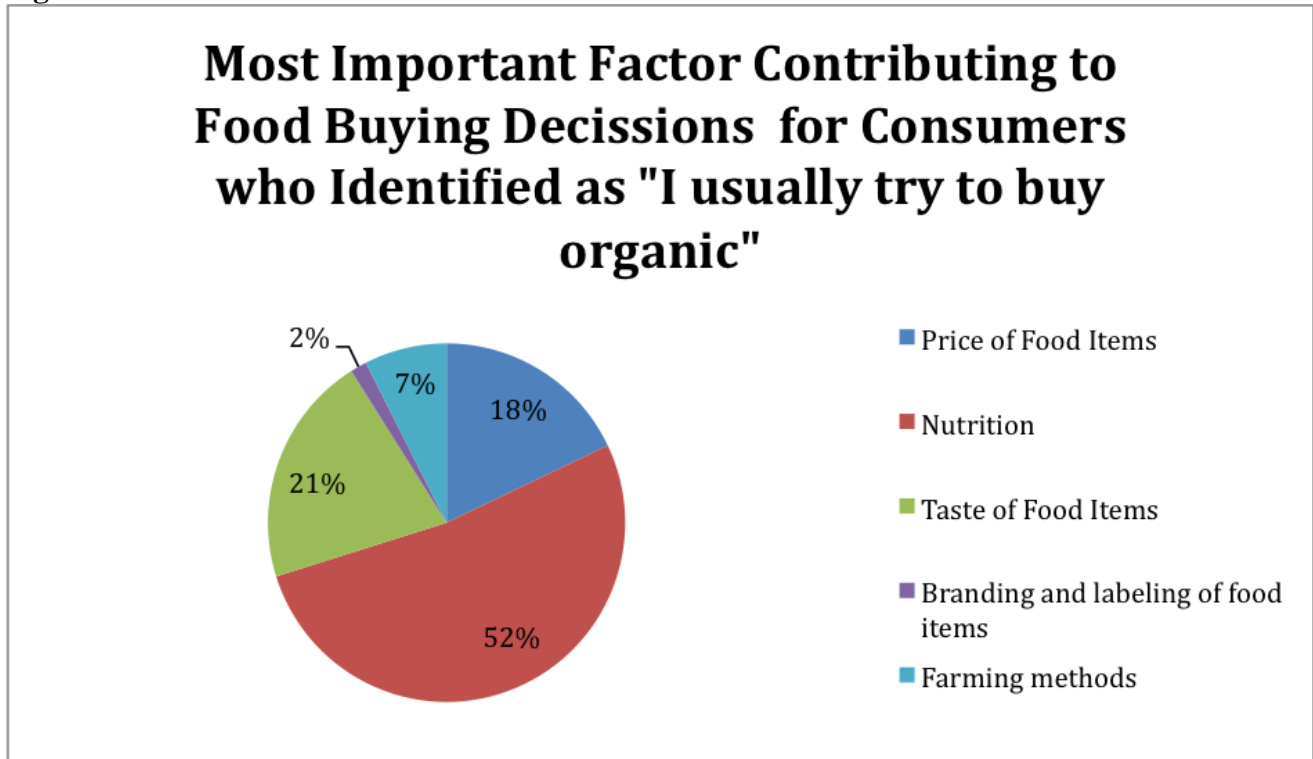


Figure 4.6b indicates that consumers who usually try to buy organic foods, consider nutrition to be the most important factor in determining food choices.

This information is very interesting. It is not surprising that organic consumers find price much less important, but it is shocking that they place such high value on nutrition in comparison to the average response, given that nutritional benefits of organic foods are highly debated. The real advantages of organic farming are the methods of production which are more environmentally friendly. One would expect to see that organic food consumers indicated that labeling and farming methods were far more important issues in comparison to the average response.

It is no wonder the American food system has become so consolidated; large-scale

producers have done an excellent job of producing nutritious food for a low price. But they have done so at the cost the welfare of thousands of American farmers, our environment, and many argue the quality of food. Thus it is clear that consumers have their eyes on the short term, and the immediate impact of their food buying and consumption decisions. Nutrition is certainly important, it has almost immediate impacts on consumers' health , but food policy should not only consider the short term. Nutrition and price to consumers are only small parts of the larger picture of the food system.

Figure 4.7

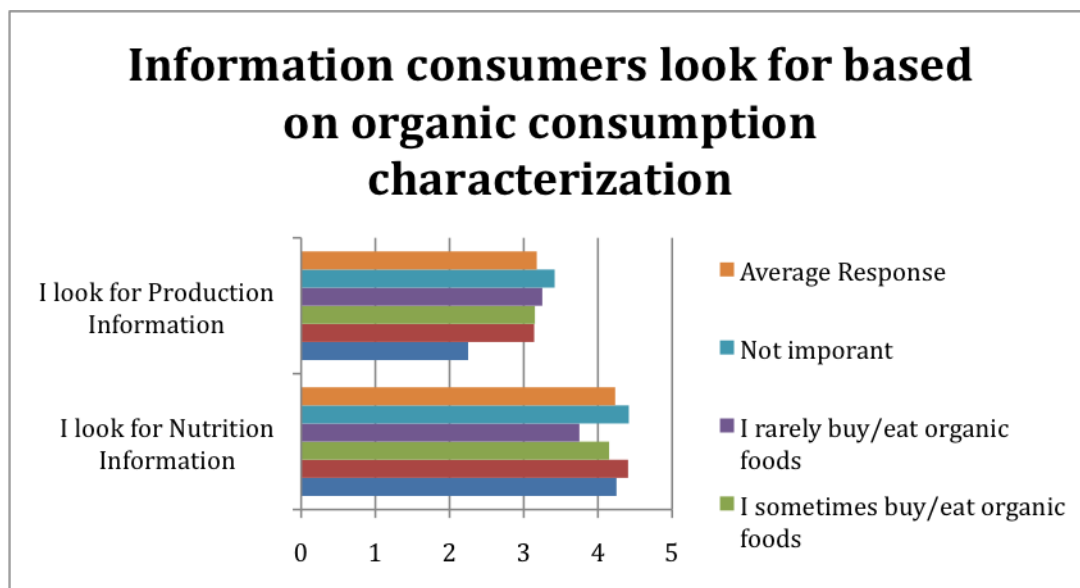


Figure 4.7 shows that regardless of organic consumption characterization all consumers are more likely to look for nutrition information than production information.

Taking a more in depth look at Figure 4.7 above based on organic consumption patterns also reveals, surprisingly, that those participants who identified organic as an unimportant consideration also were most likely to look for production information, while those participants that identified themselves as individuals who only buy/eat organic foods were least likely to look for production information. This data seems contrary to the expected results. One would assume that those consumers who buy organic foods are the

ones most likely to look for production information.

Figure 4.8

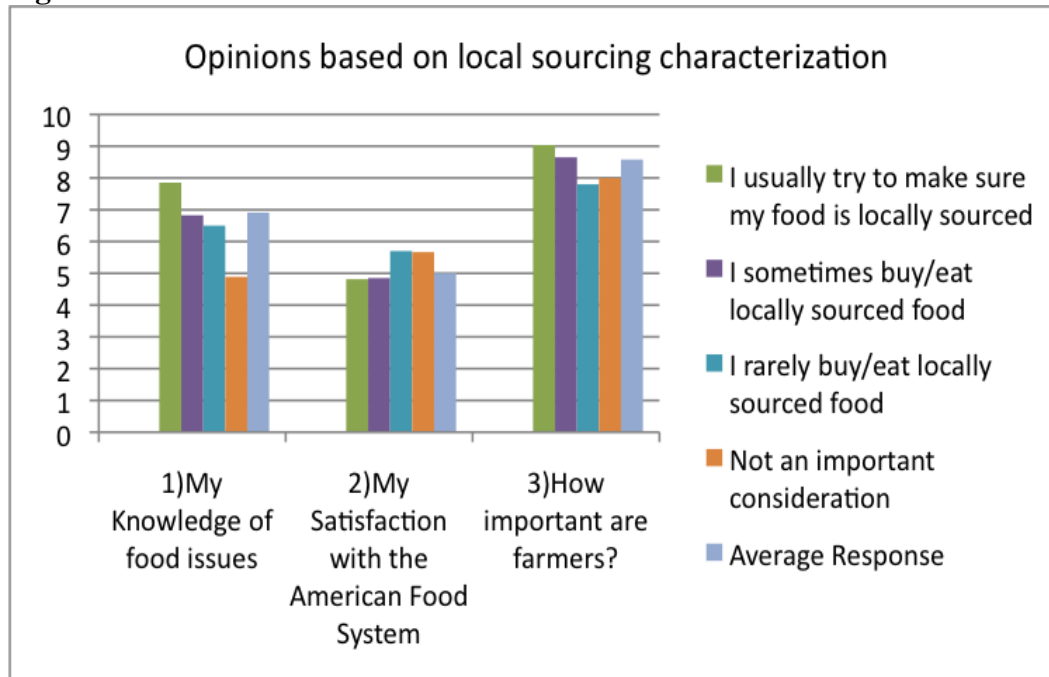


Figure 4.8 shows that there are differences in opinions about food issues based on local sourcing characterization.

Taking a more in depth look at Figure 4.8 from above produces expected results. Those consumers who identify as consumers who usually try to make sure their food is locally sourced rate the importance of farmers highest, knowledge of food issues highest, and satisfaction with the food system as lowest. These results confirm intuition.

Interestingly, when local consumption patterns were crossed with participant responses to rating “I look for food production information” and “I look for nutritional information,” there did not seem to be any significant differences. However, those participants who classified themselves as consumers who usually try to make sure their food is locally sourced, did not differentiate themselves from other consumers in regards to their response to “I look for food production information.” This result was unexpected.

Figure 4.9

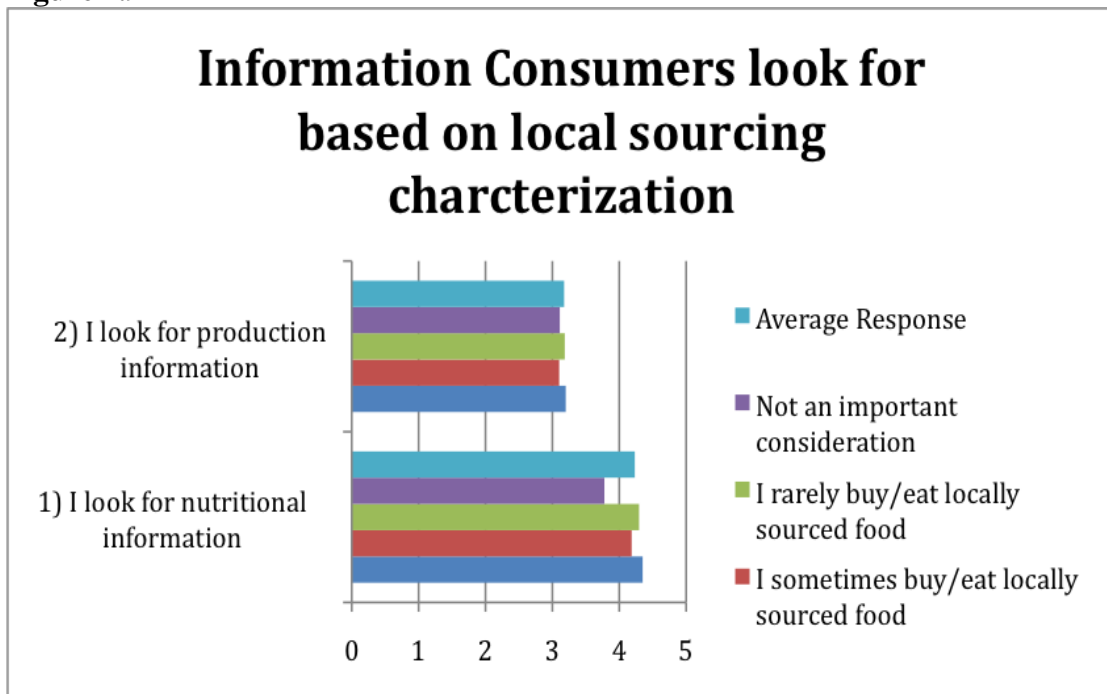


Figure 4.9 shows that regardless of local sourcing characterization, all consumers are more likely to look for nutritional information.

This body of research indicates that consumers, as represented by participants in this survey, have for the most part failed to thoroughly reflect their beliefs in their food buying decisions. It also indicates that despite certain values and ideals that consumers have, price and nutrition are still the prevailing influences on food buying decisions.

This discrepancy may be a result of the marketing power that the organic label has established. This problem is central to the issue of problems with localizing organic milk. Because many consumers are confident with the organic label, they fail to investigate any further. The result is that organic milk from distant regions infiltrates New York supermarkets and refrigerators. This is not only a problem for milk, but also for food products of all kinds.

CHAPTER V: POLICY SUGGESTIONS AND CONCLUSIONS

Based on information presented in previous chapters, I believe it is clear that our current system does not do an adequate job of getting local organic milk to a substantial number of consumers. As Chapter III reveals, the current alternative marketing strategies are limited in their capability to reach a large number of people. Furthermore, price has eliminated a large number of consumers from having a choice as to the foods they consume. Thus, the social justice of the current American food system and model of milk distribution should be questioned. Chapter IV has shown that even those consumers who want and have the economic means to purchase local and organic milk are not doing so. This is an issue of incongruity between consumer ideals and consumer actions. Moreover, all consumers fail to see the deep connections between their food choices, farmer welfare and the state of our environment. This is an issue of education.

A) Leverage Points

Obviously, policies are not going to change overnight. Social movements take time to build adequate support. As with the Women's Suffrage Movement, the Civil Rights Movement and the Gay Rights Movement, a significant number of citizens and politicians must be convinced and more largely, culture must change. But these movements were helped along by activists, educators, Hollywood, and many others including politicians. While food has increasingly been a topic of attention amongst these groups, milk has failed to receive adequate attention.

Through actions at the State level, New York can attempt to foster a culture that understands the implications of food buying decisions. New York can also work to

eliminate the incongruity between consumer ideals and actions. In particular, New York should focus its efforts around milk and dairy farming, as they are crucial to the state economy. In doing this, New York can help to stimulate the larger social movement towards a socially just and sustainable national food system. Through a promotional campaign and a more holistic approach to food education, New York can stimulate local and organic agriculture as well as increase knowledge of food issues amongst all New York citizens.

1) Promotion

Many states, Massachusetts among them, have realized the importance of localizing the economy and have acknowledged the importance of agriculture in this process. A group in western Massachusetts, Community Involved in Sustaining Agriculture has started the “Be a Local Hero” campaign. In New York, the Pride of New York Program has been created through the New York State Department of Agricultural Markets (NYSDAM) to promote locally produced agriculture. Yet the success of New York’s program has been limited.

It seems clear that New York understands the importance of supporting local agriculture. But, there seems to be a bit of a gap. According to the NYSDAM, the dairy industry is the largest single segment of the State’s agricultural industry. Thus there seems to be a contradiction or at least a gap in local food initiatives. Milk should most certainly be a bigger part of the local food movement.

Examples from other states are illustrative. The California Milk Advisory Board (CMAB) a division of the California Department of Food and Agriculture has launched a campaign to support their dairy industry. Figure 5.2 shows labels that appear on

California dairy products.

Figure 5.2 Real California Campaign Product Labels



Figure 5.2- labels that appear on milk and cheese produced in the state of California.

In a similar way, the Wisconsin Milk Marketing Board has created a very effective campaign promoting their cheese.

According to Jessica Ziehm of NYSDAM's Division of Milk Control and Dairy Services, through the New York State Dairy Promotion Order, last year approximately \$12.5 million dollars were collected from dairy farmers for the purpose of dairy promotion. Yet, both conventional and organic dairy farmers in New York state still struggle to compete with western dairy farmers. It is clear that these dollars are not being utilized efficiently.

By utilizing funds more efficiently, New York should aim to create a more effective promotional campaign for local milk. This campaign will help to support all New York dairy farmers, and thus stimulate the economy. While promotion of local dairy will not directly promote organic dairy, it will raise public awareness of production issues, and in this way it is a large step towards the ideal of local organic milk.

2) Education

NYSDAM has also created a Farm to School program. There is a tremendous amount of food served each day in public schools across the state. The goal of the

program is to use this demand to increase support for local farmers. The program also seeks to increase the quality of food for children, and moreover to educate children about farming and food issues. New York City Council Speaker Christine Quinn has worked hard in her four-year term to increase the quality of food in New York City schools; one of her platforms has been increasing the amount of local food in school lunch programs. In listening to several of Christine Quinn's speeches, she seems very passionate about assisting local farmers and providing better food and education to New York City children, but something is consistently missing from her presentations: Milk!

Promotion will help to create an immediate shift towards local milk, but perhaps more importantly is a more holistic education about food for future generations. The New York State education system should inform students about the importance of dairy farming to the state economy. Further, it should educate students about issues relevant to dairy.

When I presented New York State officials with the question why hasn't local organic milk received more promotion and support, each government representative pointed me towards a logistical barrier. And each of those barriers was tied to a larger issue that connected back to the bigger picture of our food system and ultimately the United States Farm Bill.

B) Policy Suggestions

Addressing these leverage points for milk at the State level will help the movement for sustainable food gain support. But as Sarah Johnston, Organic Agricultural Specialist for New York State Department of Agriculture and Markets

explicitly explained, there is a huge amount of information that goes into food and agricultural policies; furthermore most of these policies are made at the federal level through the Farm Bill.

As I began to read about the Farm Bill, three things became immediately clear. The first: Although this bill contains many policies, it is an omnibus bill passed in a single vote by congress. Renée Johnson and Jim Monke explain,

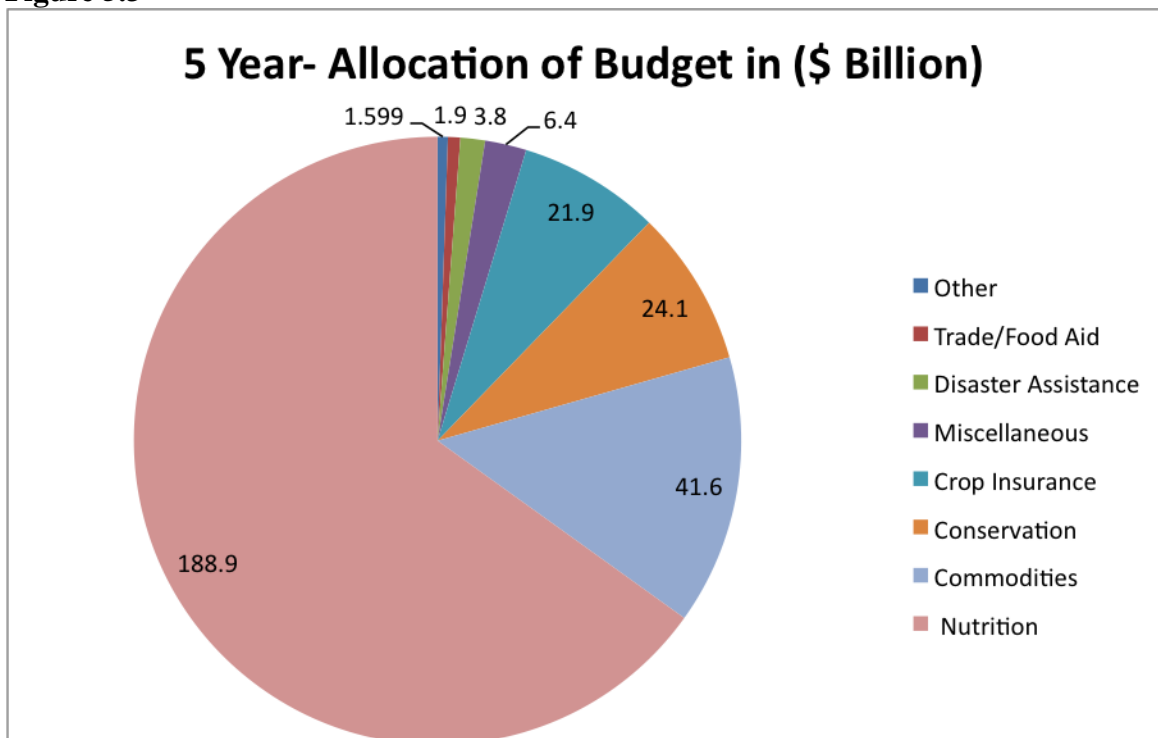
“The omnibus nature of the bill can create broad coalitions of support among sometimes conflicting interests for policies that individually might not survive the legislative process. This breadth also can stir fierce competition for available funds, particularly among producers of different commodities, or between those who have differing priorities for farm subsidies, conservation, nutrition, or other programs (Johnson and Monke 2010:1)

To make matters more difficult, the bill is voted on once every five years. This means that if the majority of congress approves the majority of the Farm Bill, it will be passed and not reviewed for another five years. Due to the comprehensive nature of agriculture, it makes sense to have a comprehensive set of laws that are applicable to agriculture. However, in attempting to make legislative adjustments to support local organic dairy, the comprehensive nature of the bill is a large barrier.

The second: There is an astoundingly clear budgetary issue. The most recent Farm Bill—The Food, Conservation, and Energy Act of 2008— is a comprehensive set of policies applicable to food and agriculture. The Act contains the following titles: Commodities, Conservation, Agricultural Trade and Food Aid, Nutrition, Farm Credit, Rural Development, Research, Forestry, Energy, Horticulture and Organic Agriculture, Livestock, Crop Insurance and Disaster Assistance, Commodity Futures, Miscellaneous, and Trade and Tax Provisions (Johnson and Monke 2010:2).

The following chart shows how funding for these titles was allocated for 2008 through 2012. Based on a quick glance at the allocation of budget, it seems that an overwhelming amount of funding it put towards nutrition

Figure 5.3



((Johnson and Monke 2010:2)

My third realization was that without a lot more time and a degree in law it would be quite difficult to make any useful suggestions for local organic dairy. Therefore, rather than base my suggestions purely on conjecture or dissect the 663 pages of the Food, Conservation, and Energy Act of 2008, I have also looked to other people's critiques and analysis of the Act.

Food activists like Daniel Imhoff and Michael Pollan complain that the Farm Bill

is a backwards approach to a sustainable food system. The bulk of funding perpetuates a flawed system. The largest chunk of funding goes towards nutrition programs such as food stamps and school lunch programs; however, the next biggest chunk goes towards commodities. The vast majority of funding towards commodities goes to cotton, corn, soybean, and rice farming operations. These crops produce goods that feed the industrial food chain; they do not directly feed hungry mouths. As a result, processed foods, the same foods that are causing the American obesity epidemic, are made cheaply. Thus those consumers who have low incomes and rely on food stamps, often choose these processed foods.

Daniel Imhoff explains that the Farm Bill provides a huge amount of money for a bad system, and then throws a little bit of money in several places to try and “band aid” the huge problems that the Bill perpetuates. In other words, The Farm Bill uses tax payers’ money to support a food system that ends up producing health and environmental problems that carry huge price tags and deteriorate the quality of life for all Americans.

Thus, it seems abundantly clear that the real solution to sustainable food, and therefore better milk, is a major overhaul of the legislation behind the American food system. Yet, the politics behind such an overhaul are not only complex but also deep-rooted. The large farmers and food companies, who profit from the structure of our food system and the legislation behind it, are oftentimes the same farmers and companies who provide large campaign donations to politicians and also those who influence the opinions of thousands of other voters. For instance, in states like Iowa, historically a swing state and crucial for presidential campaigns, a candidate has a difficult time gaining support without voicing his support of industrial agriculture.

After looking at Pollan's and Imhoff's responses to the Farm Bill, it became clear why it is so difficult to get local organic milk into New York schools. Federal government oversees lunch programs in public schools, thus contracts for things like milk go to the lowest bidder. Therefore, instead of insuring that the most sustainable farming methods are promoted and the best quality milk is given to children in schools, we insure that the cheapest milk is served to children in schools. It seems ludicrous that most of the funding allocated in the Farm Bill goes towards nutrition programs like food stamps and school lunch programs, and yet that money still perpetuates poor food choices.

C) Conclusions

Our current food system in the United State is not equitable. Low income consumers are limited in their ability to purchase the healthiest food choices. Furthermore, due to agricultural subsidies they are essentially forced into buying products that are produced by industrial agriculture. It is my conclusion that movements to increase the quality of our food, decrease the environmental effects of agriculture, and increase farmer welfare will be limited in their power to truly affect change by the structure of our food system. This is an issue of utmost importance unfortunately; most consumers do not take the time to educate themselves about the food they eat.

As the federal government has failed to support a socially just and sustainable food system, it should be the goal of respective states to encourage such a food system. The Bill of Rights to the New York State Constitution clearly states, "No member of this state shall be disfranchised, or deprived of any of the rights or privileges secured to any citizen thereof." Yet, the Farm Bill has disfranchised countless consumers, farmers, and

citizens in the state of New York State.

New York has the opportunity to demonstrate its support for local farmers, the environment, and social welfare through the promotion of local dairy and by providing students with a holistic education about food. Social movements require the support of citizens but they also require legislative support from politicians. It is time for New York politicians to put their ear on the pulse; it is time for New York politicians to voice their support for sustainable agriculture through support for local dairy.

Until the movement for a just and sustainable food system is acknowledged as a priority by state and federal governments, the responsibility lies on the consumer to educate and inform themselves of food issues and moreover to vote with dollars for food choices that show a continuity with consumer ideals. This task is not simple, but the time has come where it is necessary.

APPENDIX A: SURVEY

(*Note to view electronic version please visit

<http://www.impressity.com/Survey/sl.aspx?SurveyLinkId=Indrlrkxkapsouiewxlr>)

Consumer Buying Habits and Decision Making Organic/Local Foods

Please read the statement below before beginning this survey

My name is Dylan Hawkins. I am a senior at Union College studying Environmental Policy and I am inviting you to participate in a research study. This research is being conducted under the supervision of Elizabeth Garland, Assistant Professor of Anthropology. Involvement in the study is voluntary, so you may choose to participate or not. This study was designed with the purpose of gaining information on consumer's thoughts and purchasing habits. This information will be useful for my senior thesis. Completing this survey will take approximately 8-10 minutes of your time. This study poses no risks to you or your health. However, if you no longer wish to continue, you have the right to withdraw from the study, without penalty, at anytime. While the information collected from this study may be published, individual responses will be kept completely anonymous and confidential. If you have any questions you wish to ask before participating in this study please contact me directly at Hawkinsd@garnet.union.edu or Professor Garland at GarlandE@union.edu

Please acknowledge that you have read the above statement and agree to continue with this survey. If so please select yes and then click next. If not select no and close this window.

Yes I agree

No I do not

Zip Code?

State?

Sex?

Male

Female

Age

Below 20

20-29

30-39

40-49

50 and above

Occupation?

Annual Household Income

Less than \$20,000

\$20,001-\$40,000

\$40,001-\$60,000

\$60,001-\$80,000

\$80,001-\$100,000

\$100,001-\$150,000

\$150,001-\$200,000

Over \$200,000

Over \$300,000

Marital Status?

engaged

married

divorced

Not married in a relationship

single not in a relationship

other

Number of Children?

- 0
- 1
- 2
- 3
- 4
- More than 4

How much milk does your household consume each week?

- No Milk
- Less than a half gallon
- About a half gallon
- Less than a gallon
- About a gallon
- More than a gallon (Please comment about how much

How much cheese does your household consume each week?

- No Cheese
- Less than 8oz
- About 8oz
- Less than 16oz
- About 16oz
- More than 16oz (Please comment about how much)

How many eggs does your household consume each week?

- No Eggs
- Less than 6
- About 6
- Less 12
- About 12

How much yogurt does your household consume each week

- No Yogurt
- Less than 8oz
- About 8oz
- Less than 16oz
- About 16oz
- More than 16oz (Please comment about how much)

Which best describes you?

- I buy groceries everyday
- I buy groceries a few times a week
- I buy groceries once a week
- Someone else usually buys the groceries
- I usually eat out

How much does your household spend on average per week on groceries?

- \$0-\$50
- \$51-\$100
- \$100-\$150
- \$150-\$200
- Above \$200

Which most reassembles your buying and consumption patterns of organic food products?

- I will only buy/eat organic food .
- I usually try to buy/ eat organic food
- I sometimes buy/eat organic food.
- I rarely buy./eat organic food
- Organic is not an important factor in my food buying or consumption practices

If you do not always buy or eat organically grown foods but would like to what stops you from doing so? (Please select all that apply)

Availability

Taste

Price

Other (Please briefly explain)

Which organic products are you MOST likely to buy? (Select all that apply)

Bread & Grains

Fruits and Vegetable

Meat & Poultry

Fish & Shellfish

Dairy

Beverage (non-Dairy)

Snack Foods

Sauce and Condiments

Packaged and Prepared Foods

Other (Please Comment Below)

Which organic products are you LEAST likely to buy? (Select all that apply)

Bread & Grains

Fruits and Vegetable

Meat & Poultry

Fish & Shellfish

Dairy

Beverage (non-Dairy)

Snack Foods

Sauce and Condiments

Packaged and Prepared Foods

Other (Please Comment Below)

Please briefly explain why you choose to buy certain organic products but not others (if this is the case)?

How strongly do agree with the following statements on a scale of 1 to 5 (1 meaning strongly disagree and 5 meaning strongly agree)?

1 2 3 4 5

1) I look for nutritional information

2) I look for production information

3) Food safety is a government priority

Please rate the following on a 1- 10 scale (1 being extremely low and 10 being extremely high)

1 2 3 4 5 6 7 8 9 10

1)My Knowledge of food issues

2)My Satisfaction with the American Food System

3)How important are farmers?

Which most resembles your buying and consumption patterns of locally grown food products?

I try to make sure all my food is locally sourced

I usually buy/eat locally grown products instead of other products

I sometimes buy/eat locally grown products instead of other products

I rarely buy/eat locally grown products

Locally grown is not a consideration I have when buying or eating food.

If you do not always buy or eat locally grown foods but would like to what stops you from doing so? (Please check all that apply)

Availability

Taste

Price

Other (Please briefly explain)

Which of the following organic milk brands would you be most likely to buy?

Horizon

Organic Valley

NY Foods

Stonyfield

Which of the following do you believe most strongly influences your food buying decisions?

Price of food items

Nutrition of food items

Taste of food items

Branding and labeling of food items

Product placement on supermarket shelves

Farming methods and distribution channels of food items

I learn about the food I eat through the following channels (Select all that apply).

Brand Websites

Food packaging

Articles

Advertisements

Other Websites

Magazines

Friends

Family

Other

Please in as much detail as you would like describe an experience that you believe changed your buying decisions...(saw a movie, heard a news story, read a book, learned from a friend, etc?)

The information you provided may be useful in recommending certain governmental policy adjustments to help support New York State Organic Dairy Farmers. Thank you very much for your participation in this survey. Your thoughtful responses are appreciated by myself, organic dairy farmers, and especially dairy cows.

Please be sure to click submit below. Also If you have any additional comments please feel free to include them below or contact me directly at Hawkinsd@garnet.union.edu

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