Building Capacity for Local and Organic Ohio Proud Foods for Retail and Restaurant Distribution in Ohio

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Executive Summary

Restaurants, food retail outlets and individual consumers impact each others buying and eating habits by influencing product selection based on taste, aesthetics, growing methods and place of origin. The goal of this project was to understanding current regional market demands and purchasing patterns can reveal new market opportunities for local farmers.

Consumer and Production Trends at the Local and National Level

- There are 11,373,541 people in Ohio spending an average of 13.7% of their budget on food expenditures, of which 59% is spent on at home purchases and 41% on restaurant and convenience away-from home purchases (Census Bureau 2000; ERS 2002).
- There is 14,103, 085 acres of farmland in Ohio: 40% in oilseed and grain cultivation, 38% in animal production and only 2% dedicated to vegetables, fruits and nuts (NASS 2002).
- Ohio has 200 certified organic farmers cultivating over 41,460 acres, accounting for .3% of all farmland. 83% of land is dedicated to grain, bean, oilseed and hay. Less then .1% of land is in produce, herb and nursery production (NAAS 2002).
- Organic foods are available in 20,000 natural food stores and in 73% of conventional grocery stores. Produce accounts for 42% of all organic sales (ERS 2002).
- In 2000 over $7.8 billion was spent on organic food: 49% was purchased in conventional supermarkets, 48% in natural food markets, and 3% from direct marketing outlets (ERS 2002).
- Results of the Ohio Survey of Food, Agriculture and Environmental Issues administered by Sharp et al (2002) found:
    - 37% of respondents agree organic foods are safer then conventional, 22% disagree and 41% remain undecided.
    - 81 % of respondents indicated when give a choice they prefer locally grown foods. 20% of respondents frequently shop at a farmer's market or roadside stand, and 49% occasionally do so.

Materials and Methods

Based on regional representation and population, twenty restaurants and retail outlets were selected in Akron, Cleveland, Columbus, Cincinnati and Toledo, covering the northeast, north central, southwest and northwest sections of Ohio. A snowball sampling method was used to ensure a range of respondents with varying levels of exposure to local and organic foods. A total of 100 interviews were conducted including restaurants (n = 68), independent food retail outlets (n =22), chain groceries (n = 6), and co-ops/natural food stores (n = 4). Based on menu and retail prices respondents were placed into one of three categories: expensive (n = 20), moderate (n = 50) and inexpensive (n = 30). Retail outlets included: ethnic grocery stores, independent food retailers, regional chain grocers, natural food supermarkets, and co-op grocery stores. Face to face interviews were conducted at each location with the individual in charge of ordering food. Respondents were given a *'Local Foods Connector Card'* as a thank-you for participation and as a means to increase awareness and access to organic and local food resources in the state. Cards provided contact information for statewide organizations listing producer members and their products.

Results

Current Perceptions and Purchase Patterns

Respondents expressed high support and demand for local, organic and sustainably grown foods: 72 percent reported purchasing some locally produced foods, 55 percent purchased some organic foods, 90 percent want to increase local food purchases, and 50 percent want to increase organic purchases. The majority of respondents expressed a preference for foods grown by a farmer they knew using minimal inputs, but felt constraints of time, labor, access to information, distributors, consumer awareness, and price structures inhibited them from purchasing.

All categories of purchases ranged from 0 to 100%. Amongst all respondents produce was the most common purchase. Respondents voiced a need for larger volumes of produce, varietal diversification and season extension. The primary obstacles for local meat producers (including beef, poultry, pork, lamb and game animals) are the scarcity of processing facilities and the lack of USDA inspection sites, compounded by a convoluted set of food safety laws. Respondents stated the inconsistent quality and taste of local and organic meat rarely justified the added cost.

Organic dairy sections (milk, eggs, butter, and cheese) were dominated by out of state large-scale producers. Respondents reported purchasing from a local dairy distributor but had difficulty in identifying product origin. Compared to restaurants, retail customers were more willing to spend higher prices for attributes associated with local and organic dairy products.

Defining Local and Organic

All categories of food buyers expressed inconsistent definitions for local and organic. Some respondents did not differentiate between a local distributor and locally grown foods. Most of the respondents possessed a clear understanding of the National Organic Program (NOP) rules. Retail outlets had a better grasp of NOP rules and regulations due to stringent laws pertaining to in-store handling, but voiced concern and frustration with the intensive management of organics. One retailer eliminated fresh organic foods stating *"we're not going to deal with the hassles of organic here, if people want organic they can go two miles up the road and buy at the natural foods market."* Retailers accommodated NOP regulations with separate display cases or eliminated bulk-bin items. Retailers demonstrated a preference for pre-packaged items that satisfy consumers apparent need for convenience and prevent in-store non-organic contamination. The majority of 'bagged' produce originates from large-scale producers in California able to provide the labor and equipment needed for such packaging. The trend may limit opportunities for independent local farmers unable to compete with labor and capital investment.

Transferring Information to Employees and Customers

Signage

Restaurants and retailers convey information to customers through signage on shelves, menus and through personal interactions with staff. Restaurants purchasing direct from farmers did not print 'local' in preset menus, one chef declared *"we don't have the guaranteed flow of ingredients we don't put these things on the menu, otherwise we'd be at fault for false advertising, so we just feature those items in specials."* Retailer's distinguished local foods with a variety of signs ranging from handwritten ink and cardboard to professionally printed labels. Retailers primarily marked organic foods with large banners and stocked pre-packaged, pre-labeled organic foods from an out-of-state distributor.

Verbal Communication
The better educated and excited a staff is about a product, the better able they are to transfer enthusiasm and information to the potential customer. One chef exclaimed *"I increased sales of goat cheese by 80% once my staff started eating it and promoting it to the customer."*
Respondents indicated it was easier to communicate the advantages of local (regardless if organic or not) because of the difference in taste and quality readily apparent with fresh in-season foods. Respondents also believed customer preferences constrained their ability to purchase local and organic foods. To reverse this trend chefs and retailers offered cooking classes, illuminating "C*ustomers come to this kind of a food from a taste perspective, and they will only choose these foods with positive reinforcement. If they have a good experience at the restaurant or at the class, then they'll go out and buy the food for themselves."*

Shopping at the Farmer's Market
Forty-six percent of restaurants and 21 percent of independent groceries patronize a farmers market or roadside stand. Respondents reporting a higher usage of local foods were more likely to visit a farm and spend time educating their staff on the merits of local (phi = .331, moderate association). Chefs that owned their own restaurant were more likely to frequent a farmers' market or roadside stand compared to non-owners (Crammers V = .427, moderate association).
Chefs were primarily concerned with the flavor and authenticity of the food, considering growing practices secondary. "*It's more then the food being organic, it's about who made it. We buy from a regional farm that has quality associated with it"*

Purchasing Criteria
Respondents purchase primarily by taste with price and convenience being on near equal footing. Results indicated restaurants primarily purchase by taste because *"good meals start with great ingredients."* The category 'price' represented a black and white area for some and a gray area for others, explained by *"I want the best price for the best value."* Retailers perceived customers to weigh the label local more important than organic. Health concerns of co-op customers mitigated purchasing local foods and use of signage, one respondent explained, *"People with cancer rely on my produce, I need a reliable source of organic foods, local produce is a secondary concern."*

Distribution
There was a high level of trust in farmers to produce high quality products. The majority of respondents in each category claimed to be interested in creating a relationship with a farmer but clearly preferred to purchase through a regional distributor.

Networking
Research has documented small business networks are embedded in social relations based on shared norms and values and produce 'bridging relationships' that provide information, facilitate diffusion of innovations, and create access to capital (Goodman & Goodman 2001, Granovetter 1985; Malecki and Tootle 1996; Uzzi 1999; Henrichs 2000). A successful local food system is dependent on sustaining linkages among local buyers, independent distributors, non-profit farmer interest organizations, local and regional economic offices, academic, and state and federal institutions.

Networking with State Wide Agricultural Agencies
The ability of state agricultural organizations to create markets and provide support structures for constituents requires contact and interaction with actors outside the farm gate. Interviews revealed a disconnect between growers, grower groups, and food buyers.

- Though 55 percent of respondents reported purchasing organic foods, only 10 percent recognized the Ohio Ecological Food and Farming Association (OEFFA) the primary organic certification agency in the state. Six of the 10 were OEFFA members.
- Three respondents had heard of Innovative Farmers of Ohio, but none were members.
- One respondent was an Ohio Proud Program member, 78 percent did not recognize the program. After explaining the program, respondents were asked if the 'Ohio Proud Label' was important when making a purchasing decision; 26 percent said "Yes", 2 percent said "No", and 72 percent said "Not Important".

Farmers and agricultural agencies can enter a food buyers' network by understanding how they receive and share information

- Respondents updated themselves on consumers and food trends through trade publications, food magazines, distributors availability lists, the Internet. Respondents were active members in chamber of commerce, better business bureau, American Culinary Federation, Restaurant Association, and the Southwest Ohio Chef's Collaborative chapter.
- Only 12 percent of respondents reported their modes of information feature organic or local produce.
- Regions were more likely to purchase local foods when networked with farmers clustered in geographic space collectively distributing their produce to a proximate urban local or were associated by an informal chef's collaborative group (Cramers V = .445).

Ethnic Markets

Ohio is experiencing a shift in demographic patterns represented by an increase in ethnic populations both by birth and immigration (Census 2000). Interviews included ethnic restaurants and retail markets representing 15 different cuisines. This sample was too small to make any conclusive generalizations, however, many of the insights offered highlight opportunities in previously unexplored markets.

In Ohio, some communities are sourcing 'ethnically appropriate foods' though a combination of mainstream suppliers, specialty ethnic suppliers or are driving between 2 to 10 hours to reach supply markets. Respondents welcomed the idea of fresh local foods especially if it could be delivered or available for pick up in the region. Local farmers are unable to compete with wholesale prices but they can compete with geographical proximity, quality, freshness and personal relationships. Small-scale diversified growers may be better matched to ethnic small-scale, independent family-owned restaurants and groceries as opposed to larger mainstream outlets (US Census data can aid with market identification.) The labels 'organic' and 'local' may not be a principal concern, but respondents desired foods *"raised without a lot of junk."* Furthermore, labels and signs in different languages are critical points of entry into these markets

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Produce – Produce and herbs found in ethnic markets are similar to crops currently grown for market in Ohio, but require a different variety or an amended harvest date to satisfy size preferences.

Meat – Outlets catering to Caribbean and Muslim communities were most interested in purchasing local lamb, goat, and poultry. A relationship built on transparency and trust is critical for Hallal meats, *"Our customers ask to make sure the meat is Hallal. Right now, we buy from a big distributor but who knows if they're keeping our laws. I would like to buy direct from the farmer and be able to see the slaughtering."*

Dairy – High quality fresh milk was important for producing homemade yogurt and cheeses. Cuisines that incorporate undercooked eggs highlighted production practices of organic eggs from California. One customer explained the difference in price, *"the more expensive an egg the safer and better it must be."*

Conclusions, Needs and Future Directions

- There are a tremendous number of unrealized marketing opportunities for local, organic and local organic foods in Ohio's major metropolitan areas.
- Lack of policies, incentives, and distribution networks for small and medium producers are major obstacles to realizing market potentials.
- Increases in funding and support for producer and worker owned processing facilities.
- Foster relationships between local distributors and local farmers in order to aggregate product and facilitate distribution efficiencies.
- Assist with 'Ohio' label development and procurement of shelf space.

Final Report

Introduction

Throughout the United States and much of the world individuals and organizations have been promoting direct marketing through local food systems as a way to reinvigorate agricultural communities and reconnect farmers and consumers. To be successful within the boundaries of traditional direct marketing approaches, the farmer and the farm each need to have a combination of personal and structural attributes. For farmers, such attributes include time, mobility, access to information and an outgoing personality. Their farms need proximity to a demand center, adequate capital and operational flexibility. On the purchasing end customers may be interested in supporting local farmers and eating organic foods but do not possess the transportation or time necessary to frequent a farmers market, roadside stand, or U-pick operation, and are uncomfortable with the restrictions of CSA's. To address these boundaries, individuals and groups have looked to restaurants and retail food stores as a means of increasing marketing and outreach streams.

Restaurants, food retail outlets, and individual consumers impact each others buying and eating habits by influencing product selection based on taste, aesthetics, growing methods, and place of origin. Understanding current regional market demands and purchasing patterns in Ohio can reveal new market opportunities for local farmers. The intent of this research is to 1) Understand the current use and interest of restaurants and food retail outlets in local, organic, and locally grown organic foods; and 2) Assess the opportunities and barriers for local foods marketing and distribution. This paper will 1) Provide a context for understanding Ohio food buyers by first reviewing national and local food trends; 2) Describe challenges faced by farmers interested in selling to local food systems; 4) Describe research methodology, results and implications as they present new marketing opportunities.

National and Local Trends

According to the USDA (2002) the organic and specialty crops market is growing at a rate of 20 percent a year. In the United States it is often said fashion and style trends begin on the coasts and diffuse inwards, the same can be said for organic foods. The majority of growth in the organic foods market has been concentrated along the coasts. However, the diffusion to the Midwest is easily documented in the increasing number of restaurants, natural food grocery stores and natural food sections in major grocery chains featuring organic and low-input foods. Currently the majority of organic produce offered in Ohio's restaurants and food retail outlets is imported from California, Central and South America. A reliance on imports was established because the relatively small demand for organic foods currently exceeds the marketing, distribution and the production capacity of Ohio's 203 organic farmers.

What do Ohio Consumers Want?

Consumers have the ability to change the food system with their spending dollars. There are 11,373,541 people in Ohio spending an average of 13.7% of their budget on food expenditures, of which 59% is spent on at home purchases and 41% on restaurant and convenience away-from home purchases (Census Bureau 2001; ERS 2002).
Results of the statewide Ohio Survey of Food, Agriculture and Environmental Issues administered by Sharp et al (2002) found:

- 62% of respondents did not think imported foods are as safe as foods produced in the U.S.

- 39% of respondents agreed or strongly agreed that food is not as safe as it was ten years ago.
- 81% of respondents indicated when given a choice they prefer locally grown foods.
- 37% of respondents agree organic foods are safer then conventional, 22% disagree and 41% remain undecided.
- 20% of respondents frequently shop at a farmer's or roadside stand, and 49% occasionally do so.
- 80% of respondents agreed or strongly agreed that the state's economy will suffer if Ohio continues to lose farmers.

These findings support research conducted by Ohio Proud (2001) and the University of Akron (2002) concluding consumers in Ohio prefer locally grown foods. The University of Akron found northeastern Ohio residents prefer produce that is locally grown using organic or minimal inputs techniques. Current and future Ohio organic farmers can take advantage of Ohio's trend toward urbanization through diversification of farm enterprises to include specialty crops and new management approaches. An untapped market clearly exists for locally grown organic or low-input fruits and vegetables. Better ability to enter this market could provide farmers with a source of profitable income while simultaneously satisfying consumer demands and contributing to Ohio's economy. Despite this potentially lucrative market, growers and consumers cite minimal consumption levels of Ohio foods due to lack of easily recognizable signage, inconsistent quality and availability (Akron 2002).

Everyday consumers are bombarded with marketing campaigns and labels competing for an increase in market share. The average consumer spends approximately 18 minutes in the grocery store to pick up 21 products out of a possible 40,000 (Van Ravenswaay 1997 sited in Goldstein & Bensel 2000). Researchers Robinson et al. (2002), Jones et al. (2001), Reicks et al. (1999) have investigated consumer responses to in store product promotions and campaigns for organic and sustainably produced foods in the United States and Europe. Results suggest increased exposure to signage and trial behavior may increase consumer's awareness of labels and increase purchasing. However, results cost time, money and an aggressive promotional campaign.

The View from the Farm

Direct marketing initiatives have been promoted by sections of the Ohio State Extension Marketing and Rural Development initiatives. Some Extension efforts have been made to orient growers away from 'corn and bean production' and move towards direct-marketing enterprises including: farmers markets, U-pick fruit and berry operations, value-added processing and agri-tourisim. However, the majority of Ohio growers are engaged in diary and grain production, a transition to fruit and vegetable production and direct marketing requires a radical shift in skill, market knowledge and culture in an already aged and overworked population.

The 2002 Ohio agricultural survey counted 78,000 farms in Ohio and a total of 14,700,000 acres of farmland. Over 60 percent of land is dedicated to corn, soybeans and grains, 38 percent are engaged in animal production and only two percent of the land is producing vegetables, fruits and nuts (ODA 2002). The distribution of land devoted to grains, livestock and produce are paralleled between conventional and organic production. There are currently 41,460 acres of farmland in organic production equal to 0.3 percent of Ohio's total farmland. Over 83 percent of organic land is dedicated to grain, bean, oilseed and hay production (Table 1). Less then 0.1 percent of organic farmland is engaged in vegetable production (NASS 2001). In Ohio both organic and conventional agriculture are dominated by corn, soybeans and grains produced for commodity and export markets. In 2002, Ohio had 203 certified organic farmers; however, this figure may not reflect the true number of small scale farms engaged in vegetable and organic production (Sears 2003). Under the new USDA National Organic Program (NOP) growers earning less then $5,000 are exempt from applying for certification. Therefore many small scale growers may not be counted under formal census definitions of organic. There are two nationally accredited certification agencies based in Ohio, 1)The Ohio Ecological Food and Farming Association (OEFFA), which is predominantly used by growers selling direct to consumers, restaurants and retailers to market fruit, vegetables, meat, grain and processed products in the state of Ohio and surrounding areas; and 2) Organic Crop Improvement Association (OCIA), which is used by growers for the domestic and international sale of raw and processed products. Ohio growers generally seek OCIA certification for soybean and grain crops for sales to national and overseas organic commodities brokers, wholesalers and processors (Sears 2003). In 2002, OEFFA certification noted a decrease in organic certification among small vegetable farmers falling under the $5,000 rule. However, that trend has reversed in 2003 because many regional food buyers require an organic certificate. OEFFA has noted that the number of certification applications continues to increase every year.

Cultural Obstacles in Transitioning to Organic and Vegetable Production and Marketing
Compared to mechanized corn and bean production, fruit and vegetable operations place a heavier reliance on human labor and require a different set of management practices to maintain agroecosystem and environmental health. While corn, beans and grains are dried, stored and sold as the market demands, fresh produce spoils quickly and rapid market transactions are imperative. Additional obstacles to transition occur at the cultural level – differentiation exists within the agricultural sector dependent on the type of production in which a particular farmer is engaged. Grain crops are 'clean' as production processes are performed with tractors, combines and heavy machinery, whereas vegetable farming, which in the vernacular may be referred to as 'dirt' or 'truck patch' farming, referring to the hands-on demands of production requires a different set of skills and equipment. Alternative opportunities exist to diversify cropland to include different types of grains and legumes and to convert some sections of cropland to fruit and vegetable crops. Additionally, farmer-owned value added processing facilities could be built to utilize current and alternative crops and to increase direct returns to the farm.

Surveys of organic producers, both in Ohio (Rzewnicki 2000) and nationally by the Organic Farming Research Foundation (OFRF) (Waltz 1999) document the need for assistance with prices and pricing, finding buyers, locating markets, and determining consumer demand for organic products. The OFRF (2001) grower survey found 25 percent of growers cited the

Table 1- Certified Organic Acreage, Selected Crops, By State, 2001

	Grains	Beans	Oilseeds	Hay	Vegetables	Fruit	Herbs/ Nursery	Other Cropland	Pasture	Total Acres
Total US Organic Land	454,598	211,405	43,722	253,641	71,677	55,675	14,599	197,085	1,039,090	2,341,492
Percentage grown in Ohio	32%	32%	1%	18%	1%	0.1%	0.3%	5%	11%	
Ohio Acres in Production	13,350	13,267	217	7,407	408	<1	1	2,074	4,592	41,460

direct-to-retail venue as the most difficult market to enter, yet 64 percent of growers expressed a desire to increase direct-to-retail marketing operations. IFO & OEFFA (2002) Ohio producer surveys revealed the majority of respondents devoting zero to 20 percent of their time to marketing. A significant number of respondents expressed interest in joining a marketing and/or distribution cooperative or selling through a local broker, yet were unsure how to connect with one.

Distribution Obstacles Created by Residential Design and Development
There appear to be several obstacles hindering Ohio's existing organic horticultural grower's ability to meet the in-season demand in Ohio's organic markets. A significant market-access barrier facing existing organic specialty crop growers is a distribution efficiency limited by residential design. The growth and development of urban areas in Ohio is different than the development of high-density cities like New York and San Francisco. Areas including Columbus, Cincinnati, and Akron tend to sprawl outwards, as their major development period were in the later half of the 20th century following the suburbanization and sprawl template. For example between 1970 and 1990 Cleveland's population decreased by 8 percent while the size of the city increased by 33 percent (Sprawl Attacks 1997). Therefore when markets and distribution routes are set up based on demand, the time and fuel it takes to reach these venues may be quite different in New York City with eight million people in 321 square miles compared to driving across the city of Columbus (excluding the suburbs) with 711,470 people in 212.6 square miles (Marshall 2000; Faulkner 2001; City of Columbus 2003; New York City Fire Department 2003). A scattered population combined with a lower demand for organic foods poses a unique challenge for Midwestern local and organic farmers. Furthermore retail and restaurant establishments demand quality, quantity and flow of products, requirements that large-scale out-of-state producers have been able to satisfy but one that existing independent Ohio growers have not been able to fulfill. Independent marketing and distribution involves high demands on time, labor and transportation costs, thereby limiting the return on profit for individual farmers and preventing full entry into the growing but diffuse Ohio natural food market.

Research Objectives

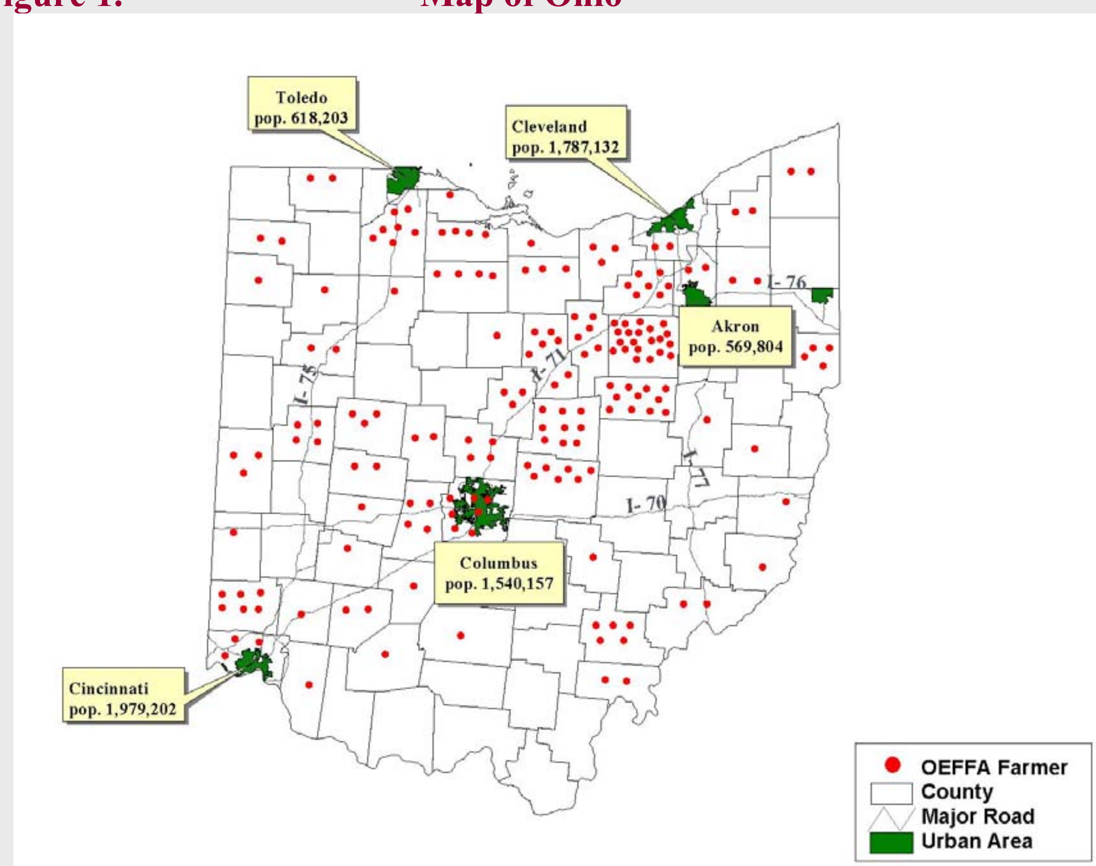
The purpose of this study was to generate a statewide overview of current and potential organic and local food markets in restaurants and retail food outlets in five metropolitan regions within the state of Ohio. The goal of this research is to assess the opportunities and barriers for local food distribution by understanding distribution and marketing system preferences, time and day of deliveries, packaging preferences, current distribution streams, and the role of internet technology. In order to develop a baseline for current use of local foods among restaurants and food retail stores respondents were asked to list the percentage of produce, meat and dairy products from their total inventory by season that was grown locally, organically, and a combination of organic and local.

Materials and Methods

Based on regional representation and population five cities were selected for this study. Akron (population 569,804), Cleveland (population 1,787,132), Columbus (population 1,540,157), Cincinnati (population 1,979,202) and Toledo (population 618,203), covering the northeast, north central, southwest and northwest sections of the state. **Figure 1** shows regional population centers and the distribution of organic (OEFFA certified) farmers. Within each region twenty restaurants and food retail outlets were surveyed. A total of 100 interviews were conducted including restaurants (n = 68), independent food retail outlets (n = 22), chain groceries (n = 6), and co-ops/natural food stores (n = 4). Based on menu and retail prices respondents were placed into one of three categories: expensive (n=20), moderate (n = 50) and inexpensive (n = 20). Restaurants ranged from inexpensive "mom and pop" diners to high-end gourmet restaurants. Food retail outlets included: ethnic grocery stores, independent food retailers, regional chain grocers, natural food supermarkets, and co-op grocery stores.

A snowball sampling method was used to ensure a range of respondents with varying levels of exposure to local and organic foods. Restaurants and food retail outlets were chosen through a series of inquiries by: contacting food editors from each of the cities major papers, free city newspapers, on line restaurant reviews, guide books (e.g. Zagat's) and word of mouth. Survey's and interview techniques were developed with input from two focus groups attended by chefs, restaurant owners, and food retailers.

Figure 1. Map of Ohio



Identified restaurants and retail outlets were sent postcards explaining the purpose of the research and notifying potential respondents that a researcher would be calling to schedule an interview. Some respondents initially did not want to participate in the survey believing purchasing local foods was a requirement for participation. This misconception was clarified during the initial phone call. Two percent of those individuals asked to participate in the survey declined to do so. Due to time limitations 15 respondents preferred to interview over the phone, while the remaining 85 agreed to in-person interviews.

Face-to-face interviews were conducted at each location with the individual in charge of ordering food, generally the chef, manager or owner. Following focus group recommendations, the researcher was responsible for asking a series of open and closed ended questions and recording all answers. At the onset of each interview respondents were given a ‘Local Foods Connector Card’ as a thank-you for participating in the survey and as a way to increase awareness and access to organic and local food resource in the state (Fig. 2). Survey forms were coded and keyed for analysis using Microsoft Access and SPSS. Descriptive statistics, Phi and Crammers V analysis were used to determine significant relationships among variables.

Survey Definitions
Local was defined to be any produce, dairy or meat item grown or raised in the state of Ohio. The definition of local was expanded to include regions of neighboring states for cities identifying themselves outside of state borders, e.g. Cincinnati is linked to areas in Kentucky and Indiana; and Toledo respondents identified with eastern Michigan. Respondents were asked to reference questions within these geographic parameters. Organic was defined as farms certified under the National Organic Program. Farmers that did not have organic certification but claimed to incorporate organic methods were defined as low-input.

Figure 2. Local Food Connector Cards

Cards provided web and contact information for four statewide organizations supporting the research project including two non-profit farmer interest groups: Innovative Farmers of Ohio (IFO) and The Ohio Ecological Food and Farming Association (OEFFA), plus The Ohio Proud Division of the Ohio Department of Agriculture and The Ohio State University Organic Food Farming Education and Research (OFFER) Program. Each year IFO, OEFFA and Ohio Proud update their list of farmer members, their products, and contact information in forms accessible over the internet and via in-print guides. The organizations listed on the card serve as information and networking resources for producers, processors and to an extent distributors in the state of Ohio. Farmers rely on these organizations to provide technical support materials and are increasingly asking for marketing support.

Results and Discussion

Recognition and Membership of State Based Agricultural and Food Agencies

The local food connector cards elicited an immediate response among 58 percent of respondents before the first survey question was even asked. Respondents exclaimed appreciation for the cards, commenting they have been frustrated over the desire to purchase locally but have no way of sourcing products, knowing where farmers are or who to contact. As one chef stated, *"I'd love to buy local produce, I never knew it was an option to purchase from local growers, no one ever markets to me."*

The ability of state agricultural organizations to create markets and provide support structures for constituents requires contact and interaction with actors outside the farm gate. Interviews revealed a disconnect between growers, grower groups, and food buyers.

- Though 55 percent of respondents reported purchasing organic foods, only 10 percent recognized the Ohio Ecological Food and Farming Association (OEFFA), the primary organic certification agency in the state. Six of the 10 were OEFFA members. Many restaurants that did purchase from an OEFFA certified farmer commented they had not heard of OEFFA and wondered why their farmer hadn't mentioned the organization before. Respondents who were members of OEFFA tended to have had a long relationship with the organization and were heavily involved with the organic movement. Some respondents who knew of OEFFA through farmers they had relationships with often did not know they could be member if they were not a producer.
- Three respondents heard of Innovative Farmers of Ohio, but none were members.
- One respondent was an Ohio Proud Program member, 78 percent did not recognize the program. After explaining the program, respondents were asked if the label was important when making a purchasing decision; 26 percent said "Yes", 2 percent said "No", and 72 percent said "Not Important". One chef stated, *"I've heard of the Oho Proud Program, but I don't understand it and I've never been offered it."*

Federal and State Labels

Information Flows

If restaurants and retail outlets are not networking with local and state based agricultural agencies, who are they networking with? Responses from restaurants and retailers revealed these enterprises tend to align themselves closer to the business community than to the agricultural community. Farmers and agricultural agencies can enter a food buyers' network by understanding how they receive and share information. The following responses provide keys for farmers and agricultural groups to understand food buyer's networks and current market demands.

- 55 percent of respondents belong to their local chamber of commerce.
  The function of a Chamber of Commerce is to create economic opportunities for local businesses and act as advocates for constituents at the local and state level. Few farmers, even those selling direct to customers rarely belong to a chamber. Without membership, farmers and local farm issues that can have tremendous economic impact are unrepresented in the local business community. The Small Farm Institute based in Holmes County is working on models to increase dialogue and interaction between farmers and chambers as a critical piece of farmland preservation and farmland profitability.

- Six percent of respondents belong to a better business bureau.

- Among the 68 restaurants: 14 percent were active American Culinary Federation members, 6 percent belong to the Restaurant Association, and 10 chefs participated in a local Southwest Ohio Chef's Collaborative chapter. Compared to retailers, restaurants have a different set of networks based on professional levels. High end restaurants are more likely to be run by a professionally trained chef who is more likely to associate with other certified chefs than with a family run restaurant cook.

- 78 percent of respondents reported their primary sources of information were trade and food magazines (e.g. Food Arts, Gourmet Magazine, Bon Appetite, Saveour.) Grocers tended to rely more heavily on distributors for produce availability information versus restaurants that base their orders on menu needs. Growers tend to plan crops based on seed catalogues and farm magazines. Subscribing to food magazines would allow farmers to see the market as their buyers do. Many of the trends highlighted in these magazines are current along the East and West Coast and may take months to years before diffusing to the Midwest (diffusion may be more rapid since the introduction of the food network). This time lag provides Ohio farmers ample opportunity to begin experimenting and cultivating with new crops and products to serve an untapped market. These opportunities will be discussed again in later sections.

- 70 percent of respondents reported using the Internet for food ideas and trends.

- Only 12 percent of respondents claimed their sources of information feature organic produce, and 10 percent said their media advertised a means for purchasing these products.

The Cincinnati and Cleveland regions were distinguished by a network of farmers actively pursuing markets. These regions were more likely to purchase local foods (Crammers V = 0.4) compared to Akron, Columbus and Toledo. Regional grower groups were loosely associated by an informal chef's collaborative group or growers clustered in geographic space collectively distributing their produce to a proximate urban locale. The effects of the Chef's Collaborative and Cleveland network were limited to upscale restaurants that had been specifically targeted. Restaurants participating in these networks generally seemed better able to discuss their food purchases. Members of the Chefs Collaborative were proud of the program and commented on its ability to improve access to local food sources (Box 1). However, they still voiced the same concerns and frustrations as other restaurants stating reliability and quantity to be an issue.

Box 1. The Chef's Collaborative

Mission: To advance and promote among chefs and the general public concepts and benefits of good, safe and wholesome foods, including sustainable food choices, responsible agricultural growing techniques, the impact of food choices on the environment and the advantages of locally grown and seasonally fresh foods, and to provide educational and other programs fostering such concepts and benefits.

Farmer/Chef Connections
Chefs Collaborative members individually and as chapters have formed partnerships with local farmers, ranchers, and artisanal producers. They have developed new systems that allow local, family farmers to stay in business while providing farm-fresh produce directly to kitchen doors. Chefs demonstrate their purchasing habits to consumers by shopping in farmers' markets and featuring their farmers' names on their menus.

Chefs Collaborative supports the "Buy Local" campaigns initiated by a number of state departments of agriculture and sustainable farming organizations. Chefs Collaborative provides the chefs' perspective, what information farmers should know or steps they should take for the chefs to use their products – such as products to raise, season-extending, preparation techniques, understanding how restaurants and other culinary institutions make buying decisions and otherwise get product, and delivery demands.

For more information visit the
Chef's Collaborative web site at:
http://www.chefscollaborative.org/index.php

Defining Local and Organic

Interviews revealed the word local and organic have fluid definitions. Initially some respondents did not differentiate between a local distributor and locally grown foods. Some respondents claimed to 'purchase local' from a regional independent distributor or from a large distributor (e.g. Sysco or Gordon Foods) widely known not to source local products. Further elaboration detailed some respondents did not know where these distributors sourced their food from, but they were sure some of it must be local, though they never asked. Products said to derive from these sources were not considered local according to survey criteria.

All categories of food buyers expressed fluid definitions for local and organic. None of the respondents provided a clear understanding of the new National Organic Program (NOP) rules. Retail outlets had a better grasp of NOP rules and regulations due to stringent in-store handling laws. To prevent contamination, stores must maintain strict separation of organic from non-organic foods (USDA 2002). Retailer respondents voiced mixed reactions to the high time and labor required to maintain organic inventory. The majority recognized the demand for organic products was great enough they were willing to make any necessary modifications (Box 2). Some stores set up separate display cases for organic and/or were moving away from bulk-bin items. Retailers demonstrated a preference for clamshell packaging or pre-bagged items that satisfy consumer's need for convenience and prevent in-store non-organic contamination. As local and organic agriculture is generally associated with better health and a cleaner environment, it is necessary to question the environmental benefits of using large volumes of non-recyclable plastics often associated with other types of environmental pollution.

Box 2. Retail Produce

The majority of 'bagged' produce originates from large-scale producers in California who are able to provide the labor and equipment needed for such packaging. The trend may limit opportunities for independent local farmers unable to compete on labor and capital investment. One retailer purchasing locally grown organic produce stated,

> *"Local growers need to learn more about marketability of their packaging. We used to get spinach in bulk and had to spend lots of time and money to package it for the shelf. We've finally gotten Harry our farmer to do it for us."*

In addition, larger grocery stores require pre-labeled UPC codes on all packaged and bulk foods. The cost of UPC registration and labels may prohibit market entry for small-scale producers.

Other retailers, particularly those close to large natural food supermarkets were less enthusiastic about carrying fresh organic produce. One retailer eliminated fresh organic foods stating *"we're not going to deal with the hassles of organic here, if people want organic they can go two miles up the road and buy at the natural foods market."*

The majority of respondents did not define quality based on growing practices alone. Some stores and restaurants catering to high-end clientele felt they had their own rigorous demands that made certification programs and labels irrelevant. These respondents claimed customers did not ask much about where the food is coming from because "*they trust us to source out the best ingredients for them."* One restaurant stated "*I have a wide spectrum of customers from hillbilly to top notch. Trying to introduce them to new things is hard. But my customers know me and my history and standards and trust me to get good food."*

Restaurants had a perception of organic but were less aware of regulations and certification programs compared to retailers. Chefs stated they were purchasing locally grown organic foods, particularly produce, but did not know if it was certified organic (Box 3). Few restaurants required a certification label especially when purchasing direct from local farmers, stating, *"I trust the farmer I have a relationship with."* Some chefs said they wanted food raised organically without a lot of pesticides and fertilizers but at the same time they understood chemicals may be necessary. A typical chef stated *"I want the healthiest, safest food possible without a lot of chemicals or fertilizers. But, I know organic isn't always the best way to go. Just the way I know the kitchen I trust the farmer to know what's best for their land."* The new NOP rules defining organic and shifting certification patterns contribute to a more fluid definition of organic and make estimating the actual use of organic produce difficult to account for.

Box 3. Chef's Garden

Twenty percent of restaurant's interviewed purchased produce from the nationally known Chef's Garden owned and run by Farmer Jones. Chef's Garden is located in Huron, Ohio and is recognized for year round production of high quality produce often featured in the New York Times and Gourmet Magazine. Farmer Jones employs a field staff dressed in white lab coats and specializes in heirloom varieties and unique custom blends of salad green mixes, micro greens, baby vegetables, vegetable blossoms, and herbs. Produce is delivered throughout Ohio and the United States overnight by Federal Express. Chefs interviewed claimed they were purchasing organic produce from Farmer Jones. While this farm does maintain strict "good for the earth" growing standards, it is not certified organic nor does it claim to be.

Respondents highly praised the high quality unique produce and easy ordering system but were uncomfortable with the costly delivery system on top of high price produce. Many chefs stated they would prefer to have a relationship with a farmer more local to them who could grow similar produce but was less costly.

Farmer Jones was contacted but declined to be interviewed for this survey.

(Tony Cenicola, The New York Times, 7/24/02)

Current Perceptions and Purchase Patterns

Chefs and retailers alike reported there is a *"dramatic difference between locally grown and mass produced foods"* often adding, *"I don't like industrial fields."* Respondents expressed high support and demand for local, organic and sustainably grown foods:

- 72 percent reported purchasing some locally produced foods, 55 percent purchased some organic foods.
- 90 percent want to increase local food purchases, 50 percent want to increase organic purchases.
- 32 percent reported a willingness to pay up to 10% more for locally grown organic foods if quality attributes of freshness, taste, texture and color were present.
- 12 percent of respondents have a relationship with a farmer and are actively picking out produce seeds and/or livestock breeds together.
- 13 percent of respondents are driving between 5 to 250 miles for on-farm pick-ups.

Statistical analysis revealed a slight correlation between the "type of outlet" and "volume of organic food purchased" (Crammers V = .300) and a slight correlation (Crammers V = .269) between "type of outlet" and "purchasing local foods" (Table 2)

A core minority of 14 respondents emerged as individuals dedicated to working one-on-one with farmers. However, the desire to have a relationship with a farmer or purchase local and organic food was not unique to this core group. Indeed the majority of respondents expressed a preference for foods grown by a farmer they knew with minimal inputs, but felt constraints of time, labor, access to information, distributors, consumer awareness, and price structures inhibited them from purchasing.

Overall 90 percent of respondents agreed local produce tasted superior to imported produce. However, respondents were hesitant to blankly state 'all local' or 'all organic' food tastes better. Chefs and retailers were cognizant that quality was contingent on season, climatic conditions and individual growing styles. Respondents (especially independently owned businesses) valued knowing who had the best products and having a relationship with that individual rather than simply having 'local' or 'organic' foods as mere labels. Respondents preferring local foods, chefs in particular believed local food *"tastes better when its hand crafted."* Many chefs said the popularity with local produce for them was rooted in taste. Restaurants also value high quality ingredients because of their ability to satisfy customers. One chef called attention to the merits of local food by stating,

> *"When we serve local food we don't have a problem with food coming back to the kitchen and being thrown away – it's a tribute to the food. We don't need to rely on salt and spices to mask the fact there is no flavor to the food, instead we use good quality ingredients that have lots of flavor."*

Table 2. Percentage of respondents purchasing organic and local foods

Outlet Type	*n*	Purchase Organic Foods	Purchase Local Foods
Restaurant	**68**	56%	75%
Independent Grocery	**22**	42%	57%
Chain Grocery	**6**	100%	50%
Co-op	**4**	100%	100%

Restaurants felt their ability to purchase local or organic food was constrained by their customer's lack of interest. One respondent revealed *"people don't recognize or see local foods enough in the restaurant to make it important, and customers never ask where there food is coming from, it's not important to them."* However, restaurants and retailers were generally aware of variations in production techniques often stating *"I am concerned about fertilizers and chemicals."* Those respondents that had a personal relationship with the farmers they purchase from felt comfortable with the range of growing methods employed. One grocery store produce manager illuminated *"I go out and visit all the farms I buy from, I have dinner with them and stay at their houses. Farmers are more concerned about the use of fertilizers and pesticides than we are. They're conscious of their use and conform to all federal rules."* Retailers also revealed customers preferred not to buy food from Mexico, Central and South America. Retailers believed customers perceived the growing practices (including organic) of these countries to be less safe and less regulated compared to domestic and European foods. Retailers echoed each other stating *"Our customers don't want to buy from Mexico or South America because they think the standards outside the US might be compromised."*

Actual Purchases of Local, Organic and Locally Grown Organic Products

While Ohio does not have a year round growing climate, farmers do have the ability to utilize season extension techniques with greenhouses and cold frames. Furthermore meat and dairy products are able to be produced year round. A series of questions were designed to understand how seasonal fluctuations impact the use of local foods and to what degree local farmers are using season extension techniques. Respondents were asked to list the percentage of local, organic and locally grown organic produce, meat and dairy products they purchased in the spring, summer, fall and winter. Frozen, processed, and dry foods (grains, oils, and sweeteners) were not included as results in this survey except as anecdotal evidence.

Produce

All respondents voiced the highest use, demand, and interest for local and organic produce compared to meat and diary products. Produce purchases in the categories of local, organic and locally grown organic ranged from 0-100 percent. On average these products accounted for less than 30 percent of a respondents total produce inventory (Fig 3). Local produce purchases fluctuated with the seasons, summer the peak of harvest followed by autumn, spring and winter. Local and organic purchases followed the seasonal trends that dictate availability. Organic produce purchases remained fairly constant throughout the year because restaurants and retailers dedicated to stocking organic would source products from outlets able to provide year round supply. Locally grown organic was the smallest category due to limited volume, although its use was fairly consistent.

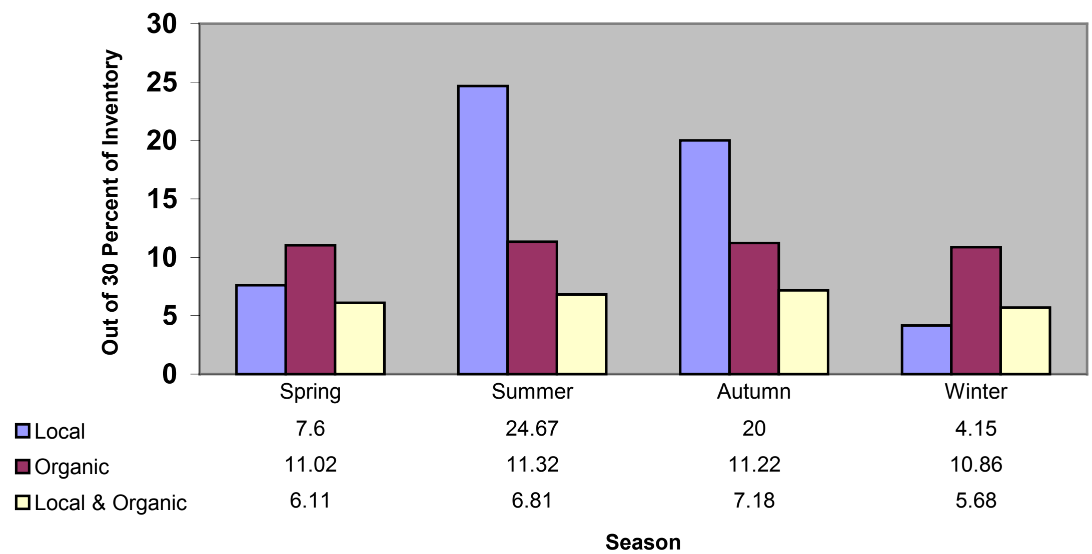
Quantitative and qualitative data indicate few Ohio farmers are utilizing season extension techniques that could increase their share of the produce market. Surveys revealed 27 percent of respondents purchase from farmers using season extension techniques. Both restaurants and retailers indicated if local produce was available they would purchase it and praised the potential of season extension techniques. Several restaurants demanded to know why more farmers weren't using greenhouses during the winter months citing the success of Elliot Coleman and growers in Maine to obtain a four season harvest. Thirty-seven percent reported purchasing hydroponic vegetables. Many respondents were unfamiliar with the term hydroponic and appeared to report on purchasing behavior without having full information on produce origin. Restaurants had mixed reactions to hydroponically grown vegetables. Some claimed not to use any hydroponic produce claiming no flavor and low quality. Overall, a clear market exists for a wide variety of year round produce grown with inexpensive low-tech greenhouses, root cellar storage or transformed into value added products through canning freezing and dehydration.

Respondents voiced a need for larger volumes of produce, varietal diversification and seasonal extension. Respondents most commonly purchased tomatoes, corn, green beans, cucumbers, green peppers, and summer squash from local farmers. However, restaurants requested more farmers to grow a wider diversity of crops to include: baby vegetables, heirloom variety vegetables and fruits, herbs, berries, stone fruits, salad greens, micro-greens, sprouts, and exotic mushrooms (see Appendix A for a complete list of vegetables and fruits). One chef indicated he was purchasing herbs for $12 a pound from his distributor – but he would prefer to be paying a local producer instead. The same chef welcomed the idea of a relationship with a local farmer stating, *"I would love for a farmer up the road to grow all my spinach and tomatoes for the season. But he needs to come early in the season so I have time to prepare my menu and plan around the harvest."*

Country clubs are a potentially important and lucrative direct-to-restaurant outlet that has been unexplored. Interviews revealed country clubs are a distinct phenomena because they have a continuous stream of educated wealthy clientele. A country club chef reflected on his interest in purchasing local foods

> *"I would love to buy local produce, dairy and meats but no farmers have ever approached me. Country clubs have a captive audience so we're under constant creative pressure to come up with new and different meals. This would be a good match for a farmer with high diversity crops. In every region of the state there is a country club managers association. Any farmer is welcome to come and approach the association or any individual chef."*

Figure 3. Average Percentage of Seasonal Produce Purchases

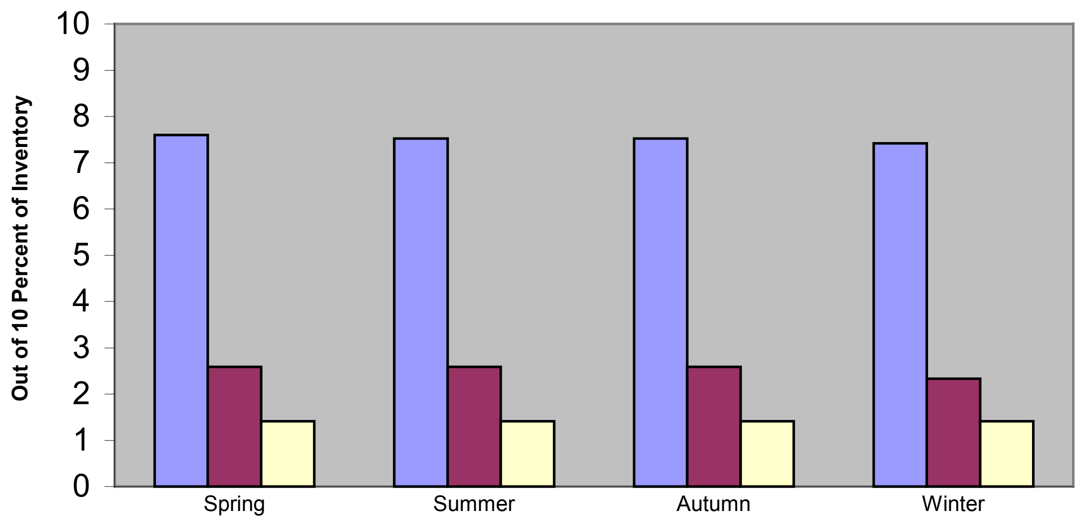


All respondents claimed they could not keep up with the demand for local fruits in stores and as menu items. Retailers reported *"as soon as local fruit hits the floor it's gone, I can't keep it. I need more."* All respondents commented on the ability of local produce to maintain freshness over longer periods of time compared to mainstream produce that commonly travels 13,000 miles over a weeks time (Pirog 2002). A number of chefs and retailers commented on the increasing customer demand for edamame (edible soybeans). While a few small scale organic market growers are selling fresh edamame at farmers markets the vast majority is currently sold in frozen food sections imported from China. One produce manager (located in Ashland, Ohio) goes through two cases of frozen Edamame a week asked, *"Why are we getting soybeans from China when the fields surrounding this store are full of soybeans."*

Meat

Meat (including beef, poultry, pork, lamb and game animals) is a complex food group subject to demands of uniformity and taste. Purchases of local, organic and locally grown organic accounted for 0-100% of inventory, with an average of less then 10 percent (Fig. 4). Larger retail outlets were more likely to purchase organic meat from a distributor, while co-op stores and restaurants tended to purchase local and organic meat directly from a farmer. Small natural food stores and co-ops that did purchase these categories of meat did so approximately one to two times a month and kept products frozen due to low turnover. Restaurants predominantly relied on a distributor for all meat products. Restaurants and retailers were generally able to report the brand and state origin for their poultry and pork products but were less likely to know where their beef came from. There was a consensus amongst respondents that local meat has a great deal of variation in flavor, *"it's very difficult to get good flavored meat with the right consistency and balance of flavor, which does not make the customer very happy."*

Figure 4. Average Percentage of Seasonal Meat Purchases



	Spring	Summer	Autumn	Winter
Local	7.6	7.52	7.52	7.42
Organic	2.59	2.59	2.59	2.33
Local & Organic	1.41	1.41	1.41	1.41

The majority of respondents preferred purchasing beef and pork through mainstream channels feeling the difference in taste compared to price was not worth the added expense of local or organic meat. Three restaurants reported purchasing meat direct from farmers. Retailers kept minimal amounts of organic meats on hand for customers they identified as small niches. Natural food groceries noted there was a higher demand for beef and meats grown without antibiotics or hormones, and processed without additives or preservatives than strictly organic.

Beef

Restaurants indicated most customers go out to eat as a special treat and prefer to order select cuts of well marbled meat. Therefore restaurants need to stock high volumes of steaks, T-bone, rib eye, sirloin, NY strip, and filet mignon. The high demand for select cuts poses an obstacle for producers independently producing small numbers of livestock for the restaurant market. Retailers are better able to take advantage of the whole animal because home cooks are more likely to utilize select cuts, less expensive cuts and hamburger. Some restaurants that need a steady supply of select cuts were interested in purchasing locally, however, only one had been approached by a group of farmers working together to specially service restaurants. Restaurants added their customer's lack of interest in meat production was an additional barrier to purchasing local and organic beef (note this research was conducted before mad cow was identified in Canada).

Growing methods can also influence the taste and tenderness of the meat. Retailers reported a high demand for grass fed beef amongst customers interested in the associated health benefits. Many chefs reported experimenting with grass fed beef but found customers reacted negatively to the meat claiming it was too tough and gamey. Differences in fat and marbling require a different set of cooking techniques (primarily slow cooking and braising) compared to grain fed beef. One high end restaurant distinguishes his menu by using grass fed Australian and New Zealand lamb off-cuts cooked by slow braising thereby creating unique dishes craved by adventurous diners. Respondents reported that currency exchange rates favored Australian and New Zealand lamb over domestic. (The case of lamb will be further discussed in the ethnic market section.) The restaurant trend away from grass based meats was echoed by the Fancy Meats of Vermont (Rartliff 2002). Fancy Meats are a group of Vermont farmers cooperatively organized to raise, process, market and deliver lamb, pork, and a variety of bird meat to high end restaurants in Boston and New York City. While grass remains an essential part of their grazing system the farmers do incorporate grain to achieve restaurant standards.

A series of strategies could be employed to create market opportunities for grass based beef.

- There are restaurants currently purchasing varying volumes of beef, lamb and pork from local and organic producers. These growers have high quality products exhibiting the desired attributes. Resources are needed to support these farmers to act as mentors and models for farmers considering entering these markets.
- Sponsor and promote educational opportunities exposing chefs and retailers to the merits of grass-based meats and how to cook them.
- Growers can incorporate a grain diet just prior to the processing date in order to create the flavor and quality restaurants prefer.
- Until this new market can be cultivated grass-based farmers may find it more profitable to concentrate on direct to customer sales.

Poultry

Respondents were more likely to purchase locally raised chicken than any other meat product. Restaurants and retailers preferred poultry raised on a vegetarian diet, without antibiotics, processed without added water and, when possible, free range. These attributes were often noted on restaurant menus or in store signage. Restaurants and retailers alike would use the description 'Amish Chicken' to convey a type of production method distinct from mainstream producers like Tyson and Purdue. However, the term 'Amish Chicken' was not clearly defined, and seemed to insinuate a 'natural' bird but with no other references to growing practices and definitions. Restaurants and retailers preferring more 'natural' chickens purchased the majority of poultry from Bell and Evans (based in Pennsylvania), and Gerber Chicken (based in Kidron, OH) both accessed through a local distributor. Co-ops and small independent grocery's were most likely to purchase locally grown free range and organic chickens direct from a farmer.

Processing

The predominant obstacle prohibiting farmers from entering local meat markets is the absence of state and federally inspected processing facilities. The lack of processing facilities is compounded by a complex set of state and federal processing laws. Respondents seemed to be confused and in some cases misinformed in reference to the legalities and liabilities associated with each set of inspection standards. Retailers appeared to be satisfied with state inspected facilities, while restaurants required USDA inspection. The vast majority of restaurants would not purchase or serve meat without a USDA inspection sticker believing the liability risk was too great. These issues frustrated chefs who would prefer to purchase direct from farmers and establish a relationship to develop meats suited to their tastes and preference. For example one chef is working with a group of poultry producers to enhance the flavor of meat through diet by customizing feed to include a variety of herbs. Chefs that were interested in purchasing direct from the farmer insisted on personally inspecting processing facilities to ensure all safety and health standards were followed.

The absence of local and organic processing facilities in Ohio has created a crisis for local producers. To truly be competitive in the restaurant and retail markets growers will need to aggregate and organize themselves into groups that will maintain a set of standards addressing: genetics, feeding, raising, processing, delivery systems and cost structures. Regardless if growers are interested in selling to restaurants, retailers or direct-to-consumers, processing laws and regulations need to be redefined to create opportunities for small and independent farmers.

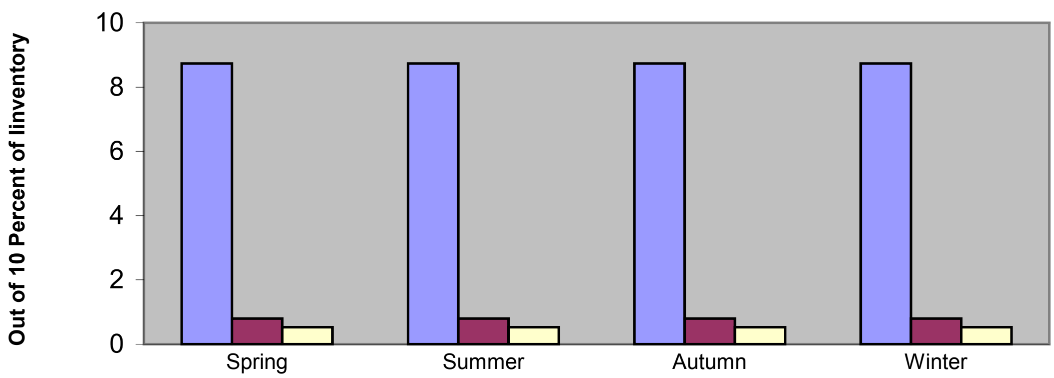
The meat market in Ohio is not limited to beef, poultry, lamb and pork. Another option farmers could consider investigating is rare and heritage breeds of common meats in addition to exotic game and wild meats such as buffalo, rabbits, quail, poussin, heirloom roosters, guine hens, duck (english campbells, wild mallards, french duclairs). Restaurants and retailers tend to sell a smaller volume of these meats, but due to their uniqueness they catch a higher dollar. Furthermore, the production and delivery demand may be more easily handled by a single farm or a small number of farmers working together compared to the demands of beef, chicken and pork. However, the cost of raising and distributing these products will vary based on individual production and marketing schemes.

Dairy

Respondents reported local and organic dairy inventory ranged from 0-100% while locally grown organic dairy purchases ranged from 0-25%, on average these products accounted for less then 10 percent of inventory (Fig. 5). Purchasing dairy items (including milk, eggs, butter and cheese) was uniform across the seasons as dairy is a year round product. However, the category of local diary proved to be a confusing subject for many restaurants and some retailers. Respondents generally reported sourcing generic milk, eggs, and butter from the local dairy distributor but were not sure of product origin. Organic dairy sections had a small number of locally raised and processed milk, butter and cheeses. For the most part organic retail tended to be dominated by out-of-state Horizon and Organic Valley brands.

All interviewed retailers stocked at least some Ohio eggs. Egg labels could be divided by: generic in state, generic out-of-state, Amish, free-range, local organic, and out of state organic. Co-ops, natural food grocery stores and smaller retailers reported having a core group of customers dedicated to organic eggs and free-range eggs. Free-range eggs tended to outsell organic because customers perceived them to have the same attributes as organic but at a lower cost. All retailers suggested customers prefer local eggs citing their perceived freshness. Restaurants were less willing to spend 'direct from farmer' prices on eggs, butter, milk and cream. Restaurants serving lunch and dinner generally only use minimal quantities of dairy products, compared to establishments serving breakfast or baked goods. A minority of restaurants with a strong commitment to organic and local or those specializing in baked goods, felt the premium quality of local organic milk, cream, butter, organic and/or free range eggs enhanced their foods to such a degree they were willing to pay the price. Some restaurants, even those dedicated to purchasing local foods, were concerned about salmonella risks associated with unpasturized eggs or with eggs not delivered by a distributor with a reputation they could trust. Even though these chefs recognized the chances of contamination were miniscule many felt the potential liability to the restaurant was too great. As in the case of organic and local meat, farmers may find the most success and profitability in pursuing direct to customer or direct to retail markets.

Figure 5. Average Percentage of Seasonal Dairy Purchases



	Spring	Summer	Autumn	Winter
Local	8.73	8.73	8.73	8.73
Organic	0.8	0.8	0.8	0.8
Local & Organic	0.53	0.53	0.53	0.53

Chefs and retailers alike vocalized a strong demand for more artesinal Ohio cheeses. Cheese plates featuring artesinal soft and hard cheeses accompanied by fresh fruits and wines are a dining trend quickly diffusing in from the coasts to the Midwest (see attached Appendix C). Chefs commented that Ohio cheeses are currently dominated by a heavily processed taste and texture. At present, only three cheese makers producing goat cheese, feta and camembert for market have been identified (coincidentally all use organic milk). However, lack of support dollars combined with many of the current laws and regulations inhibit potential producers and cheese makers from exploring this market.

The traditional refrigerated dairy section is increasingly being dominated by non-dairy soy and rice beverages. A boost in soy beverage sales is the result of increasing lactose intolerance found in children and older adults combined with the perceived health benefits of soy among the middle aged population. Retailers may offer up to 20 different choices of refrigerated dairy alternative beverages alone. The interest in soy and organic soy products has great market potential for Ohio's farmers based in grain, corn and soybean rotations. Although the interest in Ohio grains was not specifically surveyed in this study, retailers noted an increase in non-wheat and non-gluten food sales due to an increase in allergies and health related complications.

Purchasing Criteria

Informants were asked to rate the importance of taste, convenience, and price, on a scale of "one" to "five", where "one" was most important and "five" was the least important. Using the same scale respondents were also asked to rate how important the label "organic", the label "local" are to their customer (Table 3). Restaurants and retailers alike reported purchasing primarily by taste with price and convenience being on equal footing. Results indicated restaurants primarily purchase by taste because *"good meals start with great ingredients."* The category 'price' seemed to represent a black and white area for some and a gray area for other respondents. Regardless if a respondent was in the expensive, moderate or inexpensive category some individuals were only interested in the bottom line cost, while others were more tentative, commenting *"I want the best price for the best value."* In general, the more expensive restaurants could afford to be less influenced by price, and were willing to pay premium prices for unique products. These unique products act as a draw for customers looking for new and different dining experiences.

Table 3. Respondent Purchasing Criteria and Perceptions of Customer Values

		Purchasing Criteria			Importance to Customer	
Outlet Type	***n***	**Taste**	**Convenience**	**Price**	**Label Organic**	**Label Local**
Restaurant	***68***	1.25	1.97	2.26	3.49	2.75
Independent Grocery	***22***	1.36	1.86	2	2.68	2.09
Chain Grocery	***6***	1.25	3	3	2	1.5
Co-op	***4***	1.5	2.5	2.5	2.25	2.75

On average the label local was rated more important then the label organic to the customer. Co-ops were the one exception to this trend. Co-op retailers felt their stores were built on the foundations of organic, and believe customer's predominant interest was in organic foods followed by local. Retailers and restaurants tended to avoid the word natural, believing the word has no cohesive definition and could not convey much about the value of a food product.

Respondents voiced mixed reactions towards foods made from genetically modified organisms (GMO's). Some respondents voiced extreme negative reaction towards these foods while other respondents had more mixed and ambivalent feelings. Restaurants and retailers stated *"we are responsible for the food we serve",* individual morals and values combined with concerns over potential food allergies led 79 percent of respondents to demand GMO foods to be labeled.

Distribution

There was a high level of trust in farmers to produce quality products. The majority of respondents in each category claimed to be interested in creating a relationship with a farmer but clearly preferred to purchase through a regional distributor (Table 4). This pattern of preference was most obvious among restaurant respondents who often stated *"I like knowing the individual farmers but the less ordering I have to do the better. I prefer to get to know people on an individual basis, but also if one person is able to consolidate multiple orders from one area for delivery that's good."*

A group of respondents, particularly higher end restaurants extremely dedicated to local and organic foods considered distribution an important issue but not a paralyzing one.

> *"Farmers have more flexibility then distributors and tend to treat me better because of those relationships. I work with a half dozen farmers very closely and a dozen less closely. Farmers give me a schedule to show when seeds are in and anticipated harvest date, so I can create a menu around that time. Convenience means nothing to me because this way of ordering is the least convenient."*

Table 4. Respondents Trust in Farmers and Interest in Varying Distribution Systems.

Outlet Type	*n*	Trust Farmers to Produce Quality Products	Interested in Creating a relationship with a farmer	Prefer to Purchase Direct from Farmer	Prefer to Purchase from an Ohio Regional Food Distributor
Restaurant	68	83%	73%	32%	83%
Independent Grocery	22	77%	68%	52%	52%
Chain Grocery	6	75%	50%	5%	90%
Co-op	4	75%	100%	85%	85%

Other respondents, both retailers and restaurants are limited in their ability to purchase local and organic because they have no access to products and/or do not have the time or staff to frequent farmer's markets.

> *"It's getting harder to have regional foods; the smaller guys are getting gobbled up. I want to keep my business in the state and help the local businesses. I prefer local but the problem is I'm a small business; I don't have the time to go around to all the different farmers. We need a distribution system."*

> *"It's easier to deal with someone who can source products. I want to know where the food comes from so when I drive around I could talk to the farmers. But because of time I can't be out sourcing...We like to order through farmers and a distributor. But ordering from a distributor is easier, primarily because of billing and accounting. Generally growers aren't able to put the logistical aspects together – a distributor is able to. "We need someone that networks with individual farmers that would increase the continuity and dependability of local products. Chef's Garden is great but I can't maintain the costs."*

> *"We purchase through conventional suppliers because that facilitates things, they're reliable, and have high quality, responsible, good bookkeeping. Makes life simple. But it's mostly processed food. None is organic. We could get good food from local places, but it's not convenient."*

Restaurants have limited space and generally operate with small refrigerators requiring frequent deliveries of relatively small quantities. Typically restaurants would state

> *"I have a tiny cooler, I need deliveries every day and [my distributor] can do that for me. Most of my day is spent cooking, I don't have time to hunt products down…I need a distributor who can coordinate small quantities of multiple ingredients. Growers need to hook up with the suppliers."*

One large national natural foods chain that had been committed to purchasing locally revoked that policy in order to streamline store operations. A representative stated

> *"Corporate headquarters says we have to source all products from our main distributor with only a minimum from local farmers. Those local farmers have to be approved by corporate headquarters. This is all because it was taking too much time to buy and not enough attention was given to the store."*

The reluctance to deal with multiple small growers was echoed by smaller locally based stores. The following quotes clarify the realistic operating conditions these stores operate under:

> *"We have two other stores, the produce buyer buys for all the stores at once. We want uniform product at all the stores. So we want quantity and quality at all of them. Even though we order from individual farmers a distribution service would be better."*

> *"We are trying to streamline the number of purveyors we use. So ordering from individual farmers would not be in line with those goals."*

Retailers generally preferred to deal with larger volumes of staple produce items such as tomatoes, corn, strawberries, squash, pumpkins etc. These retailers appeared to be more willing to deal individually with small farmers that produce unusual fruit and vegetables such as heirloom varieties, baby vegetables, specialty lettuce mixes, and exotic mushrooms. These items may have a lower demand but sell at a higher market dollar making their production more compatible for small scale production. This issue of sourcing and distribution was well laid out by one independently owned "old fashioned" full service grocery.

> *"I have been here 67 years and have established relationships with the growers and our customers. Some people ask about the growing techniques but most don't, they trust the products. In the summer time I need one ton of tomatoes a week; I can't be buying small cases of tomatoes. I need large quantities and growers who can supply that. It's good to see different crops like heirloom tomatoes, people like to have fun with it. Better to grow that if you have small quantities and limited acreage. We put out fliers listing the local produce and the farmer's names and then we call people when things they want come in. Every year there is less and less produce. One of our strawberry guys sold out. Price is determined by the season and market factors. I don't compare local to California prices, I compare between local prices."*

Restaurants and retailers also emphasized personal relationships with their distributor was a significant influence in their purchasing criteria. Many had relationships for decades with a distributor and relied on the reliability and quality of products they could provide and were therefore hesitant to switch distributors based on price alone.

Locally owned retail stores tended to have a higher dedication to local foods, particularly produce. These stores made a real effort to purchase local foods by sending their trucks to pick up food. A local large-scale natural food store in Cincinnati and Akron regions dispatch semi-trucks two to three times a week to source local foods throughout the northeast and north central regions. These stores purchased from individual farmers and produce auction houses such as Mt. Hope up to four times a week (Fig. 6).

> *"Right now we buy from a big natural foods distributor for our organic products because they aggregate it all and distribute. In season we send our trucks to the Mt. Hope produce auction because they've got great quality and values. People love it when we put homegrown Amish on the signage.*

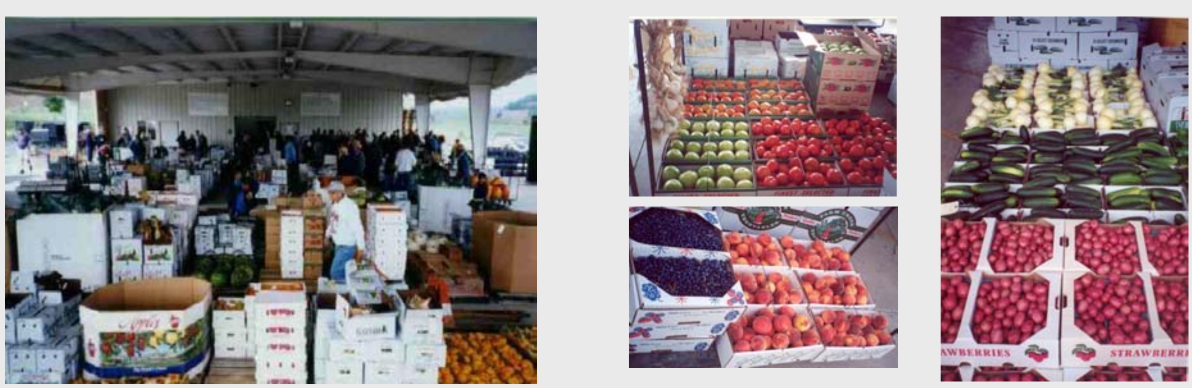
Reliability

Retailers and restaurants voiced the need for reliability. While the majority of respondents with relationships with local farmers spoke very positively of them, many voiced frustration with farmer reliability. *"I love working with local farmers but they need a reliable distribution system."* One chef commented *"I've tried to work with individual farmers but they've* *disappointed me. They can't commit. I tried to get Edamame and purple basil from one farmer. He agrees and then disappeared. I prefer local but I'm skeptical. I need regularity."* Co-ops and natural food stores reinforced this issue by stating *"We need dependability-that's a big issue. People with cancer rely on my produce."*

The interest in organic and local foods is extremely high but the issue of distribution is one inhibiting rapid market development. The issue of distribution is linked to farm size - how many farms of what size are needed to make up a distribution route? There is a need to explore the links with independent distributors in each of the regions. In every region, restaurant respondents would name the same regionally based distributors for produce, meat and dairy products. Some of the produce distributors carried local and organic foods, others did not. Even among those that did carry local foods, restaurants had a higher demand than the distributor could provide. There also appeared to be somewhat of a disconnect between distributors realizing the actual demand for local produce and their ability to satiate that demand because either 1) they do not realize how high the demand actually is, or 2) Distributors do not have an adequate supply of local foods or they do not know how where to find farmers. Furthermore, surveys revealed individuals do not realize there are any Ohio organic producers, or that the producers are looking for markets. This issue is further complicated by the fact that some University Extension and government officials do not realize organic production is possible in the state and are unaware of any resources to refer potential customers or interested farmers to.

Figure 6. The Mount Hope Auction House

The Mt. Hope auction is the largest of five produce auction houses in the state. These auction houses serve as a centralized distribution hub for local farmers (mostly Amish) to aggregate their products and attract a large number of buyers. Both large and small scale buyers throughout Ohio and neighboring states come to the auction up to four times a week to bid on vegetable, fruits and bedding plants. The success of each auction is contingent on management, advertising and feed back loops between buyers and growers. Throughout the growing season the Mt. Hope auction offers monthly producer meetings inviting growers, food buyers, and Ohio State Integrated Pest Management (IPM) Extension Agents to present on topics including: growing for market, variety selection, packing preferences, pest scouting and spray schedules. Few organic buyers currently attend the auction, resulting in a low supply of produce and depressed prices. An increase in organic produce buyers can create a positive feed back loop where organic produce production and prices increase.



Alternative Options for Distribution

Within each region interviewed, restaurants tended to use the same local suppliers for their produce, meat and dairy products. Growers could partner with existing regional distribution services as a strategy to bridge the distribution gap. This relationship benefits the distributor as it provides a means to diversify their product line and increase their competitive niche (Box 4). Examples of such partnerships can be found in The Food Alliance based in Portland, Oregon which has successfully linked growers with regional distributors and retail outlets throughout portions of Northwest and Midwestern states.

Box 4. "Ohio Produce Buyers Preference for Ohio Grown Vegetables"

"Exploring Economic Opportunities" is a continuing series of studies conducted by The Ohio State University Centers at Piketon researching new market opportunities for Ohio growers. The *"Ohio Produce Buyers Preference for Ohio Grown Vegetables"* report by Bergefurd et al. (2003) surveyed Ohio wholesale produce buyers to determine their preferences and habits when purchasing from Ohio produce buyers. Results found:

- 80 percent of produce buyers were privately owned businesses and 54 percent of buyers have been in operation for over 50 years. Less then 10 percent of buyers were in operation for fewer than 10 years. 76 percent of buyer's gross annual sales were or exceeded $2,500,000.
- 76 percent of buyers reported purchasing some fresh vegetables from local growers and produce brokers.
- 52 percent of buyers reported purchasing fresh vegetables from out of state suppliers
- Respondents reported current local purchasing habits indicating: 74 percent of buyers are purchasing zucchini/yellow squash and cabbage; 72 percent sweet corn; 67 percent bell peppers; 65 percent cucumbers; 63 percent tomatoes; 61 percent pumpkins; 48 percent snap beans; 46 percent greenhouse tomatoes; 41 percent purchase cantaloupe/watermelons; and 15 percent asparagus. Eighty percent of respondents are considering purchasing additional vegetables from local growers.
- Produce buyers willing to purchase additional vegetables also anticipated purchasing bell peppers, sweet corn, pumpkins, zucchini, cabbage, cucumbers, snap beans and greenhouse tomatoes.
- Produce buyers willing to purchase additional vegetables *did not* anticipate purchasing tomatoes, muskmelon/cantaloupe, watermelons and asparagus.

These findings may be helpful for growers interested in selling to regional produce distributors. Individual farmers do not need to grow all the crops listed in this study. However, growers may increase their opportunities of establishing a relationship with a food buyer if they are able to partner with other farmers growing the other select crops buyers want to purchase.

Transferring Information to Employees and Customers

Restaurants and retailers convey information to their customers through signage on shelves, menus and personal interactions (Table 5).

Signage

Respondents claimed that unless customers were educated about local and organic products they were less likely to purchase them. In both cases of organic and local, restaurants were the least likely to highlight these foods on their menu, however this also varied by product category. Restaurants purchasing organic and local produce direct from farmers were unable to rely on a consistent supply; one chef declared *"We don't have the guaranteed flow of ingredients so we don't put these things on the menu. If we did and then needed to substitute that would be considered false advertising. So we just feature these items in specials."* Restaurants that printed up a daily menu or used a black board menu were more likely to highlight organic and local foods. Restaurants primarily used the limited available volume of local produce (organic or not) strictly for specials promoted by the server or would incorporate them into dishes without making any special note. One Cleveland Subway Sandwich shop took great pride in using local tomatoes but never advertised this fact to customers. Local and organic poultry were the most common menu item featured by restaurants. Larger scale local and organic poultry producers highlighting antibiotic free 'all natural' chicken have been able to meet the quality, quantity and demand flow of restaurants and retail outlets and are commonly featured in all outlets.

Restaurant respondents were more likely to deal with small diversified farmers with limited seasonality and volume. This relationship contributed to low levels of signage for organic and local produce among restaurant respondents. Food retail outlets were more likely to advertise organic and local because they generally deal with suppliers that can guarantee them a steady year round flow.

Restaurants have undertaken different strategies to promote local and organic foods. A restaurant in Cincinnati that places high emphasis on local and organic foods sponsors an annual all-Ohio week. Immediately after being seated customers can view a table-set menu featuring Ohio foods, the farms and farmers. The chef reported,

> *"During that week we sold out of the all-Ohio meals every night. It was so popular we decided to transfer some of those dishes to our regular menu. Funny thing was, when we did that, even when they had the same description the meals wouldn't sell. We can't figure it out."*

Table 5. Percentage of Respondents Advertising Available Local and Organic Foods.

Outlet Type	*n*	Advertise Local	Advertise Organic
Restaurant	68	41%	28%
Independent Grocery	22	54%	40%
Chain Grocery	6	75%	75%
Co-op	4	75%	100%

Simultaneously some chefs took a more moderate approach to educating customers stating *"we don't want to overload the customer with too much information and push things on them. Some of them don't want to know*." Other chefs echoed this sentiment stating, *"We don't highlight food as organic. A small group of people are interested and when they ask we tell them. The majority of people are looking at price first."*

Food retail stores do not have the constraints of a menu, with shelf tags signage is easily added or removed. Local food signs were rarely marked by professionally printed labels. Most often handwritten cardboard and magic marker signs were used to highlight local produce. The majority of organic foods in retail outlets were purchased from large distributors, arriving in a polished pre-packaged and pre-labeled form. Larger retail outlets featuring organic foods employed large banners demarcating organic fresh and frozen sections (Fig. 7). One retail outlet focusing on local and organic produce explained *"We do a lot of on the floor interaction. We're going to put up posters explaining seed varieties, print up cards and we present a lot in person."* Although Co-ops were more likely to purchase locally grown foods, they placed less emphasis on 'local' signage sensing their customers cared more about organic then local. A Toledo co-op reported *"Lots of customers come in because of yeast allergies and health problems related to the environment and overuse of antibiotics. Customers primarily want organic, so even though we do purchase locally grown organic foods we don't do a lot with the local component."*

Figure 7. 'Organic' and 'Local' Signage

Printed Signage

Hand Written Signage

Two types of local signage: producers use pictures and labels to mark their regional origin and growing practices.

Verbal Communication
Selling a meal or a product is contingent on the ability of staff to articulate the characteristics and traits of a food item in order to assist customers in making an informed choice. The better educated and excited a staff is about a product, the better able they are to transfer enthusiasm and information to the potential customer resulting in increased sales. One chef claimed *"I increased sales of goat cheese by eighty percent once my staff started eating it and promoting it to the customer."*

Restaurants and retail outlets were asked if and how they verbalize the definitions and characteristics of local and organic foods to employees and customers. Combining restaurants and retail outlets, 42 percent of respondents claimed to review 'local' with employees and 47 percent tried to educate customers. In regards to organic, 37 percent of respondents claimed to both converse and instruct employees and customers. The decrease in organic guidance corresponds to the smaller number of outlets handling organic and the confusion surrounding the term organic as discussed earlier. Respondents indicated it was easier to communicate the advantages of local (regardless if organic or not) because of the difference in taste and quality readily apparent with fresh in-season foods. Some respondents provided intensive trainings for kitchen-staff, wait-staff, managers and floor-staff.

Restaurants and retail outlets reporting a higher usage of local foods were more likely to visit a farm and spend time educating their staff about the importance of local and/or organic. Six of the chefs and two of the retail outlets reporting a high use of local foods, scheduled employee farm field trips. Respondents explained that field trips were intended to cultivate a personal relationship with the farmer and develop an enhanced understanding of the food they handle. Furthermore many restaurants and retailers are required to be better educated in order to serve an increasing number of guests with dietary restrictions and food allergies.

The vast majority of respondents including those highly engaged with local and organic food issues stated they are unable to provide their employees with the proper training and background due to time constraints. Retailers are less likely to educate customers when there is high staff turn over (common at larger chain markets), and time is allocated to managing stock and daily operations. Employers expressed some concern over the deficit in training with regards to regulations associated with the new NOP laws. One retailer suggested the best way to educate customers about local and organic foods is for farmers and organizations to come in themselves, *"We'd love for farmers to come in and demo their product. The less time and labor we have put in the better. Every year Chiquita sends their banana lady around to demo, people love it and we don't have to do anything."*

Interviews revealed food buyers' purchasing habits were impacted by customer demands and awareness. Respondents emphasized their frustration with the fact customers have come to expect aesthetically perfect foods. One retailer offered this view, *"Educating the customer is very difficult. Unless they meet the farmer and see how he thinks, they don't really understand. They walk into the store and expect everything to be perfect, but it really doesn't work like that in real life."* The belief that customers truly do not appreciate good food or understand the food system seemed to reverberate through the majority of respondents. There was also a strong belief most of Ohio is embedded in a "meat and potatoes" culture that has been resistant to change. One respondent succinctly said:

> *"Most people don't know enough about produce. The chain restaurants, and national grocers, have dummied down the consumer so they don't know what good produce is. They have false presumptions about presentations. Just because it's available doesn't mean it's good and ripe. I don't want tomatoes and honeydew when they're not in season."*

Respondents expressed a sense of remorse and regret to this fact. Many respondents felt customer values impaired their ability to purchase and cook the local and organic foods they preferred. In order to create more agricultural opportunities in the state there needs to be an educated public ready to appreciate the taste and flavor of farm fresh unprocessed foods. Preferences for convenience are leading to higher consumption rates of fast food and processed meals. Simultaneously a competing trend to increase the consumption of fresh fruits and vegetables is increasing with an older and more health conscious populations. To try and reverse the convenience trends many of the chefs and retailers interviewed offered cooking classes featuring whole ingredients. One Columbus area chef stated:

> *"We do cooking classes, we're constantly educating customers. Promotion is a key too to education. It's not just about organic, it's about local organic. Customers come to this kind of a food from a taste perspective; they will only choose these foods with positive reinforcement. If they have a good experience at the restaurant or at the class, then they'll go out and buy the food for themselves."*

The Case of Restaurants

Purchasing locally grown and organic foods was not exclusive to high-end gourmet restaurants. A number of restaurants interviewed in all price scales had some percentage of inventory purchased directly from a farmer. These restaurants presented great pride in their relationships with farmers and in the quality of food they were purchasing and serving. Most referred to 'their farmer' on a first name basis when describing the products they purchased and the growing techniques used, *"I know Mary does use rotations, and she tells me spinach won't be back in season until the fall."*

Restaurants define quality and make purchasing decisions based on values and criteria embedded in the food itself. Chefs in general were primarily concerned with the flavor and authenticity of the food, considering growing practices secondary. *"It's more than the food being organic it's about who made it. We buy from a regional farm that has quality associated with it."* Chefs in high end restaurants purchasing direct from farmers were more likely to spend time educating their staff on the ingredients and menu items claiming *"every night we go over the menu and breakdown the ingredients. They taste the food so they can communicate to the customer what is available."*

Restricted or no-access to local foods was the most common frustration voiced among respondents. Direct marketing venues, primarily farmers markets and road side stands have been sited by the North American Direct Marketing Association (2003) as spaces providing: a place to purchase local foods, develop relationships between growers and customers, and allow farmers to develop entrepreneurial skills (Fig. 8). In this survey 46 percent of restaurants and 21 percent of independent grocery stores reported patronizing a farmers market or roadside stand, while chain grocers and co-ops reported no activity. A slight relationship existed where chefs owning their own restaurant were more likely to patronize a farmers market or road side stand compared to non-owners (Crammers V = .427). Chefs purchasing at a farmers market did not report using higher volumes of local or organic foods compared to chefs that don't patronize a market or those that had direct farmer to restaurant deliveries.

Chefs enjoyed visiting the farmers markets because it allowed them to meet farmers and become acquainted with regional foods. However, there was uniform agreement that the majority of markets in regions included in this survey did not service the needs of restaurants the same way the Dane County Farmers Market in Madison, Wisconsin or New York City's Green Markets could. One chef expressed their dissatisfaction with the farmers markets in Columbus by claiming *"The North Market is not a real market, I would like to see one closer to Seattle's market."* The development of each farmers market is generally dependent on the ability and skill of the market manager. Ohio has a total of 74 farmers markets, only the Athens Market is year round (ODA 2003). In comparison the states surrounding Ohio including: Pennsylvania have (156), Kentucky (86), Indiana (67), West Virginia (24), and Michigan (66) (USDA 2003). Ohio can be further compared to states like Iowa (146), New York (269) and California (365).

Figure 8. Chef's Shopping at the Farmer's Market

Chefs purchasing from farmers markets in each region of the state voiced similar points of contention with farmers markets. Chefs expressed dissatisfaction with low volumes of available produce, narrow variety selection, limited days and hours and lack of time and staff to visit the market. As mentioned earlier sales at a Farmer's Market are dependent on management, weather, time of year, and conflicting activity schedules. Farmer's Market sales do pose some risks leading some farmers who sell both at the Farmer's Market and to restaurants (especially on the same day) to view them as competing markets. One restaurant dedicated to local and organic food receives local produce deliveries after the Saturday morning Farmers Market stated,

> *"Sometimes the farmers who sell at the farmers market don't save all your order for you when they're at the market. They sell to the customers who are there. This is a liability to the restaurant because we wind up with leftovers and a short supply of ingredients. I also have farmers trying to undercut each other."*

Though this case may not be typical, it reinforces a larger issue of an underdeveloped poorly supported local food system. Farmers pursuing direct-to-customer or direct-to-restaurant/ retailer are vulnerable to fragile marketing structures. While direct marketing provides the greatest monetary and social benefits to farmers and consumers there is considerable risk involved. Training workshops, monetary resources and effective policies creating a sound infrastructure and market system need to be cultivated.

Ethnic Markets

Ohio is home to a diverse range of immigrant communities and ethnic heritage populations, each with a unique food culture comprised of specific ingredients and dietary habits (Census 2000). Interviews included ethnic restaurants and retail markets representing: African-American, Central American, Chinese, East African, Eastern European, Ethiopian, French, German, Italian, Indian, Japanese, Mexican, Middle Eastern, South American, South Asian, Thai, and West African cuisines. This sample was too small to make any conclusive generalizations; however, many of the insights offered highlight opportunities in previously unexplored markets. Further research is needed to explore local and organic food markets for long established ethnic communities such as African-Americans, Germans and Italians in addition to more recent immigrant communities.

Food habits for recent immigrants and specific ethnic communities are different compared to assimilated groups. The 2002 USDA Consumer-Driven Agriculture Report notes it is not yet known how "away from home" food expenditures will be impacted by the increasing ethnic and racial diversity within the US (Ballenger et al.). The USDA notes that immigrants and many ethnic communities historically dine out less frequently and spend less when dining out, instead placing more emphasis on cooking with fresh ingredients and eating at home (Davis and Stewart 2002). The study also sites the increasing number of ethnic restaurants in the US may reflect both an increase in population diversity and an increased demand for ethnic variety by better traveled and wealthier U.S. consumers. While the trend for mainstream America is to eat more processed and convenient foods, these baby boomers and younger generations value diverse cuisine and dining experiences as attributes of a good meal. These groups offer important market potentials for local farmers. Indeed many of the products demanded in ethnic markets are very similar to those commonly seen in the grocery store but with slight variations. Each community and ethnic group has different tastes and preferences indicating varying levels of interest in produce, meat and dairy categories.

Ethnic grocery stores and restaurants in Ohio are generally small scale, independently owned enterprises. These outlets face different distribution challenges compared to mainstream groceries. Many of the restaurants and retailers purchase from a combination of mainstream suppliers like Sysco and Gordon Foods, specialty ethnic suppliers or will drive great distances to terminal markets to source 'ethnically appropriate foods'. Recent immigrants and ethnic shoppers may be primarily concerned with sourcing affordable familiar foods specific to their cuisine. The organic or local label may not mean as much to these individuals, however, this does not mean these individuals do not care how their food was produced or have less of a preference from where and whom they purchase food. Restaurant respondents indicated *"People don't' care about local here, they come here for a special treat to try new foods. They eat local or organic at home."* Ethnic restaurant respondents indicated they sometimes specifically ordered organic but only by special request. Some restaurants indicated they would like to purchase locally grown foods and work with local farmers but the issues of quality, quantity and flow prohibited that relationship. Respondents also indicated local farmers were not growing the varieties of vegetables and herbs they required.

Meat

Throughout the interview process, respondents showed varying levels of interest in different local food product categories. In one instance while interviewing an Indian/Bangladeshi restaurant, the respondent showed little interest in sourcing local produce or dairy. However, when asked about meat – the respondent became engaged and animated wanting to know where to source halal lamb meat. He stated:

> *"Our customers only ask about the food to make sure the meat is halal. If a farmers market was closer we would buy from them. The halal meat is a big issues-we would like to purchase direct from the farmer. Right now we buy from Sysco, but who knows if they are keeping our laws. Maybe if the farmer is close we would also like to buy eggplant, cauliflower, green peppers, onions, garlic, carrots, mint, and cilantro. Usually we only go through one box a week."*

The restaurant was currently purchasing Halal goat, lamb, and chicken from Sysco, however, they were not sure if the company was truly abiding by all Halal standards. For this restaurant and its customers it was most important to have a personal relationship based on transparency and trust. For local foods, Halal meat was the "door opener" into this restaurant, additional products were then identified only after the primary interest was addressed. Interestingly, one Middle Eastern market stated, *"people only ask about local when it's about the lamb. Ohio meat has a good reputation like that."*

The demand for goat and lamb meat is not exclusive to Muslim communities. Jewish, Jamaican, Caribbean, and African consumers purchase large volumes of lamb and goat meat. Restaurants and stores serving these communities will drive 2 to 5 and even up to 12 hours to reach markets in Chicago, Detroit, Pittsburgh and New York to find these meats. On the east side of Cleveland there are a cluster of Middle Eastern retail markets catering to a diverse clientele. One of the markets interviewed provides a wide a selection of fresh and frozen produce, meat, dairy, herbs, spices and prepared foods. This market sells approximately 40 lambs and 40 goats a week. They are currently sourcing lamb and goat meat from Pittsburgh and Detroit; however, they would prefer a more local source. Further conversations revealed the store owners owned a USDA inspected Halal slaughter house in the Akron area. The processing operation is currently closed due to difficulty sourcing stock in addition to human resource issues. Initially the owners tried to source Ohio lambs:

> *"We would drive around the countryside to the farms looking for lambs and goats, but there weren't enough so we started going to Indiana where there was a better supply. So we bought most of our stock in from Indiana, but that's a lot of driving. Right now we're shut down but we'd like to start up again – do you know local farmers who'd want to sell to us?"*

The owners had no knowledge of the Ohio Goat Task Force or the Grazing Council, both farmer based organizations dedicated to creating markets for lamb and goat meat. The task force and council are organizing a network of farmers able to collectively supply the quantity and quality of animals that processors like these would require. The owners also asked about chicken, stating if chickens were hand-killed customers are willing to spend more money for them. Many of the customers from Africa were asking for goats with the skins shaven but still attached. Customers are interested in food attributes not found in mainstream grocery stores and have a market demand that could readily be fulfilled by local farmers. Furthermore the religious importance of Halal and Kosher meat means retailers and customers want to have a relationship with the grower and processor to ensure standards are being met. These potential relationships create economic opportunity and social cohesion to create increasingly stable and well functioning communities.

Interviews on the east side of Cleveland happened to coincide the day after an egg factory farm expose on Cleveland's Fox news station. The report showcased video clips of conditions inside of egg factory farms and the potential health implications. As an alternative to these eggs, the report showcased a farmer raising free-range eggs. The market owners stated, *"everyone has been coming in to know where their eggs are coming from, wanting to know if I know the person who raised them, how were they raised?"* The owners were interested in sourcing free range eggs and possibly organic eggs realizing they cost more than conventional ones. Their customers cared more about what they were eating and considered price as a secondary factor. The owners were interested in buying lambs and goats from farmers who *"don't use a lot of junk"* to raise their animals. For this group of consumers quality is not necessarily equated with fancy packaging and labels but is instead about trust in their shopkeeper, the farmer and food production standards. While in the store customer conversations were overhead demonstrating knowledgeable and interested individuals contemplating the relationship between food and health. Individuals could be heard discussing "*the garbage in the food system causes so many health problems"* and looking for medicinal herbs to cure various ailments. These findings challenge the assumption that organic and local foods markets only exist among upper-middle class educated professional. The Community Food Security Coalition provides additional readings on direct marketing to ethnic and multi-income consumers (http://www.communityfoodsecuritycoalltion.com).

Produce
As mentioned previously, ethnic retailers and restaurants are driving to terminal markets in Detroit or Pittsburg to pick up specialty produce and herbs for their communities along with conventional tomatoes, beans, potatoes, onions etc (Fig. 9). Respondents welcomed the idea of fresh local produce especially if it could be delivered or if it was available for pick up with in the region. Local growers are unable to compete with wholesales on price but they can compete with geographical proximity, quality and freshness. These retailers often go through one to five cases of produce a week which would be consistent with the volumes a smaller grower could supply. Small produce growers are typically diversified growing a wide range of crops – this group of growers may be the most likely candidates to start growing for the ethnic market. There may be alternative marketing and distribution arrangements available at these markets. A hybrid CSA or farmer's market could evolve to provide specific produce needs.

Figure 9.

Columbus Farmer's Market

Edamame at a small town mainstream grocery

Opo, Cucumbers and Hot Peppers

Eggplants, Squash & Fava Beans at a Middle Eastern Market

Asian Greens

Vegetables and herbs are essential ingredients in many ethnic cuisines. Popular herbs include: cilantro, parsley, mint, basil, rosemary, thyme, oregano etc., each type of herb can be further divided by varieties matched to specific cuisines, for a complete list see Appendix A. Herbs thrive in Ohio's summer and can be grown year round using season extension techniques and greenhouses. Preferred fruits and vegetables are similar to ones commonly planted for mass market but may be a different variety or require a different harvest period to obtain a preferred size. For example, the Middle Eastern market prefers small round baby eggplants while Asian customers prefer long skinny bright purple, pink and white eggplants. Okra is another case where Middle Eastern markets stock young and short okra while Indian stores purchase longer older okra (Fig 10). These trends carry over to summer squash, winter squash, celery, greens, legumes, mushrooms etc.

The University of Massachusetts Extension conducts ongoing studies examining ethnic preferences for vegetables at Farmer's Markets. Researchers identify variety, size, color and taste preferences of vegetables, fruits and herbs found in other cultures and impart this information to local growers. Ethnic consumers are more likely to visit the farmers market and buy corn, beans and tomatoes when familiar foods are offered (Magden 2002).

Many of the vegetables and herbs considered to be "ethnic" have diffused into gourmet circles and are actively sought after by high end chefs. This trend is easily documented with the rise in popularity of fava beans. Fresh, dried and canned fava beans are a staple in Middle Eastern and North African cuisine and have recently been established as a prominent ingredient in the new American cuisine. Fresh fava beans are commonly featured in cooking magazines and in high dollar restaurants along the east and west coasts and are sought after by Ohio chefs. However, few if any local growers are producing fava beans. In Ohio these beans are hard to source and must be shipped in through specialty distributors. This trend is also evident with edamame – edible soybeans from Japan. Edamame is commonly sold frozen in Asian groceries, natural food stores and now is appearing in mainstream supermarkets. During interviews many high end chefs asked for sources of fresh edamame.

Figure 10. Size Preferences

Middle Eastern customers prefer young and tender okra (right) while Indian customers favor mature and fibrous okra (left).

Dairy
High quality farm fresh milk (not homogenized) was important for producing homemade yogurt and cheeses. Similar to halal meat, eggs represented another 'door opener' into certain markets. Interviews with a Chinese grocer did not provide much enthusiasm for local produce and believed "*Ohio growers need to learn much from the growers in California and Canada about growing Chinese vegetables.*" However, there was great interest for duck meat and duck eggs. This retailer stated *"A local farmer used to come by with duck eggs every week and they always sold out but no one comes with the eggs anymore. Maybe that is one item we'd be interested in."* In an upscale Japanese market there were three different types of eggs available: a dozen generic Midwestern eggs cost $1.79, a half a dozen organic eggs from California with Japanese writing cost $3.99 and, a dozen eggs raised on a free range, vegetarian diet with attributes explained in Japanese cost $4.99 a dozen (Fig.11). A customer explained her preferences amongst the different eggs,

> *"I buy the $1.79 Midwestern Eggs when I'm just baking or using them in a cooked dish. But some Japanese dishes include barely cooked eggs and in that case I buy the $4.99 eggs. They must be safer – look they state where they come from and (laughing) at that price it must guarantee some safety and quality. I'm a biologist by training; I know something about food safety."*

Planning for the Ethnic Market
Local farmers may be unable to compete with wholesale prices but they can compete on geographical proximity, quality, freshness and personal relationships. Marketing in other languages is an essential component of 'door opening' marketing and consumer outreach. Ethnic shoppers and non-English speakers may prefer to shop in a community based store and purchase food bearing a label in their native language. Individuals and groups can contact regional community leaders, ethnic heritage groups, and local businesses in order to assess current market needs. Incorporating non-English language creates an opportunity for exchange and community among Ohio's diverse populations. Additionally, promotion in multiple languages, with advertisements in non-English magazines, community newsletters and community directories can increase attendance at farmers markets, roadside stands and CSA's. The 2000 US Census data can be used as initial market research tool to assist regional farmers identify ethnic demand centers (Figs. 11, 12, 13, 14, 15, 16).

Figure 11. Eggs in a Japanese Retail Market

Figure 12. Ohio Immigrant Population, Place of Birth, by Metropolitan Region.

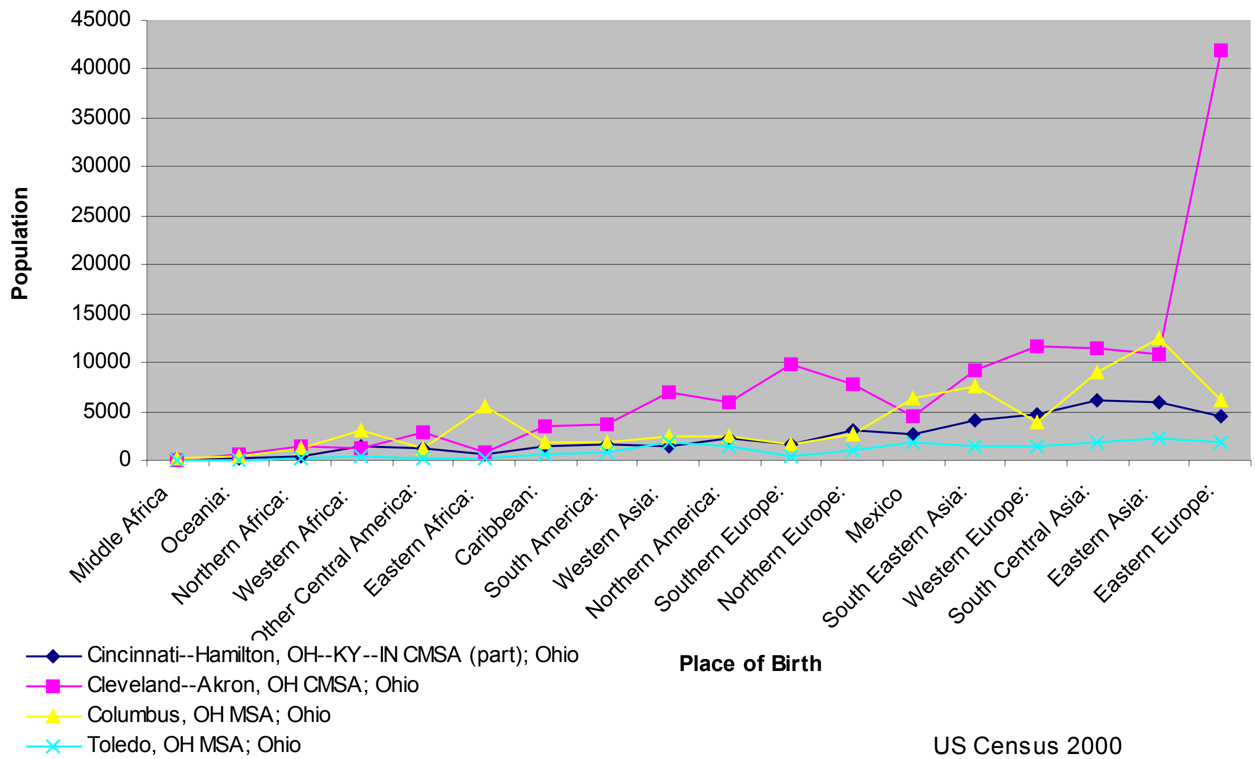


Figure 13. Categories of Race in Ohio by Metropolitan Region.

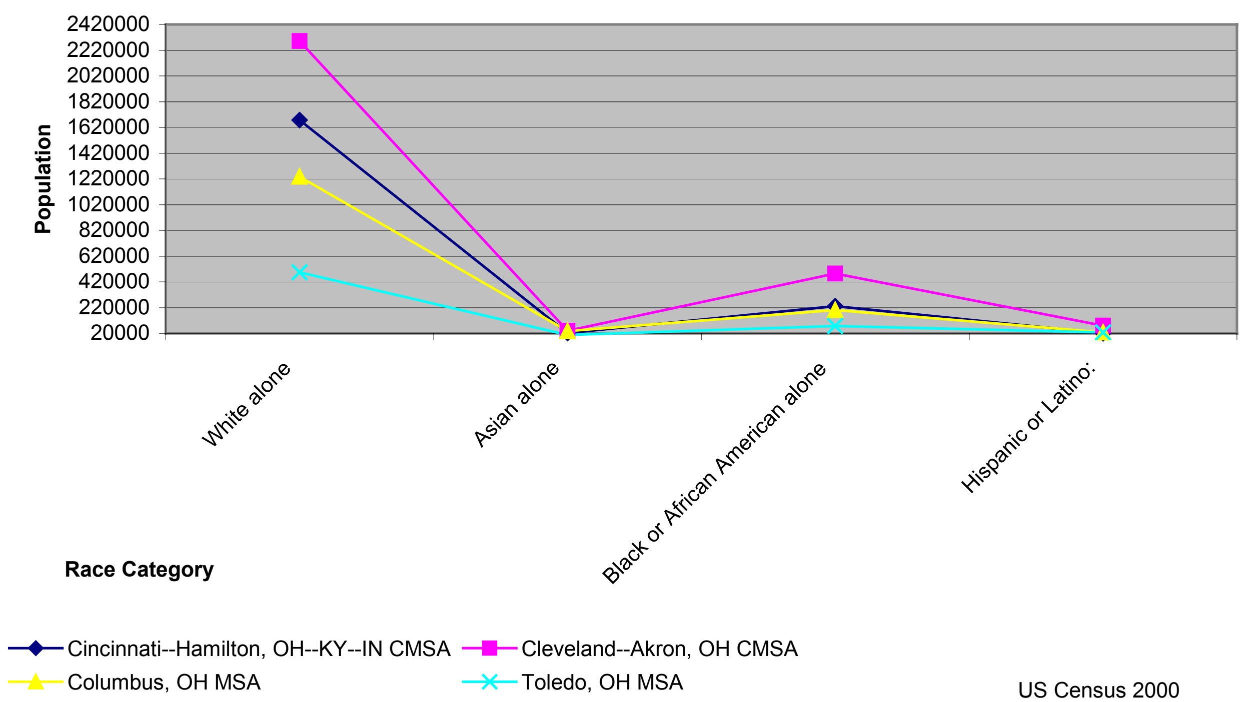


Figure 14. Ethnic Heritage Represented in Ohio.

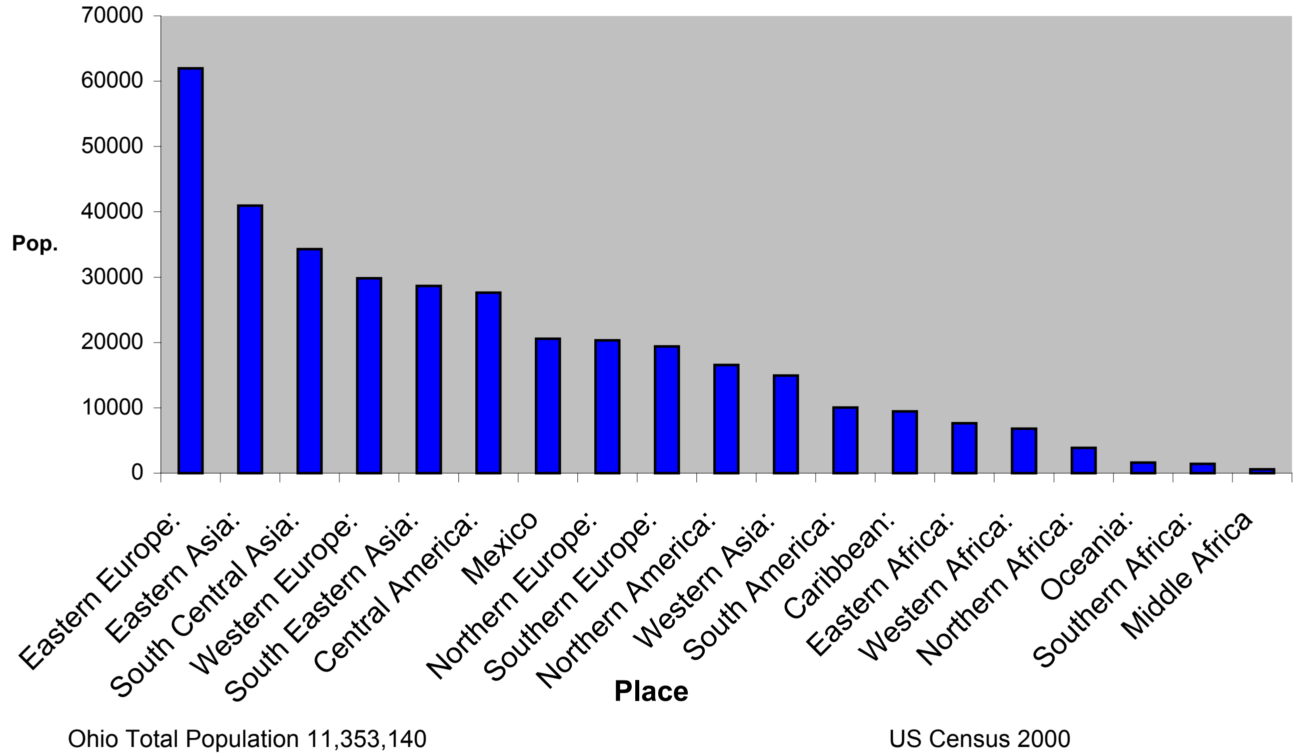


Figure 15. Non-European Heritage in Ohio.

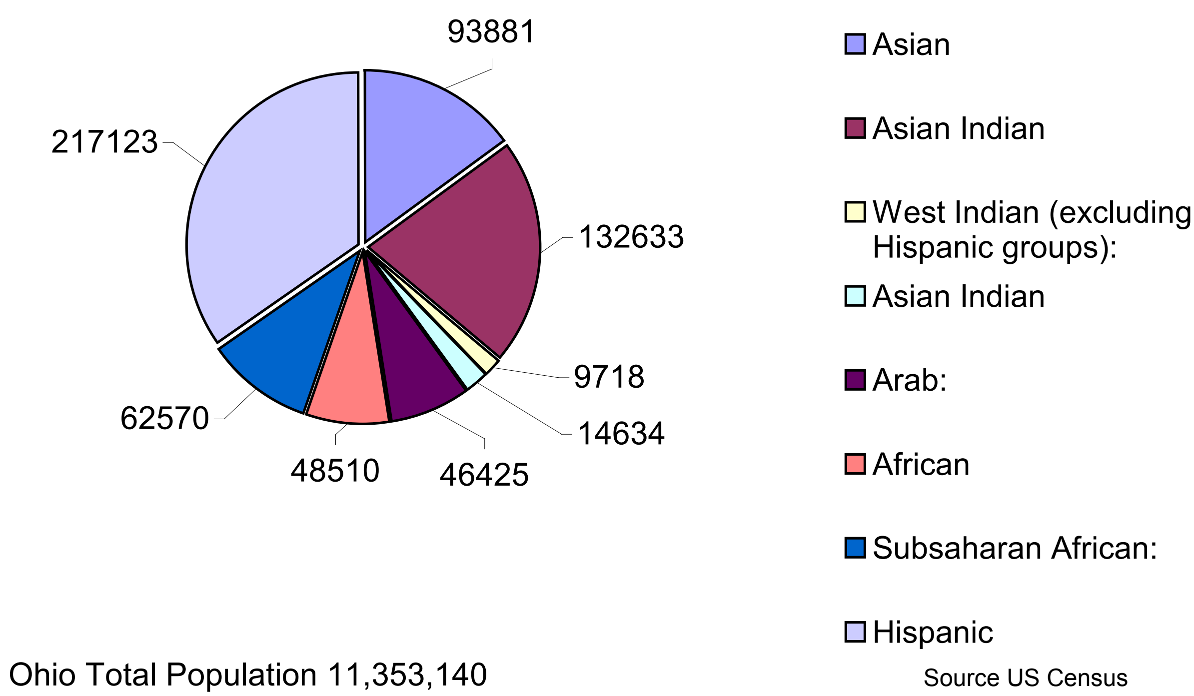


Figure 16. Ohio Immigrant Population, Place of Birth.

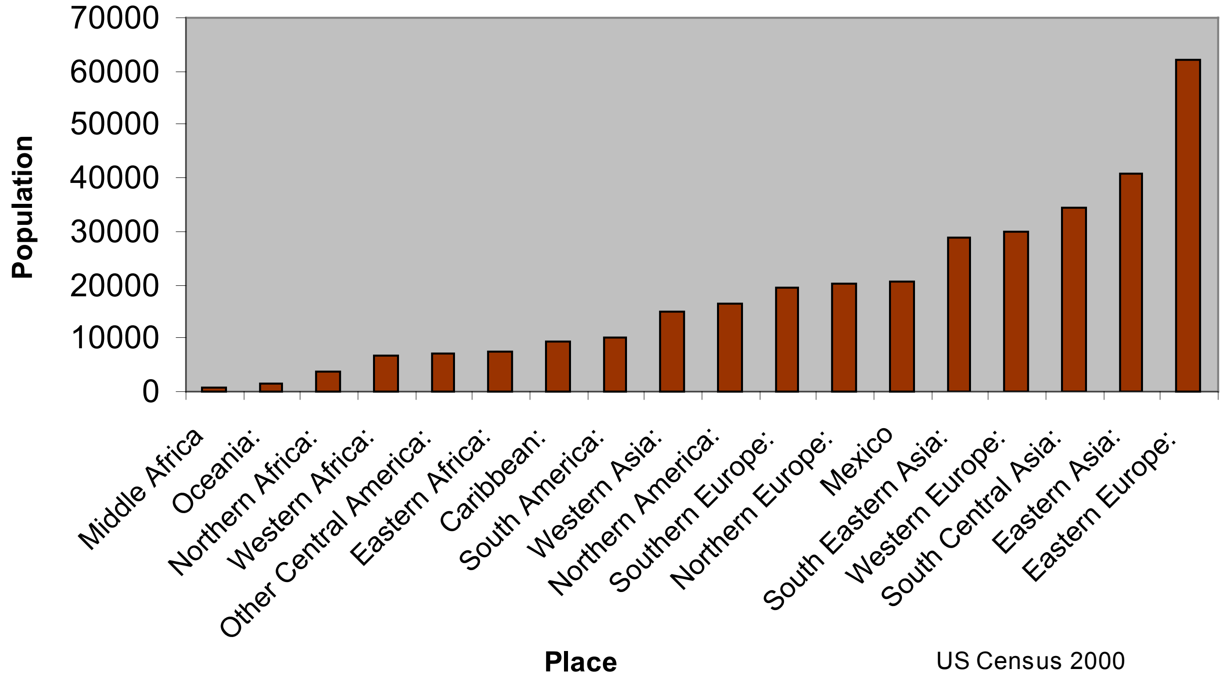
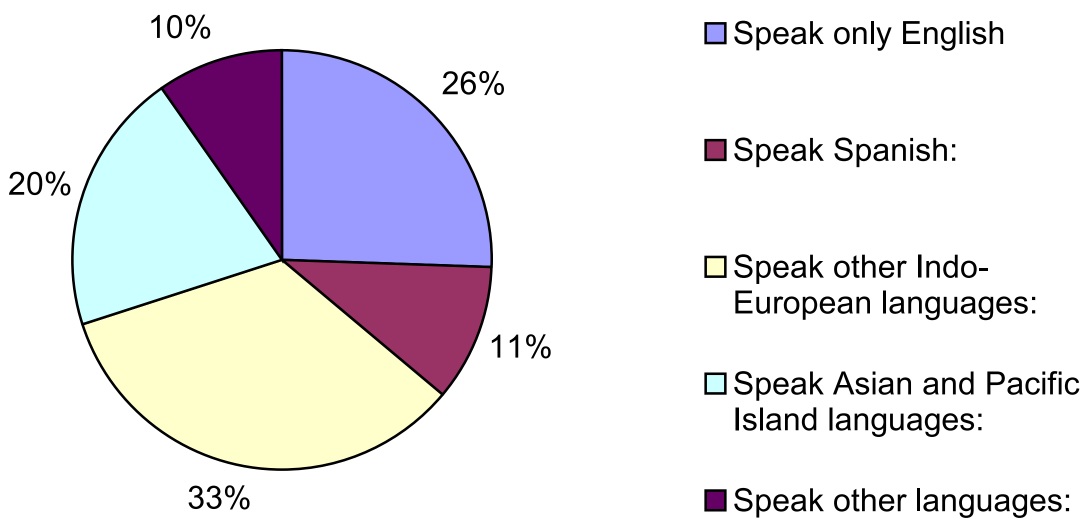


Figure 17. Languages Spoken by Immigrant Populations in Ohio.



Total Population 333,271

US Census 2000

Ordering Systems and Technology

All of the respondents employed multiple distributors utilizing each for specific products. Respondents indicated while a local foods distributor need not provide all possible products, they do need to carry a comprehensive variety of choices or specialize in a few select premium products. The rise of internet technology has pressured farmers to develop web sites and shift to on-line ordering systems. However, while respondents reported using the internet for research, only five percent of respondents indicated they would like to make their purchases over the internet. Respondents emphasized the importance of speaking with a live person and having some sort of relationship with their supplier. The vast majority, 95 percent of respondents preferred a phone and fax ordering system.

Respondents were inclined to prefer a system where farmers or a distributor faxes an availability and price list each week to the potential buyer. Some respondents preferred the seller to follow up with a phone call while others preferred to personally initiate the ordering process with a phone call. All respondents preferred to be called in the afternoon hours, restaurants preferred to be called after lunch and before dinner between the hours of 2-5 pm. Boxes and packaging account for a considerable percentage of production and delivery costs. In order to alleviate that cost, 89 percent of respondents claimed the ability to accommodate reusable boxes for farmers and actually preferred to because it reduces their waste disposal costs.

All respondents demonstrated flexibility stating a mutually agreeable ordering system would be easy to work out when the opportunity arose to purchase local products. Having a web site may increase the chances of being contacted by a buyer, but maintaining a customer will require personal interaction. A phone and fax system may mediate some impediments buyers have faced when trying to reach growers across e-mail. There have been reports of farmers who have given out an e-mail address but never check their e-mail. After several attempts through e-mail, buyers finally call the farmer only to hear *"e-mail is not a good way to get a hold of me, I never check it."* Seemingly harmless mix-ups may cost a farmer an important buyer. Therefore it is necessary for growers and distributors to create clear and honest communication channels.

Regional Variation

Quantitative and qualitative responses indicated slight regional differences in taste and interest in local and organic foods within Ohio.

Akron – Restaurants and retailers demonstrated a high interest in purchasing local and organic foods. A wide range of consumers interested in the health attributes of fresh and sustainably grown foods combined with an increasing number of Indian and Middle Eastern residents living in the region provide ample market opportunities. However, the region is characterized by residential sprawl which can create high delivery and advertising costs for independent farmers.

Cincinnati – Restaurants and retailers had an extremely high interest in purchasing local and organic foods. High end restaurants were well networked with local farmers through the Findley Farmers Market and through the region's informal Chef's Collaborative Chapter. Respondents indicated great interest in local and organic foods. Restaurant respondents spoke of the transformation emerging within Cincinnati's dining culture. An influx of independently owned restaurants and new chefs are increasingly incorporating farm fresh foods as essential ingredients.

Cleveland – Respondents demonstrated high interest in local and organic/low input foods. Farmers cooperatively marketing their products to restaurants have found great success and receptivity. A dense urban region with a strong regional identity combined with a highly diverse population provides for rich market opportunities in multiple venues. Farmers cooperatively partnering to market and distribute products have demonstrated the effectiveness of small networks.

Columbus - Restaurants and retailers had a high interest in local and organic foods, however, their demand was often not met. Columbus restaurants had less access to local growers compared to Cincinnati and Cleveland where stronger farmer-chef networks were in place. Increasingly upscale and diversified populations are providing opportunities for local growers, however, efforts to increase linkages between these groups are necessary for continued development.

Toledo- Overall compared to other regions Toledo respondents were as likely to be interested in local foods but less likely to be interested in organic foods. Obvious exceptions to this trend existed amongst natural food groceries and co-op stores. The vast majority of restaurants did not purchase local and had little interest in organic foods. Toledo maintains one of the largest Middle Eastern populations in Ohio and a significant Hispanic population– that could potentially provide important market opportunities for local farmers. Some of Toledo's ambivalence towards local and organic foods may be explained by the fact Northwestern Ohio farmers have traditionally grown for a contract or export market. Previous markets circumvented the need for urban direct marketing initiatives. However, increased imports from Central and South America combined with the loss of contracts, processing facilities and depressed commodity prices have weakened local farming communities that are unaware of new market opportunities. Direct marketing initiatives like the Erie Street Market have provided an important economic stimulus for the city of Toledo and participating farmers. Unlike other regions of Ohio, many northwest and north coast farmers own large tracts of land, are experienced large scale vegetable producers and have dealt with seasonal and migrant labor. With structural support these farmers could potentially transition into sustainable local food system production and continue to increase economic impacts by working with locally based independent distributors to help feed the state of Ohio.

Summary & Future Directions

Surveys among Ohio's restaurants and food retail outlets revealed a genuine interest in purchasing local foods produced organically or sustainably with minimal inputs. However, access to information and products has prohibited significant market growth. Efforts to create a local food system in Ohio servicing the restaurant and food retail outlet markets have been limited due to the lack of infrastructure and lack of formal grower networks able to effectively communicate with buyers and consumers, produce enough volume to service these market demands, and reliably market and distribute their products.

To be successful a local food system requires the following attributes: 1) Farmers to have business skills that will allow them to analyze current market conditions and trends, manage their resources to maximize their economic, environmental and social conditions; 2) Growers engaged in production techniques that continue to increase economic viability, enhance fertility and overall farm profitability; 3) Consumers, retailers, and chefs to be aware of the variety of local foods available and how they can take part in the local food system; 4) Signage and labels demarcating locally grown (in-state and region) foods distinct from imported foods; 5) A packing and distribution system in accordance with USDA Hazard Analysis and Critical Control Points (HACCP) regulations required for serving restaurants and food retail outlets; 6) Locally-based brokers able to mediate the demands of buyers with the supply capabilities of growers; 7) A delivery system capturing an economy of scale providing a fair price to consumers and a fair wage to the growers, that ensure a reliable quality, quantity and flow of products; 8) Growers, non-profit special interest groups, local economic development boards, universities and government institutions networked to provide support, structure and programming to growers and consumers as regions transition towards local food systems.

For farmers to successfully transition into local food systems non-profit organizations, special interest groups, private businesses, chambers of commerce local, state and academic institutions must work together to provide research-based materials enabling growers to develop strategies for: seed variety selection, planting schedules, crop rotation, maintaining fertility, locating markets, approaching buyers, pricing products, grading systems, packing units and standards, and delivery schedules providing quality, quantity, and flow of products that will satisfy market demands. A local foods system also requires a successful agri-foods network to coordinate local supply chains that encompass reliability, openness, honesty, power balance and direct communication within the producer group but also maintain vertical and horizontal linkages with: local buyers, independent distributors, non-profit farmer interest organizations, local and regional economic offices, academic, state and federal institutions (Jarosz 2000).

The role of linkages directly relates to the vital function networks play for small businesses by producing ‘bridging relationships’ that provide information, facilitate diffusion of innovations, and create access to capital. (Goodman & Goodman 2001; Uzzi 1999). Network linkages in a local food system rely on social embeddedness, a sociological theory explaining how social structures affect economies and economic relationships (Granovetter 1985; Henrichs 2000; Jarosz 2000). Networked businesses are embedded in social relationships with other businesses and organizations that create bonding relationships based on trust, shared norms and values, and expectations of fairness and reciprocity. The ability to communicate allows networked business to have a competitive advantage in the marketplace by customizing products to better suit buyer tastes and preferences (Grabher 1993; Human & Provan 1996; Perry 1999). Studies by Malecki and Tootle (1996) and Besser, et al. (1996) found compared to non-networked businesses, networked enterprises have far reaching backward linkages, are more likely to engage with other local businesses and local service providers, are more likely to provide stable employment, better working conditions, and be involved with community organizations as community leaders and benefactors. The strength of weak ties documented by Grnovetter (1973) demonstrated organizations that have more ties in their periphery were able to change faster and coordinate with those that don’t. Implying that it is not compulsory for organizations to be tightly overlapping in order to share information but they must have some form of communication in order to benefit from the advantages of networking.

The idea of networks between growers generally infers some joint marketing and distribution system, often in the form of an agricultural cooperative. Traditional cooperatives have a poor success rate in Ohio, resulting in a persistent distrust for the structure among farmers. However, an IFO and OEFFA survey (2002) demonstrates farmers are recognizing the limitations of independent marketing and distribution and may be more willing to participate in alternative cooperative structures. Farmers may decide not to sell direct for a variety of reason including: inappropriate farm location, low turnover of product, marketing and capital needs, complexity of health and hygiene regulations. Studies by Verhagen & Huylenbroeck (2001) document the strength of cooperative models by analyzing the costs and benefits for Belgian farmers participating in innovative cooperative marketing channels. Research revealed farmers in a co-operative venture were able to counteract the time, labor and skill obstacles faced by independent farmers or those not suited for direct-marketing ventures. Cooperative forms of organization provided groups the time and labor to take advantage of networks, promote innovations, organize a quality insurance system, guarantee a surplus price which reduces price uncertainty. Researchers found livestock, dairy and vegetable growers were more willing to join the "cooperative marketing channel" because of the higher prices incentives.

Ohio can achieve a profitable local food system that retains farmland and promotes economic growth by utilizing the principles of networks and linkages to:

- Increase funding and support for producer and worker owned processing, packaging and value-adding facilities.
- Foster relationships between local distributors and local farmers in order to aggregate product and facilitate distribution efficiencies.
- Assist with 'Ohio' label development and procurement of shelf space.
- Promote and enhance direct marketing initiatives including farmer's markets, CSA's and U-pick operations. States like New York actually have farmer's markets at every rest stop along the New York State Thruway, examples of other regional and state 'buy-local' campaigns are provided in Appendix B.

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Bibliography

Akron University. 2001. "Northeast Ohio Food Distribution Marketing Initiative." Business Research Methods. Fall.

Akron University. 2002. "Opportunities For Ohio Family Farmers In Marketing Organic Produce." Business Research Methods. Fall.

Ballenger, N., Blisard, N., Cromartie, J, David, D., Golan, E., Harris, J.M., Bling-Hwan, L., Martinez, S., Pompelli, G., Regmi, A., Stewart, H., and J.N. Variyam. *FoodReview: Consumer- Driven Agriculture.* USDA Economic Research Services. 25 (1).

Bergefurd, B.R., Wall, T., and J.R. Linder. "Identification of Ohio Produce Buyers' Preferences for Ohio grown Vegetables." Exploring Economic Opportunities. Ohio State University Extension Enterprise center, Ohio State University Piketon Research and Extension Center. http://southcenters.osu.edu/hort/ec/buyer.htm Accessed 8/03

Davis David, and Hayden Stewart. 2002. "Food Trends." *FoodReview: Consumer Driven Agriculture.* 25 (1):

City of Columbus. 2003. *City Statistics.* http://www.columbus.org/home.html

Economic Research Service (ERS) U.S. Department of Agriculture. *Ohio State Fact Sheet.* http://www.ers.usda.gov/StateFacts/OH.htm accessed 12/02/02

Faulkner, Annie. 2001. "Solutions to Sprawl: The Limits to Smart Growth." *Population Coalition Press.* http://www.popco.org/press/articles/2001-2-faulkner.html. Accessed 8/20/03

Granovetter, Mark S. 1985. "Economic Action and Social Structure: The Problem of Embeddedness." *American Journal of Sociology.* 91 (3): 481-510.

Goodman, David and Michael Goodman. 2001. "Sustaining Foods: Organic Consumption and Socio-Ecological Imaginary." Pp. 97-119 in *Exploring Sustainable Consumption: Environmental Policy and The Social Sciences,* edited by Maurie Cohen and Joseph Murphy. Oxford: Pergamon.

Goldstein, Don and Terrence Bensel. 2000. *Conservation Marketing of Agricultural Products in the French Creek Valley.* Meadville, PA: Allegheny College. Report Completed for The Nature Conservancy – Central and Western New York Chapter.

Henrichs C. 2000. "Embeddedness and local food systems: notes on two types of direct agricultural markets." *Journal of Rural Studies.* 16:295-303.

Innovative Farmers of Ohio and Ohio Ecological Food and Farming Association. 2002. *Producer Survey*. May.

Jones, P., Clarke-Hill, C., Shears, P., and D. Hiller. 2001. "Retailing Organic Foods." *British Food Journal.* 103 (4/5): 358-365.

Malecki, Edward J. and Deborah M. Tootle. 1996. "The Role of Networks in Small Firm Competitiveness." *International Journal of Technology Management.* 11 (1/2): 43-57.
National Agriculture Statistics Service. 2002. http://www.usda.gov./nass/pubs/pubs.htm. Accessed 5/02/03.

Marshall, Alex. 2000. *How Cities Work: Suburbs, Sprawl and the Roads Not Taken.* Austin: University of Texas Press. 243 p.

New York City Fire Department. 2003. *Population and Land Information.* . www.nyc.gov.html/fdny/html/home2.shtml

Ohio Proud. 2000. Consumer Recognition of Ohio Proud Products. Ohio Proud Conference. February 15, 2001.

Ratcliff, Lydia. 2002. Fancy Meats from Vermont. Andover, Vermont. Phone Interview. 8/16/02.

Reicks, M., Splett, P., and A. Fishman. 1999. "Shelf labeling of organic foods: customer response in Minnesota grocery stores." *Journal of Food Distribution Research.* 30 (2): 11-23.

Rzewnicki, P. 2000. Ohio organic producers: final survey results. Special Circular 174 Ohio Agricultural Research and Development Center in partnership with Ohio State University Extension.

Robinson, R., Murray, H., Ennis, J., and C. Smith. 2002. "Promotion of Sustainably Produced Foods. Customer Response in Minnesota Grocery Stores." *American Journal of Sustainable Agriculture.* 17(2): 96-104.

Sears, Steve. 2003. Interview at the Ohio Ecological Food and Farming Association Board Meeting. Malabar Farm State Park. August.

Sharp, J., Lobao, L., and M. Bean. 2002. *Ohio Survey of Food, Agriculture and Environmental Issues, Brief Summary of Project and Findings, draft form.* Presented12/04/03.

Sprawl Attacks. 1997. Fact Sheet of Zero Population Growth, Inc. Washington DC.

United States Census Bureau. 2000 Statistics. State and County Facts – Ohio. http://census.gov/qfd/states/39000.html. Accessed 5/02/03.

United States Department of Agriculture Agriculture Marketing Service, Farmers Markets. http://www.ams.usda.gov/mnreports/NX_FV057.tx

Uzzi, Brian 1999. "Social Relations and Networks in the Making of Financial Capital." *American Sociological Review.* 64 (4): 481-505.

Van Ravenswayy, E.O. 1997. *Using Eco-labeling to Encourage Adoption of Innovative Environmental Technologies in Agriculture.* East Lansing, MI: Department of Agricultural Economics Staff Paper No. 97-19 (June).

Walz. E. 1999. Final results of the Third National Organic Farmer's Survey. Organic Farming Research Foundation. 126pp.

Appendix A – Examples of Alternative Produce Varieties

Arugula
Alfalfa
Baby Carrots
Baby Squash *(Sunburst, Starship, Light Green Scallop, Zucchini)*
Bittermelon
Bok Choy
Broccoli Rabb
Brussels Sprouts
Bush Beans *(Green, Yellow and Purple Varieties)*
Cauliflower
Celeriac
Celery
Cherymonia
Chicory
Collards
Cress *(Curly Cress, Upland Cress, Watercress, Wrinkled-Crinkled Cress)*
Cucumbers
Daikon
Edamame
Eggplant
Eggplant *(Calliope, Green Giant Early, Neon, Orient Charm, Machiaw, Louisiana Long Green)*
Elephant garlic
Endive
Escarole
Ethnic & Specialty Hot Peppers *(Carribean Red-Habenero, Cherry Bomb, Habnero, Paper Lantern, Hungarian Hot Wax, Paprika Supreme, Thai Dragon)*
Ethnic & Specialty Sweet Peppers *(Antohi Romanian, Apple,Biscayne,Italia,Lipstick)*
Exotic Mushrooms
Fava Beans
Fennel
French Bush Beans *(Cherie, Maxibel, Normandie)*
French Radishes *(D'Avignon and White Icicle)*
Fresh Edamame
Garlic
Green Jalapenos
Kale *(Green and Red varieties)*
Kyuri
Leeks
Long Beans
Melons *(French Charentais, Sun Jewel, Muskmelon, Cantalope, Honeydew, Watermelon)*
Mesculin Mix
Mizuna
Moo
Okra
Opo (Long Squash)
Parsnip
Peas *(Snow, Shell, Sweet)*
Potatoes *(All Blue, All Red, Gold Rush, Dark Red Norland, Yukon Gold, Fingerling, Banana)*
Radish, Specialty *(Daikon, Nero Tondo - Black Spanish, Red Meat, Shunkyo - Semi-Long)*
Red and Green Leaf Lettuce
Red Beets *(Big Top, Bull's Blood, Early Wonder, Red Ace)*
Rutabaga
Snow Pea Shoots and Flowers
Southwestern Chili Peppers *(Conchos, Tiburon/Ancho, Anaheim Chili, Serrano)*
Speciality Carrots *(Golden Yellow and Purple)*
Shallots and Onions
Specialty Beets *(Red, Chioggia, Forono, Golden Beet, White Beet)*
Spinach
Sprouts *(Broccoli, Buckwheat, Canola, Daikon Radish, Mung Bean, Mustard, Onion, Sunflower, and Red Clover)*
Summer Squash *(Cousa- Middle Eastern Squash, Sunray, Zephyr)*
Sweet Bell Peppers *(Red, Yellow and Orange varieties)*
Swiss Chard *(Bright Lights)*
Tatsoi
Thai Eggplants *(kermit)*
Turnips
Winter Squash
Zucchini *(Costata Romanesco, Gold Rush, Hurricane, Reven, Revenue)*

Herbs

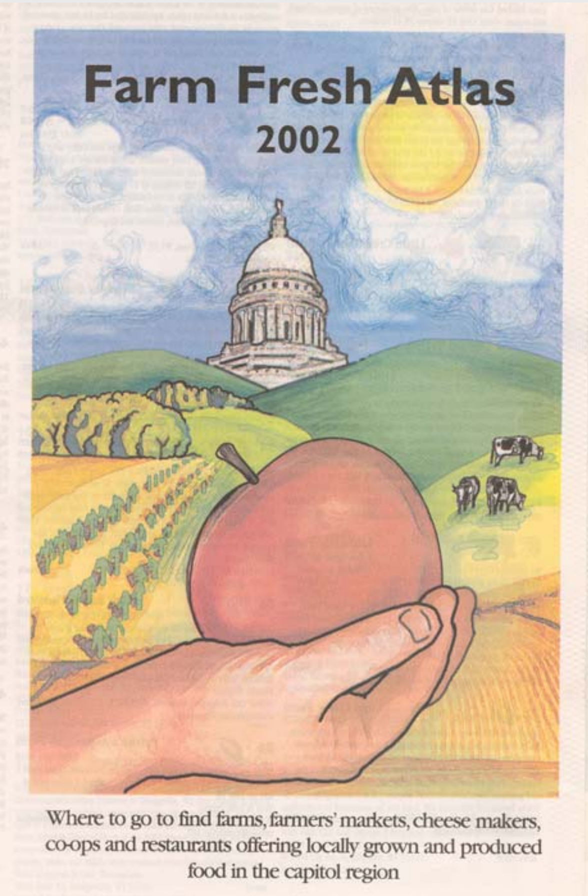
Anise
Arrugula
Basil *(Cinnamon, Purple, Thai, Genovese*)
Celeriac
Chervil
Chives
Cilantro
Dill
Horseradish
Lemon Grass
Marjoram
Mint
Oregano
Rosemary
Sage
Salsify
Savory
Sorrel
Tarragon
Thyme

Appendix B. Examples of State and Regional Local Food Campaigns and Promotions

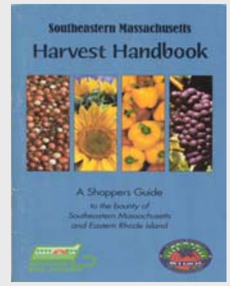
Alaska

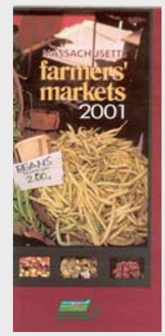
Texas

Madison, Wisconsin



Western Massachusetts





Quebec, Canada

Appendix C