EVALUATING THE INTERACTION BETWEEN EXTENSION EDUCATORS AND URBAN FARMERS IN THE KANSAS CITY METROPOLITAN AREA

by

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Abstract

With the increasing popularity of urban farming, more people are seeking resources to start their own farming/growing production in urban environments. Traditionally, county Extension educators are a key resource for beginning farmers and growers. However, urban Extension offices are often overlooked as resources in the urban farming planning process. The objectives of this study are 1) identify information urban farmers currently have, information they need, and their preferred delivery methods 2) look at the resources and information that are offered by local Extension educators in the KC metro area and 3) analyze how these two groups are communicating and what could improve to meet farmers' needs.

This project evaluates current interaction between urban farmers and Extension educators in the Kansas City area through a two-pronged approach: a written mail-out questionnaire for urban farmers and growers in the Kansas City metropolitan area and through in-person one-on-one interviews with Extension educators that emphasize topic areas related to urban agriculture in the KC area.

One hundred and nineteen farmers/growers were surveyed, and a 54.6% response rate was achieved. The majority of farmers had small, diversified farms and were relatively new to farming. Respondents were primarily older, white men that had higher education. Independently-driven sources (such as self-research, other farmers, and friends/family) were most commonly used sources among farmers. Overall, respondents ranked Extension highly in terms of information quantity, quality and as their "go to" source.

Extension educators from Kansas State University, University of Missouri, and Lincoln University were interviewed one-on-one using scripted interview questions to determine topics and medias of information that are currently being offered. Production and processing information is offered the most by educators followed by distribution, equipment, and marketing information. Financial information was the least offered information topic. Extension educators use a wide variety of methods to distribute information. Most Extension educators are aware of benefits and barriers relating to urban agriculture in the KC metro area. Extension educators are addressing urban agriculture in varying degrees and the level of involvement corresponds to the Extension institution.

Table of Contents

List of Figures

List of Tables

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Chapter 1 - Study Introduction and Literature Review

Over the past 20 years, there has been increased interest in consumers making conscious decisions about food and reconnecting with where food comes from. With this trend, there has been an increased interest in urban agriculture across the country. Urban agriculture has many definitions, but for our purposes it can be considered "the growing, processing, and distributing of food and other products through intensive plant cultivation and animal husbandry in and around cities" (Bailkey & Nasr, 1999).

People who take part in urban agriculture and sell their food in and around cities are considered urban farmers. Many of these urban farmers are typically new to farming with little to no previous experience growing food on a profitable scale. With the majority of the US' farmers nearing retirement, these new urban farmers may be part of our next generation of farmers. In order for them to succeed, however, they need reliable farming information dealing with many aspects ranging from production to marketing to farm finances. Yet, finding reliable information in the technology age can be difficult with every website, twitter member, and blog offering information that could be inconsistent, incorrect, or inappropriate for local growing conditions.

Cooperative Extension is a branch of all Land Grant Universities whose mission it is to provide non-biased research-based information to the general public. Extension takes research from land grant universities and makes it useful and relatable to the everyday person. When Extension was created in 1914, it had a very heavy emphasis on agricultural information dissemination.

Extension is still a trusted source of agricultural information in rural areas where there is a long history of agriculture. However, in urban environments, there is less awareness or knowledge of Extension. In these areas, Cooperative Extension educators in the past have focused on issues less related to agriculture and more related to ornamental plants, lawns, and small scale flower and vegetable gardens.

Cooperative Extension has a long history with and many resources regarding small-scale farming and farm business information, both of which are needed by urban farmers in order to be successful. While Extension is struggling to be known and recognized as a resource in urban environments, urban agriculture could be a new direction that Extension could emphasize to serve community needs and become a well-known educational presence.

Academic research has been conducted with both urban farmers and Extension resources, but there are no published studies of looking at the interaction *between* urban farmers and Extension regarding farming information. Looking at this interaction will allow us to better understand what kind of relationship currently exists between these two groups and see the kinds of resources that are offered to this new and growing field.

Specifically, we want to look at urban agriculture and Extension interactions within the Kansas City metropolitan area. This area is the closest metro area with the most diversity in urban agriculture producers. It is also unique in that is has three Extension institutions with different outreach structures present and addressing urban agriculture.

This chapter reviews relevant literature concerning the history and perceived roles of Cooperative Extension services, the history of urban agriculture and non-profits, a demographic overview of the Kansas City metropolitan area, and an explanation of current urban agriculture ventures, Extension services, and non-profits addressing urban agriculture in Kansas City.

Cooperative Extension

Cooperative Extension is part of the national land-grant university system. Every land-grant university has Extension agents that live and work in counties around the state. Extension was created to educate people by offering research-based, reliable information from the university through formal and informal educational settings. Extension typically fits most of its educational programing into one of four areas: agriculture, community development, 4-H and youth development, and family and consumer sciences.

History of Cooperative Extension

Extension started its long history in the United States on May 8, 1914 when the Smith-Lever Act was signed and Cooperative University Extension came into existence. Extension was meant to be the arm of land-grant universities that educated the general public. This community education was meant to be done using informal methods such as demonstrations, publications, and personal interactions. However, this method of public education was not invented by land grant universities but instead was the brainchild of Dr. Seaman Knapp. Knapp started a cooperative extension service in southern states in 1900 in order to give farmers real demonstrations of how new growing practices worked. It was not until 1909 that land grants' started trying to pass legislation to create an Extension service of their own (McConnell, 1959).

Extension's initial mission was to show the practical applications of existing or improved practices (Smith-Lever, 1914). Extension work was originally intended to focus on information about agriculture, home economics, and rural energy (Smith-Lever, 1914), however over the years, these original focus areas have evolved as Extension's target audience has changed.

During World War I, Extension played a role in helping farmers increase their production of widely used crops, especially wheat. Extension did this by teaching better production methods and distributing local allocations of fertilizer and farm machinery from the Department of Agriculture to farmers. County Extension agents also taught farm and urban homemakers and boys' and girls' clubs how to preserve excess food and encouraged people to grow home gardens. Through these measures, Extension helped people grow and preserve food that went towards the military effort (Rasmussen, 1989).

After WWI, beginning in the summer of 1920, farming underwent a 14 year depression. During this time, Extension agents urged farmers to diversify farms, use more efficient production methods, and market wisely (Rasmussen, 1989).

During the 1930s, Extension was one of many organizations that helped deal with the impacts of the Great Depression on farming and rural areas. Up until this point, Extension was the most well-known agency representing the United States Department of Agriculture (Warner and Christenson, 1984)

During World War II, Extension once again had a large role in helping farmers and farm families increase production that was essential to the war effort. Extension also led a large effort to teach families to preserve food, maintain household equipment, and ration food and other materials for the war effort (Rasmussen, 1989).

After WWII, Extension began emphasizing improved farming practices such as fertilizers and pesticides to increase production (Rasmussen, 1989). The organization also began to teach about increased efficiency and expansion of resource bases. This led to production surpluses and an abundance of lower cost food (Warner and Christenson, 1984).

Because of the abundant food supply and growing urban populations in the 1960s, Extension began to focus some of their efforts on low-income groups, minority populations, and urban residents as a whole. In the 1980s legislation was enacted to expand Extension's role and include topics such as nutrition education, gardening, community development, and energy (Warner and Christenson, 1984).

Extension in Recent Decades

As Extension moves through the years, its role, clientele, and emphasis areas change and adapt to local needs. Extension has a unique flexibility that places local needs at the center of local programing efforts. As Warner and Christenson (1984) explain "Extension prides itself in its responsiveness to local needs and priorities. As a voluntary educational institution, programs must appeal to local needs in order for Extension to maintain clientele." Meeting the needs of the local community is the top priority of Extension. It is also essential to the organization to meet community needs as the interests, demographics, and location of communities change. Because Extension's main goal is to meet local needs, few Extension institutions track programing changes over time. For the purposes of this project, upper Extension administration for Kansas State University was contacted directly and no reports tracking the shift in K-State Extension programing emphasis areas through the years were found.

The funding structure of Extension plays a large role in its responsiveness to local needs. Extension is funded by federal, state, and county governments, as well as public grant money (Prawl et al., 1984). County funds come from county taxes, so it is imperative that county Extension agents meet local needs so that they will continue to receive funding.

Urban Agriculture

In the past couple decades, a growing trend has emerged of people recognizing the importance of local food systems (Thomson et al., 2006). Local food systems are those in which foods are grown, produced, processed, and distributed locally (Thomson et al., 2006).With the growth of local food systems, people are becoming increasingly interested in producing local food, particularly within urban or peri-urban areas. Although there are many different definitions of urban agriculture, one of the most popular is that urban agriculture is "the growing, processing, and distributing of food and other products through intensive plant cultivation and animal husbandry in and around cities" (Bailkey & Nasr, 1999). Urban agriculture can include, but is not limited to, things like community gardens, individuals or groups of people growing food and selling to consumers, youth gardens, and job training programs that focus on growing food. Growing produce, aquaculture, urban beekeeping, backyard chickens, and small livestock are all examples of practicing urban agriculture.

History of Urban Agriculture

Urban agriculture and growing food in the city has a long history globally and in the United States. In the US, many times community gardens and urban farms were started in times of economic downturn, urban decline, educational reform, war, or local activism (Lawson, 2005).

In the early 20th century, vacant lot cultivation associations were formed to aid the unemployed by giving them work and the ability to grow food for sustenance. These associations were started by municipalities that loaned out small parcels of vacant land, provided seeds, and instructed participants in several languages. Large cities like Detroit, New York, and Philadelphia started these programs and continued them until the economy improved (Lawson, 2005).

With the United States' participation in World War I, home and commercial gardens boomed. All farm grown food was being exported to help elevate Europe's food shortage, so growing on the homefront was a necessity for citizens stateside. Gardens were pervasive in all parts of the community, from backyards to gas station lawns to railroad right of ways (Lawson, 2005). In was reported that in 1918 alone $525 million worth of food was produced by 5.29 million gardeners (Lawson, 2005).

During World War II Victory Gardens were encouraged by the government funded program Food Fights for Freedom campaign, encouraging people to grow food for home consumption and instilling a sense of patriotism and support. In 1944, Victory Gardens were estimated to have grown 42% of the nation's vegetable supply. Gardens increased the security of the food system during the war. After the war was over, some efforts were made to continue the effort as Freedom Gardens, but interest decreased over time (Lawson, 2005).

In the early 20th century concerns were being raised by city planners about the health and safety of intensive agricultural production, such as livestock production and meat processing. These planners were using new zoning laws to move these facilities out of cities. By the 1950s, many of the zoning codes in cities no longer recognized farming as a land use. Residential development had acquired what agricultural land that had once been in the cities and most modern city planners did not think agriculture was part of the city landscape. With the increased use of pesticides and fertilizers that bolstered industrial agriculture production, the need of local food production was greatly diminished (Hodgson et al., 2011).

Starting in the 1970s, the community gardening movement began branching out of peoples' increased interest in connecting communities, protecting the environment, and responding to urban abandonment (University of Missouri Extension, 2011 and Lawson, 2005). In 1976 the USDA sponsored the Urban Gardening Program that eventually established offices in 23 cities to help promote fruit and vegetable gardening. The American Community Gardening Association was formed in 1978 as a national non-profit organization that promoted community gardens around the country (Lawson, 2005).

In the early 1990s the goals of the community gardening movement started to pull in different directions. There were several advocates of the American Community Gardening Association that wanted to broaden its mission to include more community development, social justice, education, and environmentalism. These advocates also suggested changing the ACGA name to the American Community Greening (instead of gardening) Organization. The ACGA decided to keep its original name but revised its vision statement to be more inclusive towards environmentalism, social justice, and education while continuing to focus on helping people grow food in cities (Lawson, 2005).

When the ACGA sent out two surveys in 1990 and 1996, they saw an increase in community gardens from 2,329 to 6,020 gardens with the most common garden type being the neighborhood garden where households could have access to common land and could grow plants and flowers (Lawson, 2005). These surveys also found that the most common reason gardens were not long lived was because gardeners' lack of interest in continuing the project, loss of support from a public agency, and loss of land to a private developer. Although some gardens were facing difficulties to continue, the trend of community gardening was still on the rise (Lawson, 2005).

Urban Agriculture in Recent Decades

Today local, city-based organizations operating as tax-exempt nonprofits are guiding the urban agriculture movement in cities across the country. These organizations are involved in city-wide gardening programs, youth education programs, business incubator farms, job training programs, advocating for policy changes, and creating networks of small growers (Hodgson et al., 2011). These nonprofit organizations are being created and maintained throughout the country. Organizations like P-Patches in Seattle, Growing Power in Milwaukee, Earthworks

Farm in Detroit, and Cultivate Kansas City in Kansas City are becoming well known throughout their respective regions as critical resources for urban farmers.

Along with the growth of organizations, gardens and urban farms are becoming more popular as well. There are currently an estimated 18,000 community gardens throughout the United States and Canada that are growing food and flowers for various purposes (American Community Gardening Coalition, 2013 and Harms, 2013). Although there is not a national survey looking at increases in urban farms, the growth of urban farms in the Kansas City area have been tracked and will be discussed later in this chapter.

Information Needs of Urban Farmers

Many surveys with urban farmers and gardeners have been conducted. Many of them address the role of community gardens, demographics of gardeners, and the social and economic benefits of participating in urban agriculture. However, direct measures of urban farmers' information needs are very limited. Varlamoff et al. (2002) measured homeowners' current and preferred sources of information while Harms (2011) surveyed the information needs of urban farmers as it relates to soil contamination and soil health issues. Other measures of information areas concerning urban farmers are unpublished. The Vancouver Urban Farming Society is currently collecting data looking at best practices for urban farmers (City Farmer, 2013b) while New York University, Pennsylvania State University and the National Center for Appropriate Technology are currently conducting a study examining urban and peri-urban farmers' information and production needs (City Farmer, 2013a).

Since there is a lack of research literature regarding information needs for urban farmers, the closest estimate would be to look at small-scale farmers and non-traditional farmers such as organic producers. Although there are no publications looking at the average profile of urban farmers selling for profit, it is widely estimated that many of them do not produce on large amounts of land and are more inclined to use organic or other alternative and innovative practices.

The abundance of knowledge available to farmers, both from public and private sources, has grown dramatically in the last few decades, while becoming increasingly helpful and valuable to these farmers (Suvedi et al., 2000). Applicable information is especially needed by small-scale farmers, which most urban farmers are considered. The 2007 U.S. Agriculture

Census found that small farms (those that had annual gross sale less than $250,000) represent about 91% of total U.S. farms. About 71% of total U.S. farms have annual gross sale of less than $25,000 (U.S. Ag Census, 2007). Muhammad et al. (2009) states small-scale farmers are not able to keep up with rapid economic and technological changes because they do not have the funds to invest in the newest or most efficient equipment. These farmers may need to pursue innovative approaches to further diversify their operations and marketing strategies. It follows then that Extension services should start to cover more innovative farm practices aimed towards these small-scale farmers, such as goat farming, mushroom production, and organic certification (Muhammad et al., 2009). Indeed, Muhammad et al. (2009) found that between 23.5 – 75.9% of small-scale farmers surveyed expressed interest in these alternative farming practices. The same surveyed farmers cited that cost-benefit analysis, identifying niche markets, and efficient production and management techniques were needed to enhance the adoption of these practices.

In a survey by Suvedi et al. (2000), producers who use innovative methods or equipment were less satisfied with Michigan State Extension's informational resources, educational programs, and specialists. It is possible that these opinions sprout from the perception that researchers haven't fully considered the research needs or priorities of non-traditional farmers, instead resorting to a one-sided communication system (Suvedi et al., 2000). In addition to the problem of one-way communication, the organic farming community is often not given as much attention as conventional farming due to the perception that it is an alternative farming method. Middendorf (2007) found that Extension, county agents, and local cooperatives have been rather unhelpful to organic farmers in the plains area of Kansas because these sources have little knowledge regarding organic practices.

Areas that farmers often request more information in are marketing, farm economics, business management, risk management, and more in depth practice instruction (Suvedi et al. 2000; Muhammad et al., 2009; Diekmann & Batte, 2009; Middendorf, 2007). Diekmann & Batte (2009) conducted a mail-out survey of over 1000 Ohio farmers to understand their preferred information. They were looking specifically at information regarding farm production, farm economics, environment/conservation, family issues surrounding a farm business as well as usage and frequency of use of various information sources. Results showed that Ohio farmers preferred information from Extension services regarding crops, livestock, farm economics, and environment and conservation.

Middendorf (2007) held focus groups with organic farmers and farmers interested in transitioning to organic methods to explore their information needs. Middendorf found that organic farmers preferred more research and information regarding inputs through production, processing, manufacturing, distribution, retail and consumer patterns, and growing information that is specific to local/regional climates, soils, and pest cycles.

Suvedi et al. (2010) surveyed over 1,500 Michigan cash crop, vegetable, fruit, nursery and greenhouse, beef, dairy, and swine farmers about their familiarity with Extension, their information needs, and their perception of Extension programs. Results showed that marketing, business management, and farm economics were topics of the most interest amongst Michigan farmers.

Small-scale farmers in Tennessee and North Carolina were interviewed face-to-face by Muhammad et al. (2009) about their interest and information needs to adopt innovative techniques such as organic methods or mushroom production. Farmers in this study ranked development of marketing skills, food safety practices, regulations, and requirements for alternative farming practices helpful in diversifying their farm operations.

Ways to Access Information

Different farmers prefer different types of communication and access to information. Diekmann & Batte (2009) found in their survey of Ohio farmers that collectively farmers prefer print media and interpersonal sources when gathering information for their farm methods. Collectively, Michigan cash crop, vegetable, fruit, nursery and greenhouse, beef, dairy, and swine farmers preferred more interpersonal interactions with Extension agents over news bulletins or newsletters (Suvedi et al., 2010). Small-scale farmers in Tennessee and North Carolina preferred internet resources and on-farm demonstrations (Muhammad et al., 2009).

Interaction of Extension and Urban Agriculture

As urban agriculture and urban farming become increasingly popular, reliable easily-accessible information sources are necessary to ensure the success of novice growers (Muhammad et al., 2009). Traditionally, county Extension offices would specialize in farming information in rural areas, while specializing in lawn care and ornamental plants in urban areas (Brown, 1965). However, as more small-scale vegetable production moves to the city, Extension

educators in urban areas have to adapt their programing and resources to suit new community interests (Brown, 1965).

Extension educators can be a wealth of knowledge, offering expertise on food production, food processing, food marketing, diet, and nutrition (Thomson et al., 2011). Many times, county Extension offices have resources that are useful for urban growers, but they may not be fully utilized. With the ease and flexibility that internet resources and other local educational organizations offer, it may be difficult for Extension offices to compete with other forms of information, particularly with newer, more innovative operations or techniques (Suvedi et al., 2010; Muhammad et al., 2009).

Urban Agriculture Information Availability from Extension

In the past few years, several surveys of Extension agents regarding local food systems have been conducted. In these surveys, there is a large range of previous knowledge about local food systems in Extension offices, ranging from little exposure to an abundance of previous experience. This knowledge discrepancy among educators makes additional education about these food systems helpful for Extensionists. Further education about urban agriculture for educators would allow them to address questions and form programs for community members (Adams et al., 2009: Thomson et al., 2006).

Thomson et al. (2006) reported that on a recent survey of Pennsylvania State Extension educators that all 21 local food issues listed on their survey were ranked as important in varying orders. These issues corresponded to Extension educators' concerns for food access, food system viability, localization of food systems, food safety, and land use (Thomson et al., 2006). The wide range of knowledge, previous experience, and concerns of different food issues make Extension agents versatile sources of information. If more educators are given additional information on urban agricultural processes and markets, they may become increasingly helpful in offering guidance to urban farmers.

Needs assessments of what information is most needed in the community are a very helpful tool for Extension educators. A needs assessment can be defined as the process of gathering information on a specific population or community, setting priorities, and making decisions about the development of an Extension program based on the identified needs (Harms et al., 2013). Needs assessments should also differentiate between needs, wants, and interests of

the specific population or community in question (Harms et al., 2013). Adams et al. (2009) surveyed Florida Extension educators, noting, "Needs assessments can often help Extension focus its resources on communities' most important issues." Presumably, if Extension educators know that there is a large interest or need in information related to urban agriculture, they will fashion educational materials to meet the community's needs. Although a couple of needs assessments have been done in Kansas City for the Hispanic populations regarding social, economic, and education needs (University of Missouri Kansas City, 2013) and the information needs of urban gardeners regarding soil contaminants (Harms et al., 2013), no needs assessments have focused on the information needs of urban farmers specifically in the Kansas City area.

Role of Extension in Urban Agriculture Education

The traditional model of Extension is a one way flow of information from land-grant universities through Extension offices out to the farmers and producers (Figure 1-1). In this model, Extension consists primarily of educators that offer informed, unbiased information for farmers. This model has been working since Extension services were created, and it continues to work in some situations and environments.

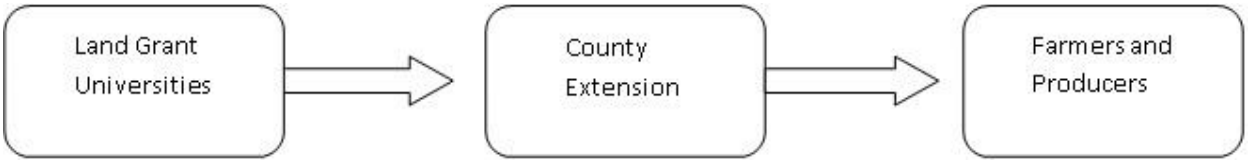

Figure 1-1: Traditional model of Extension information flow. Land grant universities research topics and send information to the county Extension educators. Extension then explains this information to farmers and producers.

In the 1970s, Farming Systems Research arose, a new model that included the farmer and the farmers' needs in the planning and research process (Figure 1-2). Farming Systems Research was initially started overseas during the Green Revolution to better help poor farmers in less developed countries (Norman, 2002). By including farmers in the research process, Extension educators could better understand the needs and challenges of farmers and design their research to meet those needs. This concept soon spread in Extension institutions in the U.S., particularly

within sustainable agriculture research. Extension agents have increasingly begun using this technique to make sure they are meeting local needs and impacting local people (Norman, 2002).

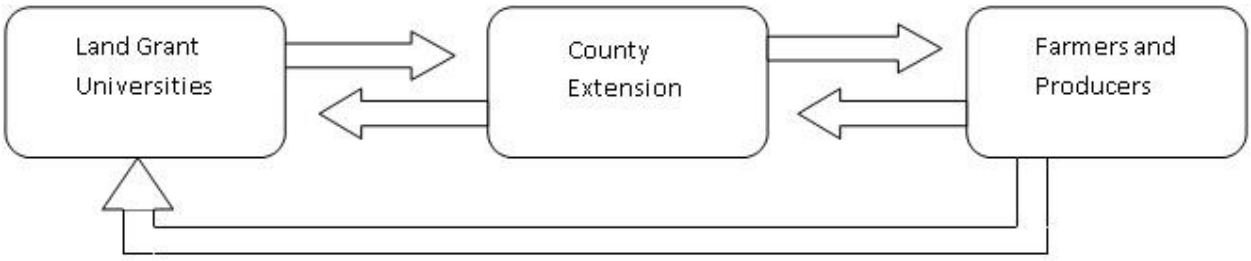

Figure 1-2: Information flow in a Farming Systems Research model. Because farmers' needs are included in research plans with this model, there is information flow in both directions from Land Grant Universities and Extension as well as Extension and farmers and producers. There is also feedback information from farmers and producers to the Land Grant Universities themselves.

In today's urban environments, many different educational organizations exist for urban farmers. Some of these may include non-government organizations, centers for urban agriculture, community schools, the farming community itself, private organizations, and consultants. Print and media resources can also be a useful educational resource for urban farmers. With so many different organizations in the urban environment focusing on farmer education, it may be possible that the educational market is over-saturated and that Extension might serve the community in a different role.

Some studies suggest that a new role for Extension will rise out of cooperation with urban farmers. Raison (2010) hypothesizes that current communities need Extension agents to be more of facilitators, interpreting information and data, and helping communities to find current strengths. Indeed, this new role for Extension educators has been seen in several projects. Keilty (1999) and Hamm (2007) noted the importance of having Extension educators involved in the development of local food systems. In both of these projects, Extension educators were members of community teams that were tasked with improving and nurturing local food systems in their areas. After the completion of these projects, Michigan State Extension educators had a better understanding, knowledge, and personal interest in urban food systems (Hamm, 2007). Some Pennsylvania State Extension educators noted that more networking with other Extension offices

in the state and region would also assist program development in local foods and urban farming (Thomson et al., 2006). By incorporating Massachusetts, Rhode Island, and Connecticut Extension agents into community teams, valuable alliances were built between land-grant universities, cooperative Extension, other agricultural related agencies, and local community leaders (Keilty, 1999).

Resource Organizations and Non-Profit Organizations

There are numerous types of organizations that can be educational or offer resources, but some of the most common are non-profit organizations. These are organizations that are religious, charitable, scientific, or educational and are tax exempt when making purchases. By having a tax exempt status, organizations are eligible for foundation and grant funding (INCITE, 2007). Tax exempt non-profits are not allowed to lobby or otherwise influence legislature (Internal Revenue Service, 2013).

History of Non-Profits

Non-profit status was originally created by Congress after income tax was instituted by the Revenue Act of 1913 (INCITE, 2007). Before this, charitable organizations were run usually by community elites and focused on remediating problems, not addressing them from a systematic level (INCITE, 2007). By 1953, there were an estimated 50,000 organizations that had received non-profit status. By 1998, there were over 734,000 tax-exempt non-profits in the U.S. alone. By 2007, there were over 837,000 total non-profit organizations, excluding religious organizations (INCITE, 2007).

The total number and the income of non-profits continue to increase. In 2009 non-profits reported $1.4 trillion in revenue with $2.6 trillion in assets. In 2012 the Internal Revenue Service recognized more than 1.6 million non-exempt charitable trusts and tax-exempt organizations (Internal Revenue Service, 2012).

Kansas City Metropolitan Area

The current Metropolitan Statistical Area of Kansas City as defined by the US Census Bureau includes 15 counties, six counties in Kansas (Franklin, Johnson, Leavenworth, Linn, Miami, and Wyandotte) and nine counties in Missouri (Bates, Caldwell, Cass, Clay, Clinton,

Jackson, Lafayette, Platte, and Ray) (Figure 1-3). For our purposes in this study, we are only looking at the nine most populated counties: Johnson, Leavenworth, Miami, and Wyandotte in Kansas and Cass, Clay, Jackson, Platte, and Ray in Missouri (Figure 1-4).

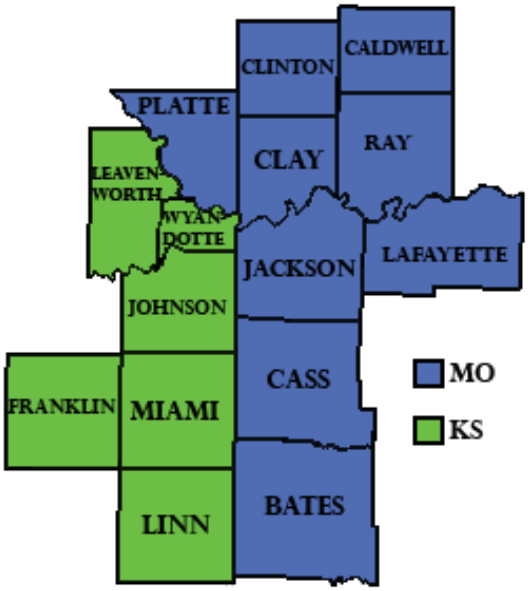

Figure 1-3: Fifteen county Kansas City Metropolitan Area

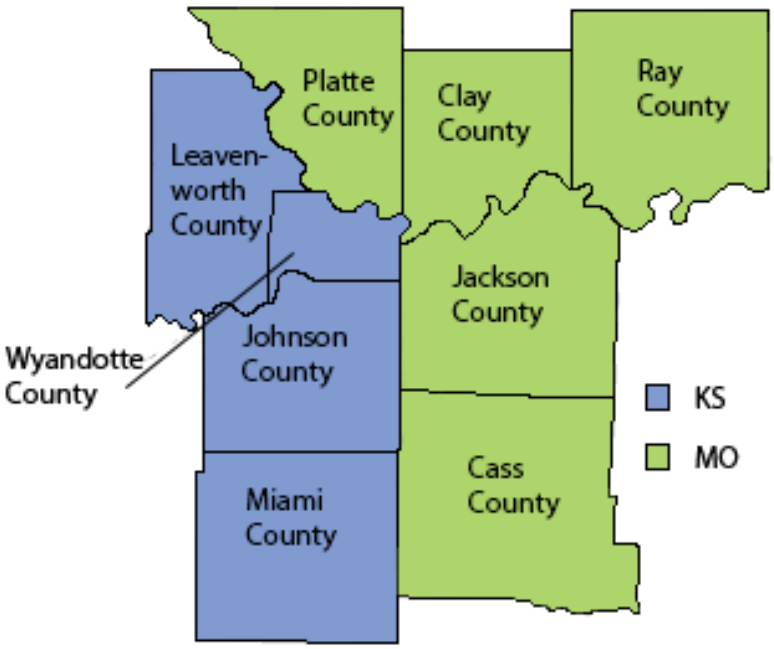

Figure 1-4: Nine county study area in the Kansas City Metropolitan Area

The US Census Bureau estimates a total 2012 population for the nine county interest area of 1.9 million people. The population estimates per county ranges from 677,000 people in Jackson County to 23,000 people in Ray County (Table 1-1). The population density for this study area ranges from 41.3 people per square mile in Ray County to 1,149.6 people per square mile in Johnson County. The most densely populated counties are Johnson, Jackson, and Wyandotte while Ray and Miami are the least densely populated (Table 1-1)

The male/female split is mostly equal in all counties with the biggest difference in Leavenworth with 46.9% of the population as female and 53.1% male. This difference may be due to the presence of the Lansing Correctional Facility, an all-male prison currently housing 2,489 inmates in Leavenworth County (Kansas Department of Corrections, 2013). The presence of Fort Leavenworth, a U.S. Army base, might also increase the male population in this county.

The majority of all the counties' populations are white ranging from 96.3% in Ray County to 67.6% in Wyandotte County (Table 1-1). Wyandotte has the largest black population in the nine county area with 25.1%. Both Miami and Ray Counties have the smallest black population with 1.5%. Johnson County has the largest Asian population with 4.3% while Ray has the lowest with 0.3%. Wyandotte County has the largest American Indian population with 1.4% while Johnson has the smallest with 0.5%. The largest Hispanic or Latino population resides in Wyandotte County as well with 26.7% while only 1.9% of Ray County is Hispanic or Latino.

Johnson County has the largest population that has completed high school with 95.6% while Wyandotte County has the lowest with 78.6% (Table 1-1). Johnson also has the largest population of people who have completed a Bachelor's degree with 51.3% while Ray County has the lowest of 14.2%.

Per capita Income ranges from Johnson County at $38,428 to Wyandotte County at $19,214 (Table 1-1). The same trend appears in Median Household Income which ranges from $74,761 in Johnson County to $39, 812 in Wyandotte County. The percentage below the poverty level are the inverse of this trend with 21.9% of Wyandotte County living below the poverty level and only 5.9% of Johnson County living below the poverty level.

Table 1-1: 2012 Estimated population, education, and diversity statistics for the nine-county study area. All data taken from the U.S. Census Bureau State and County QuickFacts.

	Kansas				Missouri				
	Leavenworth	Wyandotte	Miami	Johnson	Clay	Cass	Ray	Platte	Jackson
Population	77,739	159,129	32,612	559,913	227,577	100,376	23,064	92,054	677,377
Total Land Area (sq. mile)	462.83	151.60	575.66	473.38	397.30	696.84	568.81	420.19	604.46
Persons per Square Mile	164.7	1039.0	57.0	1149.6	558.6	142.8	41.3	212.6	1115.3
% Female	46.9%	50.6%	50.6%	51.1%	51.1%	51.2%	50.1%	50.7%	51.6%
% Male	53.1%	49.4%	49.4%	48.9%	48.9%	48.8%	49.9%	49.3%	48.4%
White	84.9%	67.6%	95.7%	88.2%	89.0%	93.0%	96.3%	88.2%	70.6%
Black	9.7%	25.1%	1.5%	4.7%	5.6%	3.8%	1.5%	6.3%	24.1%
Asian	1.4%	2.7%	0.4%	4.3%	2.2%	0.7%	0.3%	2.4%	1.7%
American Indian	0.9%	1.4%	0.6%	0.5%	0.6%	0.6%	0.6%	0.6%	0.6%
Hispanic or Latino Decent	6.0%	26.7%	2.7%	7.3%	6.0%	4.0%	1.9%	5.1%	8.4%
Completed high school	91.4%	78.6%	92.7%	95.6%	91.9%	91.9%	86.6%	94.1%	87.3%
Completed Bachelor's degree	28.7%	15.2%	23.3%	51.3%	30.6%	21.9%	14.2%	37.7%	27.1%
Per Captia Income	$26,620	$19,214	$26,945	$38,428	$29,326	$27,129	$25,759	$34,918	$25,605
Median Household Income	$62,853	$39,812	$59,668	$74,761	$60,507	$60,807	$54,670	$66,487	$46,874
Percent Below Poverty Level	8.8%	21.9%	8.4%	5.9%	7.8%	7.9%	9.3%	7.1%	16.5%

Extension Presence in Kansas City

There are three Extension institutions in the Kansas City area. Both of Missouri's land-grant universities (University of Missouri and Lincoln University) have an Extension presence in Kansas City while Kansas State University represents Kansas in the area.

Both the University of Missouri and Kansas State University are 1862 land-grant universities, meaning that they were established under the original Morrill Act in 1862. Lincoln University is a historically black university and is considered an 1890 land-grant university which was established under the second Morrill Act. The 1890 Morrill Act created land-grant institutions for Blacks in the Confederate states in order to limit academic discrimination.

Although all three universities are land-grant institutions and have university Extension programs, they all use a different structure of Extension outreach. The University of Missouri uses a regional specialist approach where each Extension educator is a specialist in their field and has outreach responsibilities to several counties at one time. Kansas State University uses a more traditional county-by-county model wherein every county has at least four county Extension agents: Agriculture, Family and Consumer Sciences, 4-H and Youth Development, and Community Development. In more populated counties, there can be several people that further subdivide the responsibilities of each of these positions such as someone focusing only on Horticulture nested within the Agriculture program. Because Lincoln University is a historically Black university, their Extension outreach continues to focus on currently underserved populations. For example, one of their current Extension outreach positions is the Small and Innovative Farmer Program that focuses on minority and underserved farmers in the Kansas City and St. Louis areas.

Urban Agriculture Resource Organizations in Kansas City

There is a multitude of resource organizations in Kansas City for urban farmers, growers, and community gardeners. Many of these organizations have their own educational programs or resources, but they frequently collaborate on projects in order to reach the most people possible. Most of these organizations are also at least partially supported through grants from both private and public sources and have a mixture of paid staff and volunteers.

One of the most recognized urban agriculture organizations is Cultivate Kansas City. Cultivate Kansas City is a non-profit organization that provides education on urban farming and

the importance of local food. The organization was founded in 2005 and has evolved over time. Since 2005, the organization has expanded from two staff and an $80,000 budget to seven full-time staff, several part-time staff, numerous volunteers, and a budget exceeding $700,000. Presently Cultivate KC emphasizes making changes to the food system and the environment through growing food, helping and educating local farmers, and connecting communities through their food system (Cultivate Kansas City, 2013a) Workshops, farm tours, farmer meetings, and workdays are just a few ways that Cultivate KC educates and facilitates urban farmers.

Kansas City Community Gardens is another non-profit organization that educates people and offers assistance to people wanting to grow food in their backyards, community gardens, vacant lots, and school yards. KC Community Gardens was founded in 2002. The organization focuses on helping low income community members as well as children and community groups in the metropolitan area. In Kansas City, Missouri alone they have over 89 gardens as part of their membership. In 2009, they had net assets over $500,000 with total revenue of $218,000 (Community Wealth, 2013). KC Community Gardens offers workshops, online guides, basic gardening tips, and loans out equipment to help educate people and support their growing efforts (Kansas City Community Gardens, 2008).

The Kansas City Food Policy Coalition is an alliance of individuals, businesses, organizations, and government representatives that advocate and promote policies that address the nutritional, economic, social, and environmental health in the Kansas City metropolitan area. This organization was started in 2007. Within the first three years, membership grew to over 300 members from all avenues of the food system (Greater Kansas City Food Policy Coalition, 2013). The Food Policy Coalition has advocated for several legislative measures that have passed and made growing or distributing easier for urban farmers in the city (Greater Kansas City Food Policy Coalition, 2013). The Food Policy Coalition is an initiative of KC Healthy Kids, a non-profit organization that promotes healthy living and reducing obesity in Kansas City children.

The Kansas City Food Circle connects consumers with producers of local food in the Kansas City Area. It is part of the non-profit Heart of America Action Linkage and works through websites, social media, and yearly expos to make local food producers accessible and easy to find (Kansas City Food Circle, 2013). The Food Circle was originally called the Organic Connection and was started in 1988. They changed their name to the Kansas City Food Circle in 1994 and began publishing their directory of membership farms. The Food Circle helps urban

farmers connect their products to consumers so that their farming endeavors are successful. They currently have 83 farms in their membership.

The Kansas Rural Center is a non-profit organization that uses education, advocacy, and research to promote healthy land use and communities. The Kansas Rural Center was started in 1979 and since then has become a resource for farmers, ranchers, and consumers to turn to when exploring options for local, sustainable, and diversified food systems. The Kansas Rural Center has collaborated with organizations, agencies, and companies to ensure that they are offering the most applicable information. They do this by conducting research projects, doing advocacy work, and pursuing education initiatives (Kansas Rural Center, 2013).

Cooperative Extension is a large resource for educational material, as mentioned earlier. There are several Horticulture educators and specialists in the KC area as well as a multitude of Family and Consumer Science educators and specialists that focus on food nutrition and food access. There are also a few Community Development educators and Agriculture educators that are addressing urban food issues.

This is not a comprehensive list but merely a compilation of the most well-known resource organizations in the Kansas City Area. With all of these sources of information and connections for urban farmers, we are curious to see what information urban farmers still need. We are also curious to see how Extension specifically is interacting with urban farmers considering Extension's long history in community development and agricultural education.

Urban Agriculture in Kansas City

Kansas City is one of several cities that are approaching urban agriculture development through zoning and policy changes. Unlike cities like Toronto or Seattle with longstanding urban ag initiatives, developments in urban agriculture in Kansas City have been recent with most progress made in the past two decades (Hodgson et al., 2011). Within the last 20 years, Kansas City has had significant increases in urban farmers, organizations that support local farmers and urban agriculture, and interest in producing for and purchasing within the local food shed.

Zoning is one of the most noticeable ways that Kansas City has been encouraging urban agriculture. In 1923, zoning ordinances permitted farming, greenhouses, and truck gardening for single-family residences in the Kansas City area. However, in the 1960s Kansas City underwent land annexation that brought much of the farmland north of the city into municipal boundaries.

This created a patchwork of zoning regulations and laws across the metro area that affected urban agriculture both directly and indirectly (Hodgson et al., 2011). These zoning regulations continued to be difficult to navigate for urban farmers until decades later.

In 2009 after a well-publicized dispute between a local Community Supported Agriculture (CSA) farm and the city, urban agriculture advocacy began to rise on the Missouri side. City council members began getting involved in urban agriculture by championing zoning revisions for the city. In 2010, a revised zoning ordinance was approved that separated crop agriculture use into three designations: home gardens, community gardens, and CSA. The ordinance also permits animal agriculture with some restrictions (Hodgson et al., 2011). This designation system gives flexibility to urban farmers of all types and helped to better regulate urban agriculture development instead of hinder it.

In 2011, Missouri legislatures created a Joint Committee on Urban Agriculture to hold hearings around the state and write a bill that would help urban agriculture within the state. After holding hearings in Kansas City, Springfield, Columbia, Jefferson City, and St. Louis, the Joint Committee put forth a report and a bill. This bill offers reduced utility prices for areas that are designated urban agriculture use areas as well as reduced land costs and taxes. This bill has been introduced several times and was passed in October 2013. No zoning codes or ordinances have been created to address urban agriculture land use in Kansas.

The number of urban farms in the Kansas City area has increased greatly over the past decade as well. As of the start of 2013, 125 farms were recorded as urban farms in the Kansas City metropolitan area. Those 125 farms had 102 acres in production (Cultivate Kansas City, 2013b). Of these farms about 59 (or 47%) were located in Wyandotte County, Kansas and 52 farms (42%) were in Jackson County, Missouri. All remaining farms were outside these two counties (Cultivate Kansas City, 2012). Of the 125 total farms, 121 have been started since 2004 (Cultivate Kansas City, 2012), showing a huge increase in urban agriculture over the past decade.

Another indicator of the growth in urban agriculture in the Kansas City area is participation in Cultivate Kansas City's Urban Farm Tour. In 2005, the Urban Farm Tour was started in which participants tour participating urban farms and community gardens around the Kansas City area. In its premiere year, the Farm Tour had six farm/garden sites enlisted and an attendance of 200 participants. In 2013, the most recent tour year, the Farm Tour enlisted 60

farms and gardens as tour sites and had 2,000 attend the tour over a two day weekend (Cultivate Kansas City, 2013b).

An indicator of the interest in local food in the Kansas City food shed can be seen through participants in the Kansas City Food Circle. Fourteen years ago the Kansas City Food Circle began releasing producer directories of farmers within 150 miles of the Kansas City Metro that focus on direct marketing to consumers and organic production practices. When this directory was first released in 1998, 23 farms were listed as member farms. By 2012, there were 83 total members, which included farmers, farmers markets, and stores.

This Study

The goal of this study is to better understand how urban farmers and Extension services are interacting in the Kansas City metropolitan area. The objectives of study are to understand 1) what types of information urban farmers still need and what types of information are Extension services offering 2) how do urban farmers get information and how does Extension distribute information and 3) is there a disconnect between urban farmers and Extension services, and if so, what can be done to bridge that gap.

The next chapter will outline and discuss the methods used to gather data for both the Farmer/Grower Survey and the Extension Interviews in order to address these questions.

Chapter 2 - Materials and Methods

Our study area consisted of five Missouri counties and four Kansas counties that are included in the Kansas City Metropolitan area. Clay, Cass, Jackson, Platte, and Ray counties were included on the Missouri side and Leavenworth, Johnson, Wyandotte, and Miami counties were included on the Kansas side. Both the farmer and grower survey participants as well as the Extension educators were chosen because they either live or work within these nine counties.

Farmer and Grower Survey

Our survey was designed in the winter of 2012 and approved (#6489) by the Institutional Review Board of Kansas State University in January 2013. The survey consisted of 50 questions, including a mixture of ranking, mark all that apply, and open-ended questions. Questions regarding farm characteristics, topics of information needs and preferences, farmer experience, barriers, farm marketing and financial status, and farmer demographics were asked. The paper survey was designed as an eight-page booklet that was mailed out to a list of potential survey participants. A copy of the mail-out survey can be found in Appendix A.

Our list of survey participants was compiled with the help of Cultivate Kansas City, the Kansas City Food Policy Council, the Kansas City Food Circle, and several area farmers' market managers. The initial list of participants consisted of 133 farms in the nine-county study area of metropolitan Kansas City. Several farms declined to participate and several surveys were undeliverable by the mail service. One hundred and nineteen farms were the final number of farms included in the study.

Dillman's five part mail-out survey method was used to distribute the survey (Dillman et al., 2009). This process began with sending a notification letter telling each participant that the survey would be coming in the mail shortly. The next mailing was sent a week later. This mailing included a letter stressing the importance of participation in the survey, detailed instructions of the survey, the survey itself, and an initial incentive of a package of mixed lettuce seeds. The second mailing also included a form to be completed and returned with their completed survey that would enter them into a drawing for one of four $50 gift certificates to Home Depot. The third mailing was sent a week later and was a reminder postcard that thanked the farmer if they had already sent in their completed survey but urged them to complete the

survey if they had not done so already. The fourth mailing was sent three weeks later and that was a replacement survey as well as another letter detailing the importance of everyone's participation. The final contact was through a phone call. If the participants were reached, they asked if they had any questions or comments about the survey and were urged once again to complete the survey. If they could not be reached directly, a message was left for them telling them that if they had questions to please contact me.

Of our 119 farms included in the study, 69 returned surveys with 65 of them usable. That corresponds to a 54.6% response rate.

Returned surveys were then collected and tallied to find descriptive statistics and trends. Further statistical analysis was run to find significance on high priority questions. These questions included what types of information were most needed by urban farmers, how difficult was it to gather information on certain topics, what sources were currently used by urban farmers, what media formats and interpersonal formats were used by urban farmers, how did urban farmers prefer to learn, and how did urban farmers rank Extension next to farm community and non-profits in regards to quality, quantity, and reliability of information. Appropriate statistical tests were identified through consultation with the Kansas State University's Statistical Consulting Lab. All statistical tests were generated using SAS software (Copyright, SAS Institute Inc. Cary, NC, USA). A Friedman's test was done on select high priority questions to find if there was a greater likelihood that one topic of information was ranked consistently different than all other topics of information. Because the participants were asked to *rank* their answers instead of *rating* their answers, the Wilcoxin pair-wise comparison was deemed the best way to complete a means separation test if there was a difference between topic areas. The Wilcoxin pair-wise comparisons were done to find out which topics were ranked differently from each other. A generalized linear mixed model with binary distribution and logit link function was used to find which topics were ranked the 'best' (looking at #1 rankings only) and which were ranked the 'worst' (looking at the lowest rankings only). This test allowed us to see if there were any differences between topics while analyzing only at the highest and lowest rankings. If differences were seen, a pairwise comparison was done to see which categories were statistically different from each other.

Extension Educator Interviews

Our interview script was designed in the spring of 2012 and was approved (#6168) by the Institutional Review Board of Kansas State University in May 2012. Interviews were semi-scripted and followed an interview schedule that was designed to investigate Extension educators' general job responsibilities, their programing emphasis on urban agriculture or related programs, and their awareness of other urban agriculture activities in their county or region. The full interview schedule can be seen in Appendix D.

The initial list of potential interviewees consisted of all the Extension educators from University of Missouri, Kansas State University, and Lincoln University that focused on horticulture or family and consumer sciences. Personalized e-mails were sent out to all educators who fit this description to see what areas of horticulture and family and consumer sciences they worked in. If they worked in an area that was related to the production, processing, distribution, financial resources, marketing, or equipment of urban farmers they were interviewed.

We also used the snowball method of interviewing in order to limit the possibility of not interviewing an educator who working in an area that would be useful for urban farmers. After every interview, I asked for suggestions of other Extension educators working with these topics in the Kansas City area. I then interviewed those suggested people. Once all the suggested people had already been interviewed, it is assumed that we reached the saturation point in the population and had talked to enough Extension educators to get a well-rounded idea of Extension's work in areas directly related to urban farmers in the Kansas City area.

Interviews were conducted from May – November 2012. Fifteen Extension educators were interviewed from the nine-county study area as well as the executive director of Cultivate Kansas City and a heavily involved Extension educator from Douglas County, which is just outside the study area, for reference. Seventeen interviews were done in total. Interviews were taped and transcribed.

Transcribed interviews were then uploaded into QSR International's NVivo 10 software program (Doncaster, Victoria, Australia) to define themes, or nodes, within the interviews. A secondary coder unassociated with this study was used to validate the conceptualization and categorization of themes from the interviews.

The next chapter will discuss the results of the farmer/grower survey and outline the major trends that were found.

Chapter 3 - Survey Results

Mail-out surveys were sent to 133 farms in the nine-county Kansas City metropolitan area. Several farms declined to participate or the surveys were undeliverable, thus 119 was the final number of participating farms. Of those 119 farms, 69 surveys were returned with 65 of them usable. This equates to a 54.6% return rate. All nine counties of the study area as well as two others were represented in the returned surveys (Table 3-1). Using this methodology, a return rate of 40% can be expected while anything over 50% is considered acceptable (Dillman et al., 2009).

Non-response bias is a concern in any survey oriented study. Non-response error as explained by Dillman et al. (2009) "occurs when the people selected for the survey who do not respond are different from those who do respond in a way that is important to the study." Non-response error can prevent survey results from being representative of the study population. In an effort to see if this study had non-response bias, we looked at the response rate of each county (Table 3-1). This is the number of farmers/growers that responded to our survey divided by the total number of farmers/growers that we mailed a survey in each county. The resulting percentage is an indicator to whether one county had a very different response rate than another county. The highest response rate was for Leavenworth County with 100% while the lowest was in Platte County with 42.9%. Only Platte, Jackson, and Leavenworth Counties had a response rates with more than a 10% difference compared to the overall response rate of 54.6%. Overall, we had good response rates throughout the study area, but the diversity of our respondents the effect of diversity on non-response bias will be discussed later in the chapter.

Table 3-1: Number of total farmers surveyed in each county, percent of total farmers surveyed in each county, number of survey respondents in each county, percent of respondents in each county, and response rate for each county in the Kansas City metro area.

Missouri Counties	Total Number of Farmers	Percent of Farmers	Number of Respondents	Percent of Respondents	Response Rate
Cass	9	7.6	4	6.2	44.4
Clay	8	6.7	5	7.7	62.5
Ray	4	3.4	2	3.1	50.0
Jackson	41	34.5	18	27.7	43.9
Platte	7	5.9	3	4.6	42.9
Kansas Counties	Total Number of Farmers	Percent of Farmers	Number of Respondents	Percent of Respondents	Response Rate
Miami	5	4.2	3	4.6	60.0
Leavenworth	6	5.1	6	9.2	100.0
Wyandotte	24	20.1	13	20.0	54.2
Johnson	15	12.6	9	13.8	60.0
Douglas	0	N/A	1	1.5	N/A
Linn	0	N/A	1	1.5	N/A

Farm Characteristics

Respondents are primarily farming on parcels of land less than five acres; 34.4% of respondents have under an acre in production and 34.4% have one to five acres in production (Table 3-2). Only 14.1% of respondents were growing or producing on over 20 acres. This question only asked about acreage in production in 2012 and thus does not include any planned growth in production area between the 2012 and 2013 growing season.

Table 3-2. Acres in production of survey respondents

Acres in Production	Percent of Respondents
Under ½ acre	18.8
½ acre-1 acre	15.6
1 acre – 5 acres	34.4
5 acres – 10 acres	7.8
10 acres – 20 acres	9.4
20+ acres	14.1

We asked the farmers what products they produced in 2012 and included the options vegetables, fruits, eggs, poultry, pork, beef, goat/lamb, cheese, milk, baked goods, mushrooms, honey, canned goods, and other. Respondents could mark all options that applied. The majority of respondents marked more than one category indicating that they have diversified farms. For analysis purposes, several categories were combined to larger groups to better understand general information needs. *Meat and eggs* includes chickens, eggs, pork, goats, lambs, and beef. *Dairy* includes milk and cheese. *Other* includes things like herbs, cut flowers, mushrooms, honey, canned goods, and baked goods. *Vegetables* and *Fruits* remained their own categories. Respondents who marked more than one product in a category were counted only once in the total percentage.

There were 54.5% of respondents that sold vegetables in 2012 while 30.3% of respondents sold fruits (Table 3-3). Respondents that sold meat products and eggs in 2012 totaled 36.9%. Eggs and goats/lamb were the most produced meat products with 10.6% of respondents producing each of them. Pork was the least produced meat product with only 3% of respondents answering that they raised hogs. Just under 14% of respondents produced dairy products in 2012. Both milk and cheese had 6.1% of respondents say they produced them. Nearly 42% of respondents said they produced other products in 2012. Of those respondents, 9.1% produced baked goods, 7.6% produced honey while only 1.5% produced mushrooms. Within the other products category 9.1% of respondents had marked the ‘other’ option specifically and wrote in cut flowers and herbs.

Table 3-3. Products sold in 2012 by survey respondents. Products are divided into five categories: vegetables, fruits, meat and eggs, dairy products, and other products. If a respondent sold items in more than one category, they were considered to be a diversified farm.

Products Sold	Percent of Respondents
Vegetables	**54.5**
Fruits	**30.3**
Meat and eggs	**36.9**
Eggs	10.6
Poultry	6.1
Pork	3.0
Beef	4.5
Goat/lamb	10.6
Dairy products	**13.8**
Milk	6.1
Cheese	6.1
Other products	**41.5**
Honey	7.6
Mushrooms	1.5
Canned goods	7.6
Baked goods	9.1
Other	9.1
Diversified farms (sold more than 1 category of product)	**71.2**

When asked if they followed any specific practices of growing food (such as organic practices, biointensive, biodynamic, permaculture, hormone-free, kosher, etc.) 69.7% of respondents answered that they did. If respondents answered yes, they did use specific growing/farming practices, they were asked to list the practices they used. Nineteen respondents noted that they followed organic practices but were not certified organic. Other answers included

hormone-free meat production, no chemical usage, biointensive growing, permaculture design, pasture- or crop-rotation in use, or no-till production.

Farmer Demographics

The majority of respondents have more than ten years experience farming. When asked how many total years farming they had, 21.5% of respondents said they have less than five years of farming experience while 23.1% have between five and ten years experience (Table 3-4). Just under 30% of respondents have over 20 years experience.

Table 3-4. Total years of farming experience of survey respondents

Total Years of Farming Experience	Percent of Respondents
5 years or less	21.5
5-9 years	23.1
10-14 years	15.4
15-19 years	10.8
20+ years experience	29.2

When asked how many years they had been farming at their *current operation*, 40.9% of respondents said they had been farming less than five years (Table 3-5). Respondents having five to ten years experience at their current operation equaled 28.8% while 13.6 % of respondents have been farming or growing at their current operation for 20 years or more.

Table 3-5. Years farming current operation for survey respondents

Years Farming Current Operation	Percent of Respondents
5 years or less experience	40.9
5-9 years experience	28.8
10-14 years experience	9.1
15-19 years experience	7.6
20+ years experience	13.6

Most of the survey respondents were older than 50. When asked to write in their age, 38.1% of respondents were between the ages 50 and 59 while 23.8% of respondents were ages 60 and above (Table 3-6). A mere 1.6% of respondents were under age 30.

Table 3-6. Age of respondents

Age	Percent of Respondents
Under age 30	1.6
Ages 30-39	12.7
Ages 40-49	19
Ages 50-59	38.1
Ages 60+	23.8

The majority of respondents were male. When asked to self-identify their gender, 86.2% of respondents were self-described as male while 13.8% of respondents self-described as female. According to the 2007 US Census of Agriculture, 14.99% of principle farm operators in this study area are women, closely resembling our finding of 13.8% women (United States Department of Agriculture, 2009).

Most of the respondents had a high school education or higher. Only 3.1% of respondents had less than a high school degree, 35.4% had received a high school diploma or GED equivalent, and 47.6% of respondents had a bachelor's degree or higher (Table 3-7).

Table 3-7. Education level of respondents

Highest Level of Education Received	Percent of Respondents
Did not complete high school	3.1
High school diploma or GED	35.4
Associates degree	13.8
BS or BA degree	32.3
Master's degree	13.8
PhD, MD	1.5

Almost two thirds of the respondents did not grow up in a farming family. When we asked respondents to answer yes or no to the question *Did you grow up in a farming family?* 61.5% said no while 38.5% said yes.

The majority of the respondents self-identified their race as white. When asked to mark all races that they self-identified as, 75.8% of respondents said White, 8.1% said Asian, 8.1% said Black, 1.6% said American Indian, and 1.6% said Other. No one marked Native Hawaiian or Pacific Islander. Only 3.2% preferred not to answer. When asked to self-identify their ethnicity, 5% of respondents said they were Hispanic or Latino while 95% said they were not Hispanic or Latino.

Table 3-8. Race and Ethnicity of survey respondents.

Race	Total Number of Respondents	Percent of Respondents
American Indian/Alaska Native	1	1.6%
Asian	5	8.1%
Black/African American	5	8.1%
Native Hawaiian/Pacific Islander	0	0%
White	47	75.8%
Other	1	1.6%
Prefer not to answer	2	3%
More than one	3	4.8%
Ethnicity	**Total Number of Respondents**	**Percent of Respondents**
Hispanic or Latino	3	5%
Not Hispanic or Latino	57	95%

When comparing these demographics to those in the 2007 US Census of Agriculture, our numbers show more diversity than the average farmer in these nine counties but still less than the average population in each county (Table 3-9). The average demographics of principle operators in the study area that were recorded by the Ag Census shows 97.02% of farmers are white, 1.46% are Black, 0.18% Asian, 0.41% Native American, 0.03% Native Hawaiian or Pacific Islander and 0.74% of Hispanic ethnicity (United States Department of Agriculture, 2009). Looking at diversity county by county, our diversity in more urban counties, such as Wyandotte, Jackson, and Johnson, are mostly similar to the 2012 Census data and more diverse than the Ag Census. However, we do not have much diversity in more rural counties like Cass and Miami.

Table 3-9. Respondents' race and ethnicity by county. Results from our survey and data from 2012 Census and the 2007 Agriculture Census are shown. Our survey data is expressed by the number of respondents in each county, the 2012 Census is expressed by the number of people in each county, and the 2007 Census of Agriculture is expressed by farms in each county (U.S. Census Bureau, 2013 and United States Department of Agriculture, 2009).

County	American Indian	Asian	Black/African American	Pacific Islander	White	More than One	Other	Prefer not to answer	Hispanic or Latino Decent	Total N
Cass	0.0%	0.0%	0.%	0.0%	100.0%	0.0%	0.0%	0.0%	25.0%	4
	0.6%	0.7%	3.8%	0.1%	93.0%	1.9%	-	-	4.0%	100,376
	1.0%	0.2%	0.5%	0.0%	97.6%	0.7%	-	-	0.8%	1,775
Clay	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	5
	0.6%	2.2%	5.6%	0.3%	89.0%	2.4%	-	-	6.0%	227,577
	0.0%	0.0%	0.3%	0.0%	99.3%	0.3%	-	-	0.4%	752
Jackson	0.0%	5.6%	11.1%	0.0%	61.1%	11.1%	0.0%	11.1%	0.0%	2
	0.6%	1.7%	24.1%	0.3%	70.0%	2.8%	-	-	8.4%	677,377
	1.0%	0.3%	0.6%	0.2%	96.9%	1.0%	-	-	0.8%	838
Johnson	0.0%	11.1%	0.0%	0.0%	77.8%	11.1%	0.0%	0.0%	11.1%	18
	0.5%	4.3%	4.7%	0.1%	88.2%	2.3%	-	-	7.3%	559,913
	0.2%	0.2%	0.0%	0.0%	99.5%	0.2%	-	-	0.8%	610
Leavenworth	16.7%	0.0%	0.0%	0.0%	83.3%	0.0%	0.0%	0.0%	0.0%	3
	0.9%	1.4%	9.7%	0.2%	84.9%	2.9%	-	-	6.0%	77,739
	0.6%	0.2%	0.4%	0.0%	98.3%	0.4%	-	-	0.8%	1,203
Miami	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	3
	0.6%	0.4%	1.5%	0.0%	95.0%	1.8%	-	-	2.7%	32,612
	0.9%	0.3%	0.2%	0.0%	97.6%	0.9%	-	-	0.8%	1,538
Platte	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	6
	0.6%	2.4%	6.3%	0.4%	88.2%	2.2%	-	-	5.1%	92,054
	0.0%	0.3%	0.0%	0.0%	98.2%	1.5%	-	-	0.4%	726
Ray	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	13
	0.6%	0.3%	1.5%	0.1%	96.3%	1.6%	-	-	1.9%	23,064
	0.0%	0.1%	0.2%	0.0%	99.5%	0.0%	-	-	0.2%	1,321
Wyandotte	0.0%	23.1%	23.1%	0.0%	46.2%	0.0%	7.7%	0.0%	7.7%	9
	1.4%	2.7%	25.1%	0.2%	67.6%	3.0%	-	-	26.7%	159,129
	0.0%	0.0%	11.0%	0.0%	89.0%	0.0%	-	-	1.6%	191

Our survey = Respondents | 2012 Census = Population | 2007 Census of Ag = Farms

Although our response rates are more diverse than those found by the US Census of Agriculture, in some cases they are still less diverse than the average populations of these nine counties. Because of this, it is possible that our respondents do not represent the population of urban farmers as a whole and that the minority populations did not respond to our survey as much as the White population. This may lead to a slight skew in our findings and thus our findings can only describe our respondents and cannot be generalized to the whole population of urban farmers in the Kansas City metropolitan area.

Information Needs and Preferences of Farmers

Topic of Information

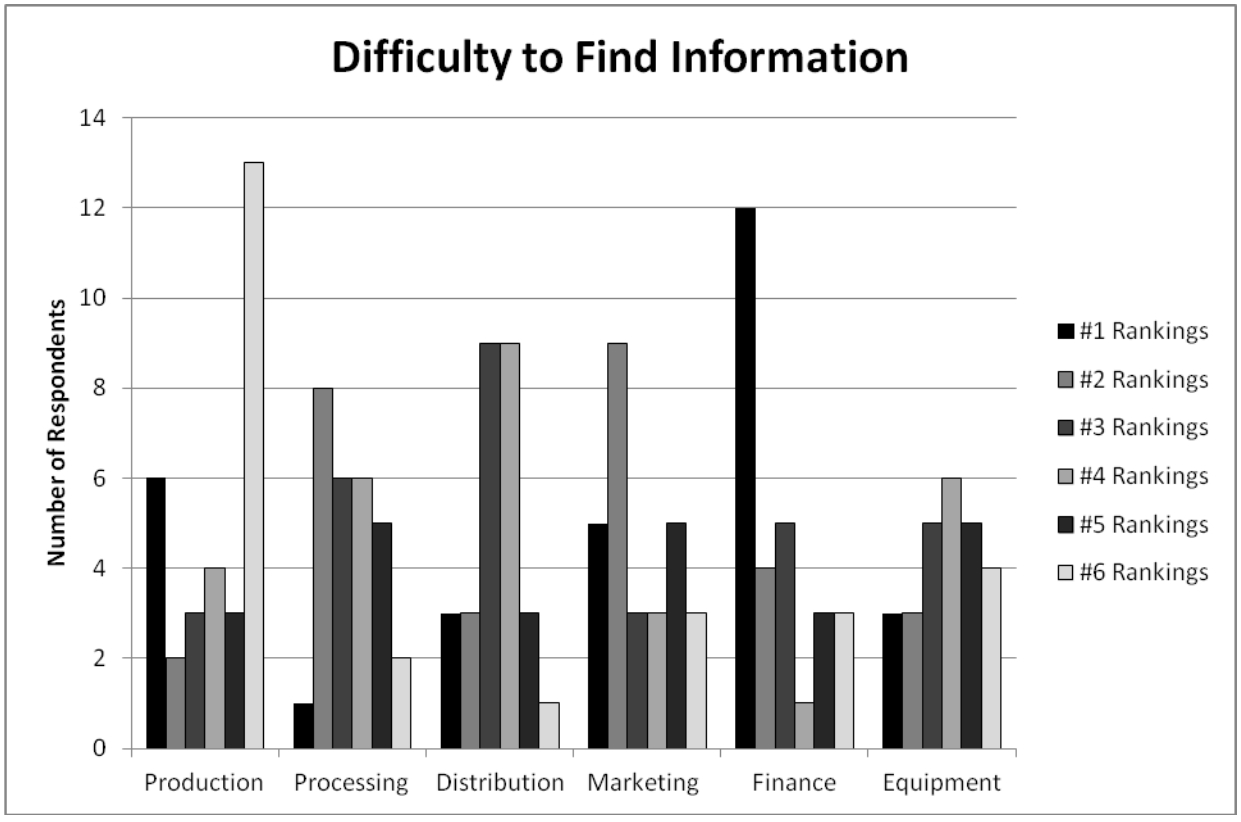

Figure 3-1. Respondents' ranking of production, processing, distribution, marketing, financial, and equipment information based upon the difficulty to find them. The most difficult to find categories were ranked as #1 while the least difficult to find categories were ranked as #6. n = 31

We asked respondents to rank six topics of information in order of most difficult to find as #1 to least difficult to find at #6. It was specified that each topic should have a different number so that there would be one #1, one #2, one #3 and so forth. However, due to the unusual format of this question, many respondents rated the topics individually. Therefore, only 31 respondents were included in the analysis of this question because they answered the question in the appropriate format.

When looking at the general trends (Figure 3-1), Finance was ranked very highly as #1 with 12 respondents, the equivalent of 36.36%, ranking it as the most difficult to find. Marketing was highly ranked as #2 with nine respondents, equating 29.03% of farmers. Processing was frequently ranked #2 also with eight respondents marking it as the second most difficult to find. This was 25.81% of responents. Distribution was ranked highly in the middle in the #3 and #4 ranking with 28.13% of respondents ranking it at both #3 and #4. Production had the highest #6 ranking with 38.24% of respondents or 13 respondents ranking it as the least difficult to find information on. Equipment has similar numbers of people ranking it at all six levels of difficulty.

Table 3-10. Statistical findings for respondents' rankings of difficulty of finding information

Question 8 - Difficulty Finding Information

	% ranked as #1	% ranked at #6	Mean Separation
Production	0*	50	a
Processing	18.18	9.09	b
Distribution	9.09	4.55	b
Marketing	18.18	9.09	b
Financial	40.91	13.64	b
Equipment	13.64	13.64	b
	n=22	n=22	
	p=0.1230	p=0.0061	

*** samples were removed from statistical analysis because 0% were ranked, creating scarcity issues within the statistical model.**

Of the 31 respondents who ranked their answers correctly, only 22 ranked all six categories to completion. Due to this, only those 22 responses could be included in statistical analysis because the statistical test required only complete responses. Statistics were performed on the #1 and the #6 ranking to see if there was statistical difference among the six topics.

Analysis revealed that none of the #1 rankings for the categories were statistically significant from each other (Table 3-10). However, #6 rankings had some statistical significance. Production was ranked #6 significantly more than all other topics with 50% of the respondents in the statistical sample ranking it as last.

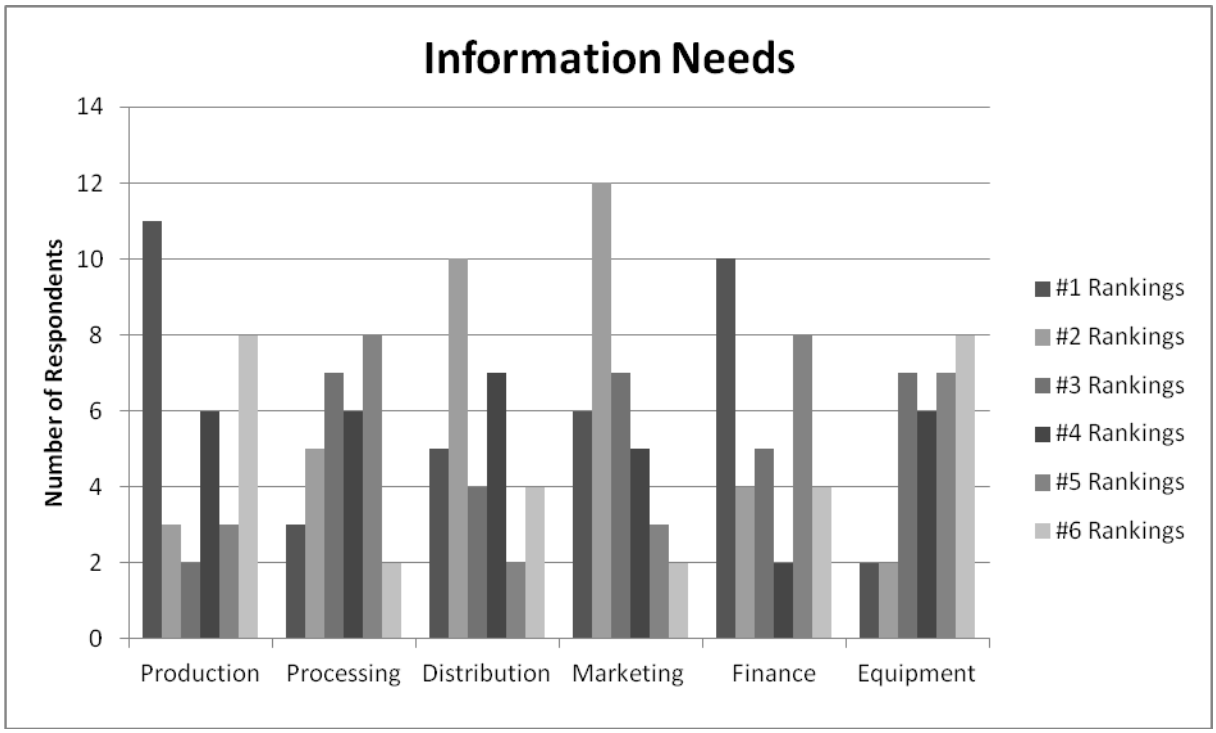

Figure 3-2. Respondents' rankings of production, processing, distribution, marketing, financial, and equipment information based upon current respondent needs. The most needed information topics were ranked as #1 while the least needed information topics were ranked as #6. n = 39

We asked the respondends to rank the same six topic areas from #1 to #6 in order of their current needs with #1 as most needed and #6 as least needed. Once again, there was confusion in ranking vs. rating, so we were only able to use 39 surveys for this question.

Production was ranked the highest as #1 with 11 respondents (25.64%) followed closely by Finance with 10 respondents (25.64%) ranking it as #1 (Figure 3-2). Distribution and Marketing were ranked highly at #2 with 25.64% (10 respondents) and 30.77% (12 respondents) of responses respectively. Processing and Equipment ranked solidly at #5 with 21.05% (8 respondents) and 18.42% (7 respondents) respectively. Production and Equipment were most

ranked as the least needed with 20.51% and 21.05% ranking them #6. Production and Finance had bi-modal rankings with #1 and #6 rankings high for Production and #1 and #5 rankings high for Finance.

Table 3-11. Statistical findings of survey respondents' current information needs

Question 9 - Need of Information		
	% ranked as #1	% ranked at #6
Production	11.54	7.69
Processing	30.77	23.08
Distribution	11.54	15.38
Marketing	15.38	7.69
Financial	23.08	15.38
Equipment	7.69	30.77
	n=22	n=22
	p=0.2686	p=0.2364

After removing all surveys that were incompletely ranked from #1 to #6, 22 surveys remained to be statistically analyzed. There were no statistically significant differences between the categories in relation to the distribution of #1 or #6 rankings (Table 3-11).

We also asked participants to list one to two examples of types of information they needed within each of these categories. From the 42 participants that listed needed production information, specialty growing information (such as organic, natural) was the most common information need, followed closely by disease and pest management, planting timing and information and soils. Of the 17 participants that listed processing needs, the more common answers were learning more about Good Agriculture Practices (GAPS), and learning about the requirements and exemptions for certified kitchens. Information about new distribution models and companies was the most common information need for the 19 participants that listed examples for distribution. Marketing information needs were commonly wanting more information about customer base, pricing of product, and farmers markets for the 18 participants that listed needs. For the 23 participants that listed financial information needs, more information about grants and keeping records were the most common answers. Of the 22 participants that listed equipment information needs, the most common answers were irrigation, equipment designed for small farms, and finding used farming equipment. A complete list of answers can be found in Appendix B.

Methods of Gathering Information

Our next section asked participants about how they currently gather their information. We asked participants to rank a number of sources from #1 to #8 from most used as #1 to least used as #8 (Figure 3-3). Self-research was overwhelming ranked #1 with 72.22% of respondents (39) ranking it as the most used source of information. Other Farmers and Friends/Family were ranked #2 the most often with 38.36% (20) and 35.0% (14) of respondents ranking them as the second most used sources of information respectively. Extension, Other Farmers, and the Other category were ranked most frequently at #3 with 30.23%, 30.77%, and 40% of respondents ranking them as #3 respectively. Some of the sources that were written into the Other category were the internet, the University of Missouri or University of South Dakota websites, literature, and magazines. Non-profit organizations and formal classes received a mix of rankings with most ranking in the #4 and #5 range for Non-Profits and #3, #4, and #5 for formal classes. Private consultants were ranked #7 with 28.57% (6) ranking it as one of the least used sources. Other was ranked the highest at #8 ranking with 13.33% (2 respondents). However, many respondents did not rank all eight sources, thus yielding lower percentages of rankings as the rankings decreased.

Figure 3-3: Repsondents' rankings of various sources of information based on respondent usage. The most used sources were ranked as #1 with the least used sources ranked as #8. n = 56

For statistical analysis, surveys that did not rank all the categories were excluded due to the requirements of the statistical test. Leaving incompletely ranked answers in the statistical analysis would have created scarcity issues and the statistical model would not have gotten an appropriate error term. Thus our sample size was reduced to only 17 of the 65 respondents available for this test. The Other category was excluded entirely because so few of people ranked it that it created scarcity issues within the model. Some statistical significance was found (Table 3-12). Self-research was ranked #1 significantly more than all other sources with 58.82% of complete responses choosing it as the most used source. There were no statistical significances regarding the source that was ranked #7 or was the least used.

Table 3-12. Statistical findings of survey respondents' sources of information

Question 15 - Sources of Information Used			
	% ranked as #1	Means Separation	% ranked at #7
Extension	17.65	b	0*
Friend	11.76	b	17.65
Non-Profit	5.88	b	29.41
Other Farmers	5.88	b	0*
Self-Research	58.82	a	0*
Formal Class	0	*	11.76
Private Consultant	0	*	41.18
	n= 17		n= 17
	p= 0.0060		p= 0.2448

*** samples were removed from statistical analysis because 0% were ranked, creating scarcity issues within the statistical model.**

We then asked respondents to rank media formats of sources that were used with #1 being the most used format and #9 being the least used (Figure 3-4). Websites were ranked #1 the most often with 23 respondents. E-mail and Books also had high #1 rankings with 10 and 11 respondents respectively. All three of these categories were also the highest formats ranked at #2. Many respondents did not rank all 10 formats, so defining the least used format is difficult. However, generally speaking webinars and TV are not frequently used.

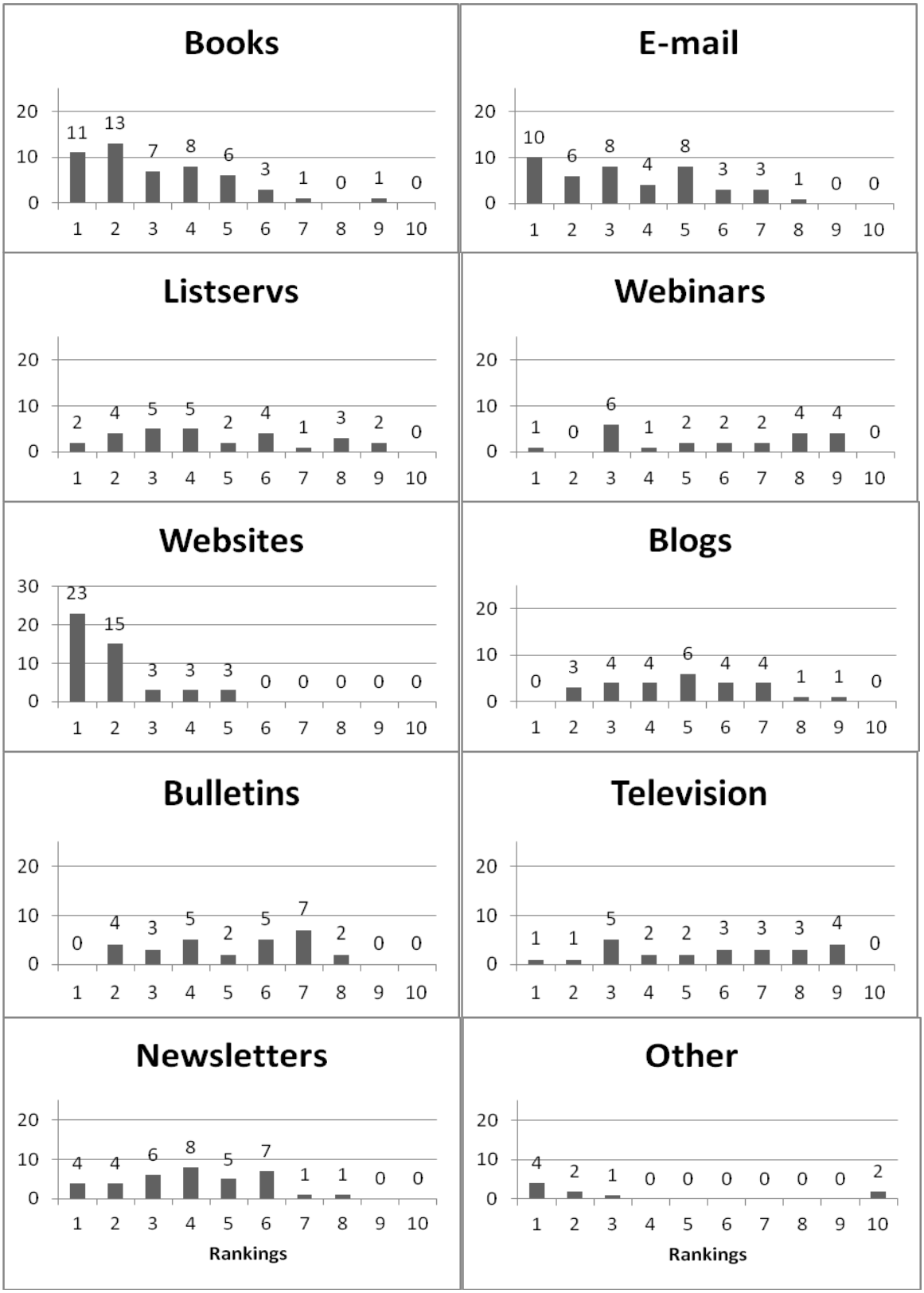

Figure 3-4: Respondents' rankings of media formats based on current use. Most used formats were ranked as #1 while least used formats were ranked as #10. n = 57

Once incomplete surveys that were not ranked 1-9 were removed, the n for statistical analysis was 12. Much like the previous question, the "Other" category was removed due to scarcity of rankings in order to get an acceptable error term for the statistical model. There were no statistical differences between media formats in respect to those that were ranked #1 or those that were ranked #9, most likely due to the small sample size for the statistical model (Table 3-13).

Table 3-13. Statistical finding of survey respondents' currently used media formats

Question 16 - Media Formats Used		
	% ranked as #1	**% ranked at #9**
Books	8.33	0*
Email	25	0*
Listserv	16.67	25
Webinars	8.33	33.33
Websites	41.67	0*
Blog	0*	8.33
Bulletin	0*	16.67
TV	0*	16.67
Newsletters	0*	0*
	n= 12	n= 12
	p= 0.2937	p= 0.6476

*** samples were removed from statistical analysis because 0% were ranked, creating scarcity issues within the statistical model.**

Next we asked respondents to rank the interpersonal formats that they were currently using from #1 as most used to #6 as least used. Friends and family had the highest amount of #1 rankings with 16 respondents (Figure 3-5). Informal channels, which are personal connections other than friends and family, and Workshops had the next most frequent #1 rankings with 12 and 13 respondents respectively. These three formats had the most #2 rankings was well with 19 respondents marking Informal channels, 14 marking Workshops, and 10 marking Friends and family. Formal mentors was the least used format with 6 respondents marking it as #5. One-on-one format received mixed rankings with #3 ranking dominant. Other categories that were listed by respondents included Extension agents and others in the farming community.

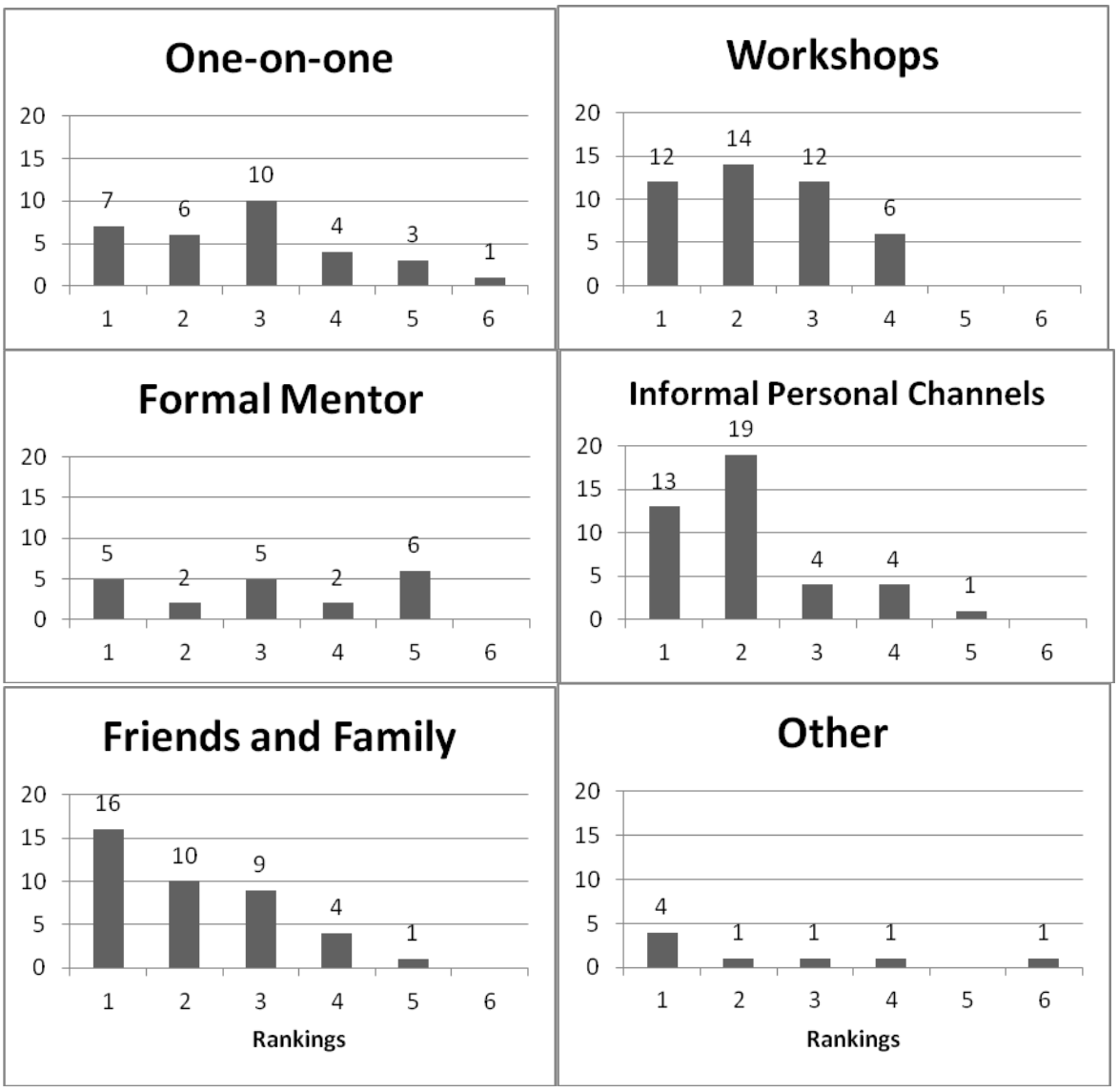

Figure 3-5: Respondents' rankings of interpersonal formats currently used. Most used formats were ranked as #1 while least used formats were ranked as #6. n = 58

Once all incompletely ranked surveys were removed, statistics were run on 11 surveys. The Other category was once again removed due to scarcity issues. There were no statistical differences between the distribution of informal formats ranked #1 or ranked #5 (Table 3-14).

Table 3-14. Statistical findings of survey respondents' currently used interpersonal formats

Question 17 - Interpersonal Formats Used		
	% ranked as #1	**% ranked at #5**
Friends and family	36.36	9.09
Informal personal channels	36.36	9.09
One-on-one meetings	9.09	36.36
Workshops	18.18	0*
Formal mentor	0*	45.45
	n=11	n=11
	p= 0.4155	p= 0.1770

*** samples were removed from statistical analysis because 0% were ranked, creating scarcity issues within the statistical model.**

Next we asked respondents to rank their preferred ways to learn given the options of class or workshop, field days or farm tours, collaboration with and expert on things like farm trials, community ties, and trial and error (Figure 3-6). A #1 ranking would be the most preferred and a #5 ranking signified the least preferred way to learn. Class or workshop had the most #1 rankings with 18 respondents marking it so. Trial and Error had the second most #1 rankings with 17 respondents followed closely by field days and farm tours with 16 respondents. Field days and farm tours also had the most #2 rankings with 15 respondents. Community ties had the most #5 rankings with 16 respondents saying that it was the least preferred way to learn. Trial and error had the second most #5 rankings with 15 respondents, and thus a bi-modal distribution. Collaboration with an expert received a range of rankings with most respondents ranking it #4.

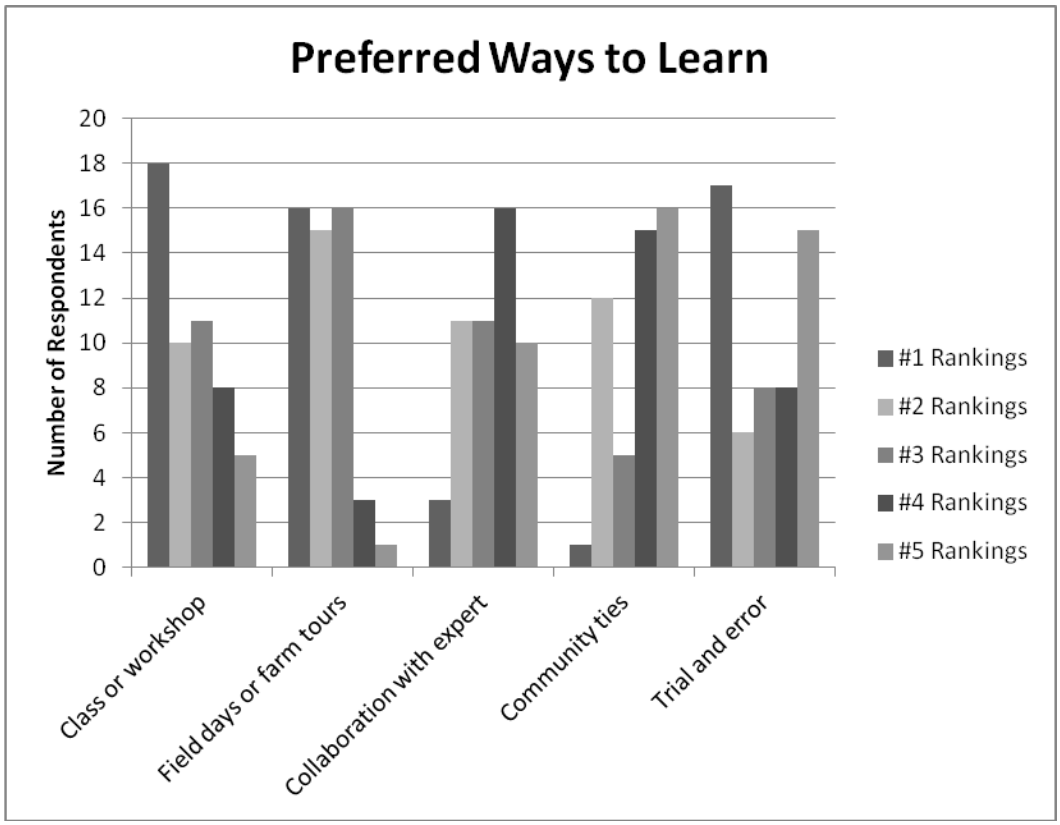

Figure 3-6. Survey respondents' rankings of preferred ways to learn. Class or workshop, field days or farm tours, collaboration with experts, community ties, and trial and error were ranked from most preferred as #1 with least preferred as #5. n = 54

Once incompletely ranked surveys were removed, statistical analysis was run on 47 survey responses. For the #1 rankings Class or workshop, field days or farm tours, and trial and error were seen to be statistically not different from one another but were statistically different from collaboration with a specialist and community ties (Table 3-15). Respondents preferred classes/workshops, field days/farm tours, and trial and error to the other options. For the #5 rankings, collaboration with a specialist, community ties, and trial and error were statistically not different from one another but were statistically different from classes or workshops and field days or farm tours. These were the least preferred ways to learn. Trial and error was ranked as both the most preferred and least preferred way to learn because many respondents either marked it as #1 or #5 with few rankings in between, creating a bi-modal distribution.

Table 3-15. Statistical findings of survey respondents' preferred ways to learn

Question 18 - Preferred Way to Learn				
	% ranked as #1	Means Separation	% ranked at #5	Means Separation
Class or Workshop	36.17	a	10.64	b
Field Days or Farm Tours	31.91	a	2.13	b
Collaboration with Specialist	4.26	b	21.28	a
Community Ties	2.13	b	34.04	a
Trial and Error	25.53	a	31.91	a
	n=47		n=47	
	p= 0.0011		p= 0.0047	

Educational Organizations

In the next section we asked respondents to compare different aspects of three types of organizations: Extension, the farm community as a whole, and non-profit organizations. First, we asked respondents to rank these three organizations in order of the quantity of information that they receive from the organizations with #1 as receiving the most information and #3 and receiving the least information. Extension had the most #1 rankings with 20 respondents followed by farming community with 19 respondents (Figure 3-7). Non-profit organizations had the most #3 rankings by far with 31 respondents.

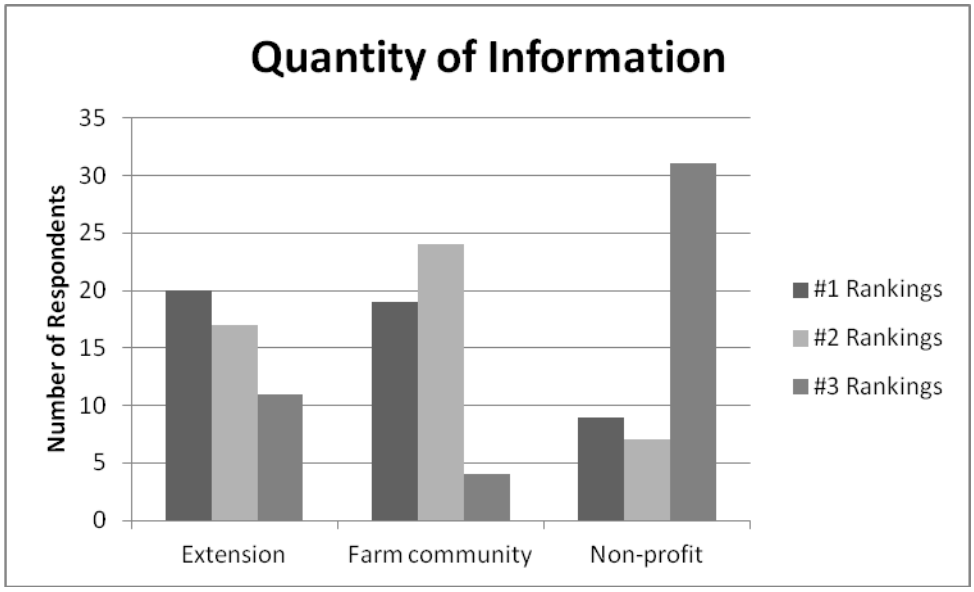

Figure 3-7. Survey respondents' ranking of the quantity of information they gathered from Extension, farm community, and non-profit organizations. Respondents ranked these three types of educational organizations from the highest quantity of information gathered from them as #1 to the lowest quantity of information gathered from them as #3. n = 46

Extension and farm community were found to be not statistically different from each other but statistically different from non-profit organization for both the #1 rankings and #3 rankings (Table 3-16). Respondents were receiving the most information from Extension and Farm community.

Table 3-16. Statistical findings of survey respondents' rankings of quantity of information from various types of educational organizations.

Question 19 - Quantity of Information

	% ranked as #1	Means Separation	% ranked at #3	Means Separation
Extension	41.3	a	23.91	b
Farm Community	41.3	a	8.7	b
Non-Profit Organization	17.39	b	67.39	a
	n=46		n=46	
	p= 0.0282		p= <.0001	

We then asked respondents to rank the same three organizations in order of the quality of the information they've received with #1 being the highest quality. The trend follows the

previous question with Extension have the most #1 rankings followed closely by farm community with non-profit organizations having the most #3 rankings (Figure 3-8).

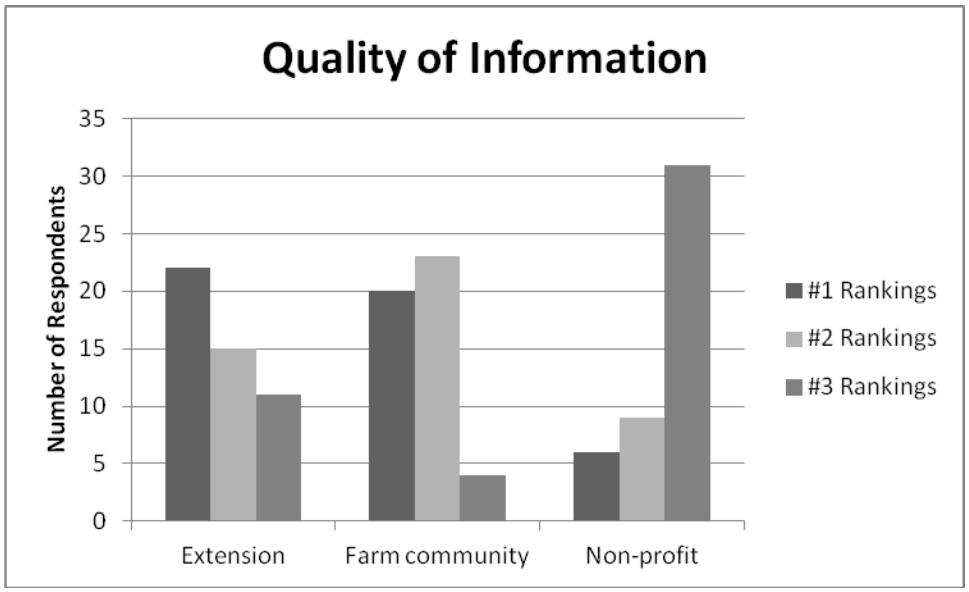

Figure 3-8. Survey respondents' ranking of the quality of information they gathered from Extension, farm community, and non-profit organizations. Respondents ranked these three types of educational organizations from the best quality of information gathered from them as #1 to the worst quality of information gathered from them as #3. n = 46

Extension and farming community were found to be not statistically different from each other but statistically different from non-profits in both the #1 ranking and #3 rankings, similar to the last question (Table 3-17). Extension and the farm community were both ranked to have higher quality information than non-profit organizations.

Table 3-17. Statistical findings of survey respondents' rankings of quality of information from various types of educational organizations.

Question 20 - Quality of Information				
	% ranked as #1	Means Separation	% ranked at #3	Means Separation
Extension	43.48	a	23.91	b
Farm Community	43.48	a	8.7	b
Non-Profit Organization	13.04	b	67.39	a
	n=46		n=46	
	p= 0.0048		p= <.0001	

Next we asked participants to rank the organization types in order of their "go to" source of information with #1 being their top go to source. Once again, Extension was ranked #1 the most often followed by farm community with non-profit organizations having the most #3 rankings by far (Figure 3-9).

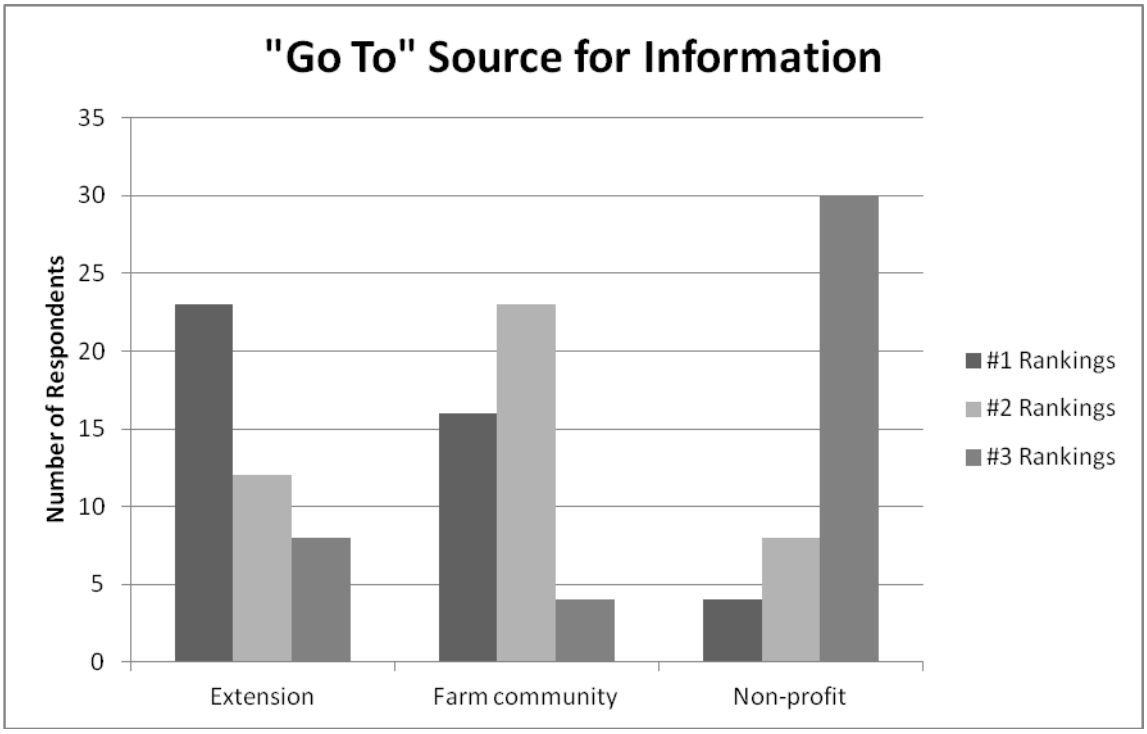

Figure 3-9. Survey respondents' ranking of their "go to" sources of information. Respondents ranked Extension, farm community, and non-profit organizations in order of their first "go to" source of information as #1 to their last "go-to" source of information as #3. n = 46

Similar to the past two questions, Extension and farm community were not statistically different from each other while being statistically different from non-profit organizations (Table 3-18). Respondents ranked both Extension and the farm community as their #1 go to source.

Table 3-18. Statistical findings of survey respondents' rankings of various types of educational organizations as their "go to" source.

Question 21 - Go To Source of Information				
	% ranked as #1	Means Separation	% ranked at #3	Means Separation
Extension	48.89	a	20	b
Farm Community	42.22	a	8.89	b
Non-Profit Organization	8.89	b	71.11	a
	n=45		n=45	
	p= 0.0010		p= <.0001	

We asked participants a series of questions to gauge their exposure to Extension in general. These questions included: Do you know who your regional/county Extension agents are? Do you have a regional/county agent working in your farming interest areas? Have you contacted one of your Extension agents in the past three years? Have you visited your regional/county Extension website in the past three years? And have you attended an event organized by your regional/county Extension office in the past three years?

When asked if they knew who their regional or county Extension agents were, 57.8% of participants said yes. Half of participants said that there was a regional or county Extension agent working in their current farming interest areas and 64.1% said that they had contacted one of their Extension agents in the past three years. Only 52% of participants said they had visited their regional or county Extension website in the past three years while 58.5% said they had attended an event organized by their regional or county Extension office in the past three years.

Barriers and Aids for Finding Information

Barriers for Finding More Information

We asked participants to write in barriers to obtaining more information for their farming/growing business. Of all the barriers that were given by respondents, time was the most

common answer. Of the 47 people who wrote in barriers, 42.55% listed time. Several respondents noted that they have another job or they just don't have the time to dedicate to researching answers or new techniques.

Technology was the next most popular concern with 21.28% of respondents listing it as a barrier. Most people listed slow internet connection speeds or little computer knowledge as issues preventing them from gathering more information. Cost of participating in programs or in purchasing materials was perceived as a large barrier with 17.02% of respondents listing them.

Many participants listed not having a network or a mentor to go to for help with 14.89% of respondents listing this. As one respondent noted, "Practicing farmers are pretty tight about sharing information due to the competitiveness to growing and selling their product." This sentiment shows the informational isolation that some farmers and growers are dealing with.

Another concern for respondents was finding localized information; 12.77% of respondents listed the lack of growing information specific to their location as a barrier. A full list of respondents' answers and the overarching categories can be found in Appendix C.

Getting More Information

We asked respondents to write in what would make it easier for them to get more information. The most common suggestion was to have a single place that is easily navigable with all the information about a farming business quickly accessible; 13.64% of respondents felt that having one place that compiled information about all aspects of a growing/farming business would help them find the information they need.

Several suggestions talked of having credible sources of information. Nine percent of respondents thought that having reliable and credible sources would be helpful. Along those lines, 9.09% of respondents also mentioned having local help and regional growing information available. Having access to information about growing in this region and having regional growing experts to talk to would help them get the information they need. A complete list of respondents' answers and the overarching categories can be found in Appendix C.

Marketing and Financial Status of Farms

Respondents' Markets

We asked respondents what markets they used for their products in 2012. Participants were able to choose all the markets that applied and were requested to circle their primary market outlet. A large majority of respondents sold at farmers markets with 61.11% or 33 respondents checking that option (Figure 3-10). The second most used market was direct sales with 38.89% of respondents selling that way. The two least used markets were selling to schools and institutions with only 3.70% of respondents using that outlet followed by the 9.26% of respondents who are selling to chain grocery stores.

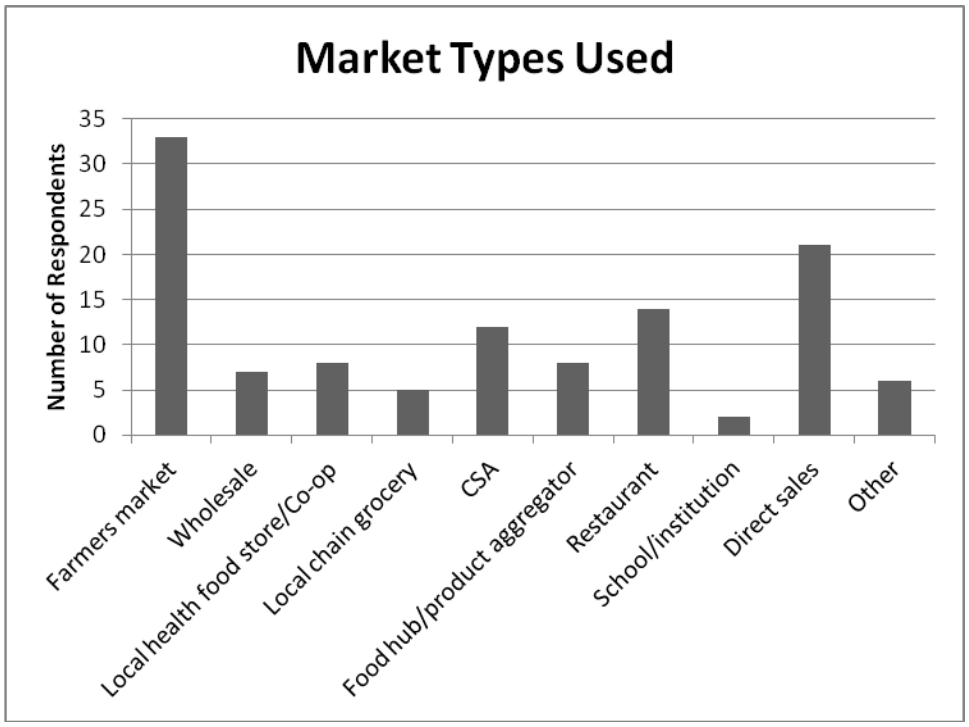

Figure 3-10. Various types of markets used by survey respondents n = 65

When we asked participants to circle their primary market, once again the farmers market was the most common answer with 68.75% of respondents selling their produce primarily through that outlet (Figure 11). Resturant sales were the next most used market with 10.42% of

respondents' primary sales. Local health food stores/co-ops, local chain grocery stores, and school/institutions were not primary outlets for any of the respondents (0%).

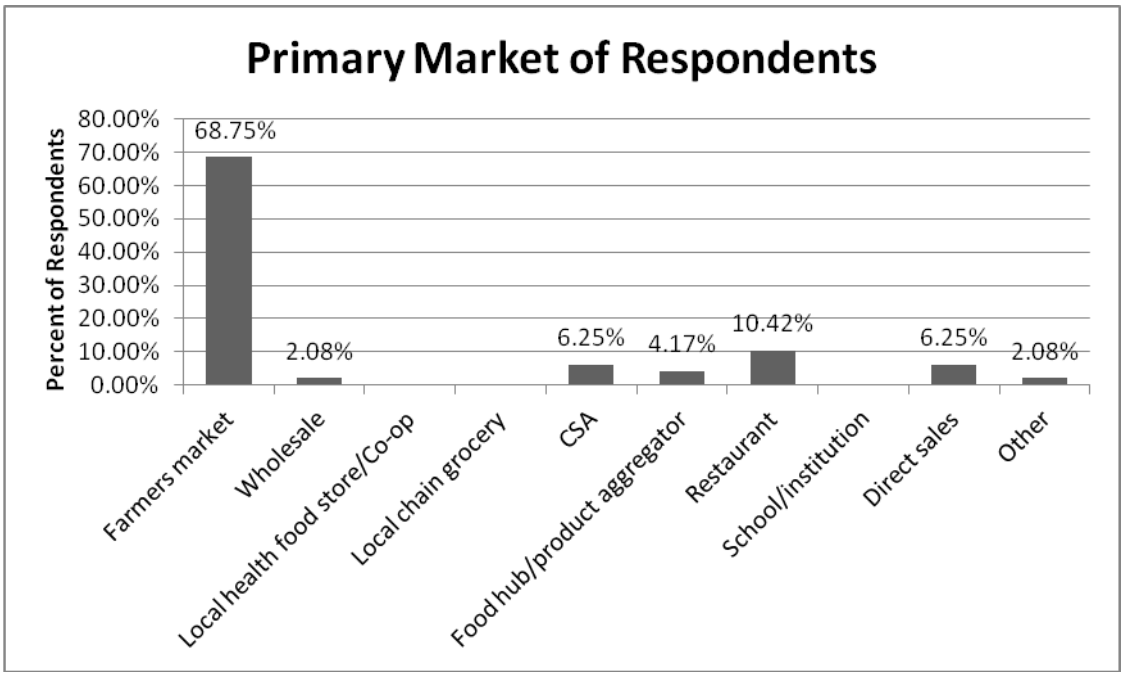

Figure 3-11. Primary markets for survey respondents. n = 48

Farm Income

We asked participants if their current farming operation supplied the primary income for them or any of their business partners. Of the 62 farmers and growers that responded to the question, only 20.97% said their current farming operation was their primary income while 79.03% said that this farming endeavor was not their primary income.

We then asked participants to estimate the percentage of annual income that comes from their farming/growing business. Of the 59 people who answered the question 59.32% said that they made less than 10% of their annual income through their farm operation (Figure 3-12). Nine respondents (15.25%) said that 100% of their income came from their current farm endeavors. Most other respondents had 50% or less of their annual income coming from their farming operations.

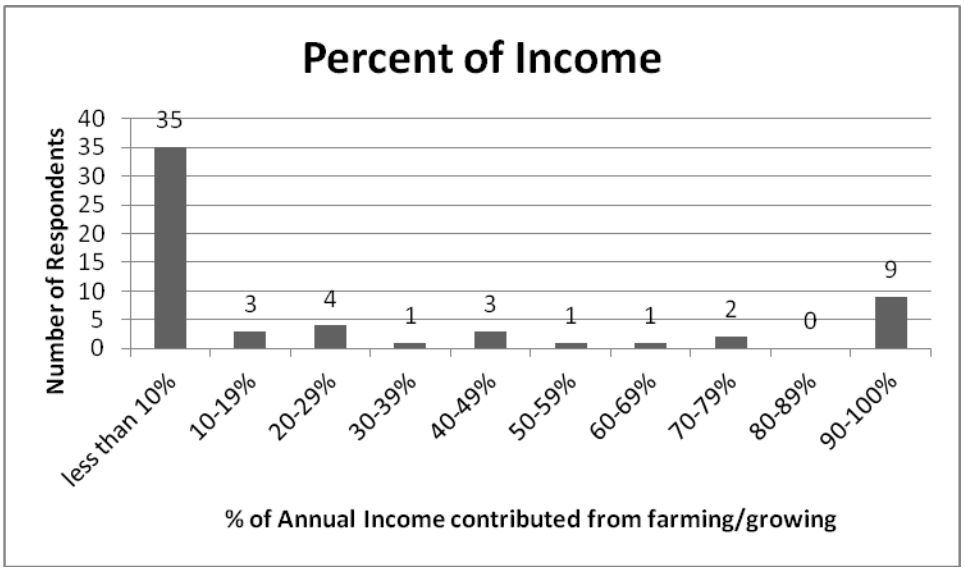

Figure 3-12. Percent of respondents' annual income contributed from current farming/growing business. n = 62

Financial support used

We asked participants about the financial sources that supported their farm costs. Respondents could check all options that applied. Of the 51 people who responded, 62.75% of them chose product profits as a supporting financial resource (Figure 3-13). The next most chosen option was funds from another job with 47.06% of respondents marking that option. Some other popular answers were membership fees for 15.69% of respondents and grants for 11.76% of respondents. The least used financial source was workshop/tour fees with only 5.88% of respondents saying they had used that source. Other sources (9.8%) represent personal bank accounts and private loans.

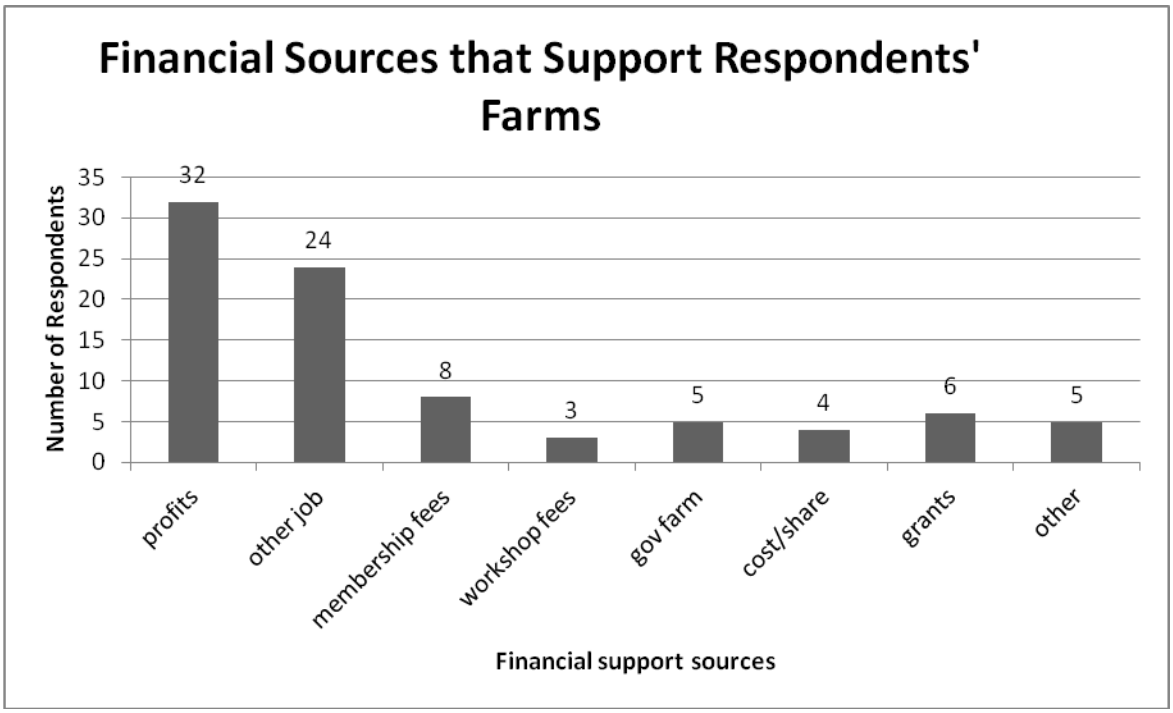

Figure 3-13. Supporting financial sources for respondents' farm costs. n = 64

People Hired for Pay

We asked respondents how many people they hired for pay in 2012. They were able to write in an answer. Of the 61 people who answered, 68.85% of them did not hire anyone, 14.75% hired only one person, and only 4.92% hired six or more people (Table 3-17).

Table 3-19. People hired for pay by respondents

Hired People for Pay		
Number of people hired	Number of respondents	% of respondents
0	42	68.85%
1	9	14.75%
2	4	6.56%
3	1	1.64%
4	1	1.64%
5	1	1.64%
6+	3	4.92%

We then asked participants to write in the number of people that provided volunteer hours in 2012. Of the 55 people who answered, 54.55% did not have anyone provide volunteer hours,

30.91% of respondents had between one to three people provide volunteer hours, and only 7.27% had six or more people provide volunteer hours (Table 3-18).

Table 3-20. People who provided volunteer hours for respondents

Volunteers		
Number of people who provided volunteer hours	Number of respondents	% of respondents
0	30	54.55%
1	6	10.91%
2	5	9.09%
3	6	10.91%
4	2	3.64%
5	2	3.64%
6+	4	7.27%

Participants were also asked if they had interns and how were they classified. Of the 62 participants that answered the question, 87.1% of them did not have interns of any kind. Interns working on hourly wages were employed by 8.06% of participants while 0% employed interns that were paid from a stipend. Volunteer interns were used by 4.84% of participants.

Discussion

Our survey respondents self-identified that they were over 50 (61.9%), white (75.8%), and men (86.2%). This is directly opposite to the many anecdotes that urban farming is attracting new, young farmers from diverse backgrounds. Although our participants were more diverse than the 2007 US Census of Agriculture tabulations for the study area, the majority of the respondents were over the age range we were expecting. This age discrepancy is also in direct contrast to the National Young Farmers Coalition that have been seeing increasing numbers of young farmers coming from non-farm backgrounds (NYFC, 2011). One explanation of this contradiction is that young farmers in the Kansas City Metro are just getting started so they weren't on any of the lists used to compile our survey sample. Another explanation is that it is hard to acquire capital and gain access to land for a farming operation. This can be a significant barrier for new farmers, particularly young farmers who haven't had years to build up their credit or savings (NYFC, 2011).

Of the farmers that responded to our survey, 79.03% of them indicated that their farming endeavor was not their primary income while 59.32% of them said that they made less than 10%

of their annual income through farming. Diekmann and Batte (2009) found similar results when surveying Ohio farmers. They found that 64.1% of their surveyed farmers relied on off-farm work. In the National Young Farmer Coalition's survey of new and young rural farmers across the country, they found that 73% of their respondents depend on off-farm jobs while those farmers with less experience were more reliant on off-farm jobs (NYFC, 2011).

Over two thirds (69.7%) of respondents indicated they were following specific farming practices, such as organic, natural, or hormone-free. This is similar to the National Young Farmers Coalition's finding that many new farmers are interested in sustainable growing methods. Suvedi et al (2010) found in their survey of Michigan farmers that 9.09% of their respondents wanted more information on sustainable farming, specifically on organic practices.

Although there was no statistical significance, trends show that farmers ranked the need for production and finance information highly with distribution and marketing information coming in second. Diekmann and Batte (2009) found that Ohio farmers had high demand for farm economics information. Similarly, Suvedi et al (2010) found that 24.3% of surveyed farmers wanted information about business management, followed by sustainable farming information. Harms et al. (2013) found that urban growers in Kansas City needed more information about soils and soil contamination.

Our respondents preferred self-driven information formats and sources such as self-research, books, websites, e-mail, family/friends, and informal channels. With the exception of workshops and classes, farmers preferred information methods that didn't rely on outside organizations. This is similar to Varlamoff et al.'s (2002) findings that homeowners preferred sources of information that required some searching such as the internet. However, the majority of our results are in direct contrast to Diekmann and Batte (2009) and Cartmell et al. (2006). Diekmann and Batte (2009) found that Ohio farmers preferred print media over interpersonal media and broadcast media sources while electronic media were the least likely to be used. Cartmell et al. (2006) found that Oklahoma landowners in areas of urban/rural interface preferred information by direct mail and workshops were the least preferred information method.

Respondents of this study ranked Extension higher that non-profits in all given question scenarios indicating that they are getting more information from Extension, find it better quality, and go to Extension first before turning to non-profits. This is surprising given the high activity of non-profits such as Cultivate Kansas City, Kansas City Food Circle, and Kansas Rural Center

in Kansas City. Contrary to our findings, Harms et al. (2013) found that 88.9% of growers surveyed in Kansas City have used non-profits while only 79.2% of growers have used Extension resources. Of these respondents 50% found Extension educators "somewhat useful" and 38.9% found Extension "very useful." Non-profits were seen as "very useful" by 64.3% of respondents. This divergence between our results and Harms et al.'s could be that Harms et al. focused on growers of any kind while we specifically tailored our survey to farmers and growers who were trying to make a profit off their products. This difference could also be based upon non-response bias in that those individuals that did not respond to the survey potentially could have favored non-profits more.

Other researchers have looked at growers' views of Extension as well. Suvedi et al (2010) found that 50.4% of surveyed farmers indicated the Extension programs' relevance to local needs and problems was "good" while almost one-fifth found them "excellent." They also noted that farmers wanted local Extension to focus more on farm management, particularly organic practices, and offer more business education. In contrast, in 2002, Varlamoff et al. found that Extension was not used by many homeowners to obtain gardening information.

As with most studies, there are limitations to our data. First, the respondents that completed the survey are assumed to be representative of the whole study population. Second, for all questions where ranking was required, only responses that were ranked correctly and to completion could be included in the statistical analysis. This created an even smaller subset of participants that represented the population as a whole while decreasing the sensitivity of our statistical tests.

Conclusions

Although we had an acceptable response rate, our respondents are not as diverse as the average populations of the counties in the study area and thus most likely do not represent the population as whole. Therefore, results of this study cannot be generalized for the population as a whole but instead can be used to look at the surveyed population in particular.

The majority of farmers who responded to this study had small, diversified farms and were relatively new to farming. Farmers with under an acre of land were 35.4% of the respondents and those with one to five acres were 33.8% of respondents. Farmers with

diversified farms made up 71.2% of respondents. Just over 40% of respondents had 5 years or less of farming experience while 28.8% had 5-10 years of experience.

Respondents were primarily older, white men that had higher education. Men consisted of 86.2% of respondents and 75.8% self-identified as white. Respondents with a high school degree or higher made up 96.9% of the sample while 47.6% of respondents had a Bachelor's degree or higher.

Independently-driven sources were most commonly used among respondents. Self-research was ranked #1 as most used with statistical significance with no difference in the other categories. Although not statistically significant, looking at trends in the data, self-research was followed by Other Farmers and Family/Friends with high #2 rankings. Extension and Other Sources were ranked most highly as #3. There was no statistical difference in media types ranked #1 or #6 as well as no statistical difference in interpersonal formats ranked #1 or #6. However, looking at trends in that data, even though they are not statistically significant, the highest ranked media formats used by farmers were Websites, E-mail, and Books. Interpersonal formats that were ranked highest, and thus were most used, were Friends/Family, Informal Channels, and Workshops/Classes. With the exception of workshops and classes, all highly ranked formats in both media and interpersonal categories are self-driven and indicate respondents are self-motivated and are not currently relying on outside organizations for needed information.

Farmers were asked to rank Extension, the Farming Community, and Non-profits for most used educational organization according to the Quantity of Information they received, the Quality of information they received, and their Go To Source. Respondents consistently ranked Extension the highest and non-profits the lowest in all scenarios.

Most respondents have off-farm jobs and are funded through product profits and funds from other jobs. Farming was not the primary income for 79.03% of respondents while 52.32% said that less than 10% of their annual income was from their farming operation. When respondents explained all their financial sources used to support their farm 62.75% used product profits while 47.06% used fund from another job. Just under 70% of respondents didn't hire anyone for farm labor and 54.55% didn't have any volunteers.

The next chapter will explain the Extension Interviews that composed the second part of this project. What information Extension educators are offering, their methods of offering

information, their awareness of urban agriculture, and their involvement in urban agriculture programing will be explored.

Chapter 4 - Extension Educator Interview Results

Extension educators from Kansas State University, University of Missouri, and Lincoln University were interviewed one-on-one using scripted interview questions. The complete interview script can be found in Appendix C. The interviews were recorded and transcribed. All verbal spacers (such as 'ahs' and 'ums') were left out of transcriptions for an improved readability. Transcriptions were then uploaded into NVivo software and coded according to main themes, or nodes. Three of the interviews were open coded at the beginning of this process to find main themes, and then a coding tree was created and the rest of the interviews were coded into that tree. Initial nodes were created around the questions and categories in the scripted interview questions, and additional nodes and subnodes were created based on information that arose from the interviews and to capture the detailed responses to the questions. A second coder who was unrelated to the study independently coded all the interviews to verify sound coding logic. The second coder and the author compared coding after all interviews were coded to verify that all quotes related to the coding tree were identified. Ten main themes were identified. A total of 266 nodes and subnodes were coded throughout those 10 themes. The complete coding tree can be found in Appendix E.

A total of 17 interviews were completed consisting of 15 Extension educators within the nine county study area, one Extension educator just outside the study area but who was putting considerable effort into programming and facilitating urban agriculture education, and one interview with a representative from Cultivate Kansas City to compare and contrast Extension's approach to that of the foremost urban agriculture non-profit in the metro area.

Extension educators had emphasis areas of horticulture (which is housed under agriculture), family and consumer sciences, and community development (Table 4-1). Age of interviewees ranged from 31 to 62. Years spent working in Extension ranged from 2 to 30 years of experience, not including the representative from Cultivate Kansas City. The majority of interviewees have a Master's degree or higher with ten having an advanced degree, four having a bachelor's degree, and two interviewees with high school and some college.

Table 4-1. Characteristics of Extension Interviewees

Emphasis Area	Horticulture	Family and Consumer Sciences		Community Development	Cultivate Kansas City
	9	5		2	1
Age	20-29	30-39	40-49	50-59	60+
	0	6	2	7	2
Years in Extension*	Under 5	5-14	15-24	25-34	35+
	4	6	1	5	0
Extension Institution*	Lincoln		U. of Missouri		Kansas State
	3		5		8
Education	High School/Some College		Bachelor's Degree		Masters or PhD
	2		4		11
* Answers for Cultivate Kansas City were excluded from these questions because they do not work for Extension					

The ten main themes that will be discussed in this chapter were found both by basing nodes on questions that were specifically asked as well as nodes that arose in open coding (Figure 4-1). Of the nodes that were based on questions, two correspond closely with questions on the farmer/grower survey discussed in the last chapter. These nodes include *Categories of Information* and *Distribution of Information*. Three nodes that were based on questions were to help better understand the situation of the Extension educators. These nodes include *Workplace and Structure*, *Priorities,* and *Collaboration*. The nodes that arose in open coding include *Benefits, Barriers and Challenges*, *Reaching Minorities*, *Extension as an Institution,* and *Conceptualization and Rhetoric*. All these nodes will be explored in detail throughout this chapter.

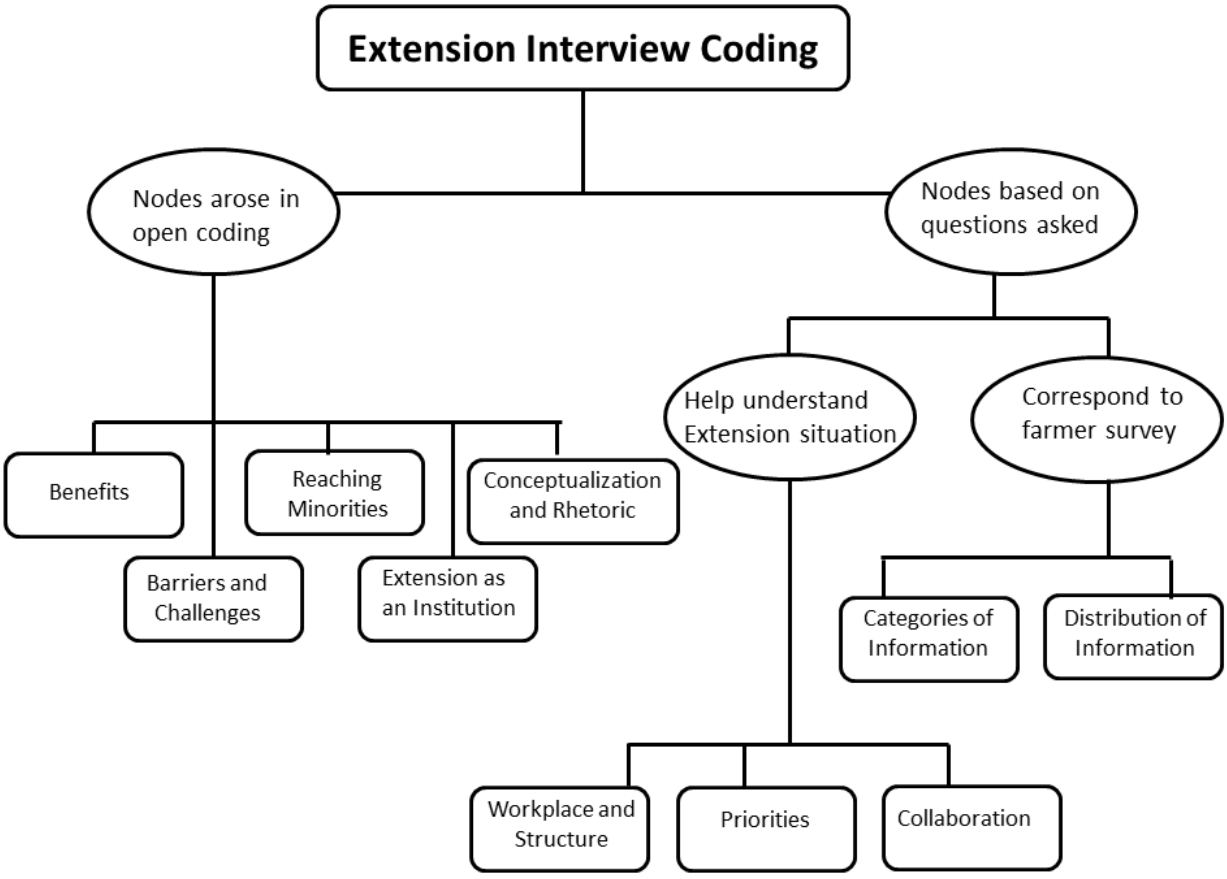

Figure 4-1. Flow chart of the ten main themes that were identified in the Extension educator interviews. Interviews were then coded into these themes to find trends.

Categories of Information

One of the main nodes in the coding tree was "Categories of Information." This node included the six main areas of information from the farmer and grower survey (production, processing, distribution, marketing, financial, and equipment/technology) as well as additional topics that came up including nutrition, policy, urban planning, and specific practices of production.

Production

Out of the 15 Extension educators in the nine-county study area, 11 educators are offering production programing or plan on offering it in the next 5 years. That equates to 73.3%

covering either plant or animal production. Some of the main topics within plant production include basics of plant production, grafting, pest management, soils/soil quality, and water/water quality.

Processing

Processing was one of the most common programing areas. Of the 15 Extension educators interviewed, 11 of them are offering or are planning on offering processing programing in the next 5 years. The most common specific topics covered within processing were food preservation, food safety, and harvest/post-harvest handling.

Distribution

Eight of the fifteen Extension educators are doing or are planning on doing distribution education in the next five years. Most of the discussion about distribution programing centered on connecting farmers to different types of markets for wider distribution.

Marketing

Six out of fifteen Extension educators mentioned marketing education as something they are currently doing or plan on doing in the next five years. The most common categories within marketing were identifying markets and creating a unique product to enhance marketability.

Financial Resources

Financial information had the fewest number of Extension educators involved in programing. Only four out of the fifteen educators discussed having programs that address farm-related finances. Those that said they were doing or planned on doing finances programing referred specifically to grant writing or to creating business plans for farms or farm-related businesses.

Equipment and Technology

Seven out of fifteen Extension educators are doing or plan on doing programing related to equipment in the next five years. The type of equipment that is currently being addressed is primarily high tunnels. There is talk of starting programing on aquaponics in the next couple years.

Specific Practices

Specific practices refer to any methods of production that would require a specific knowledge set, such as organic or free-range. Of the fifteen Extension educators only two said that they were addressing specific practices directly. Both of these educators referred to offering production information for sustainable and organic systems. Several other educators mentioned that they received questions from organic producers inquiring about organic solutions to problems such as pest management or bed preparation.

One educator also mentioned the Growing Growers program which is a collaboration between Kansas State Extension, University of Missouri Extension, Lincoln University Extension, Cultivate Kansas City, the Kansas Rural Center, and the Kansas City Food Circle. This program is a training program for beginning farmers and focuses specifically on organic practices and is offered in the KC metro area.

Nutrition

Nutrition was not a category that was included on the farmer survey. However, one-third of the interviewed Extension educators' focus area is family and consumer sciences, primarily in family nutrition. These educators are finding ways to incorporate urban food and urban agriculture into family nutrition by partnering with local farmers markets and organizations to demonstrate the community benefits of purchasing from local farmers as well as the nutritional benefits for the consumer. Three out of fifteen educators mentioned nutrition education that they are doing or will be doing that relates to urban agriculture and local food.

Policy and Urban Planning

Policy is yet another area that is an important consideration for urban farmers. This was not an original category in the farmer survey, but after some reflection, it would have been a good addition. Three out of the fifteen interviewed Extension educators mentioned being involved in urban agriculture policies, either through educating about them or being involved in the Kansas City Food Policy Coalition.

Cultivate Kansas City is approaching urban agriculture through the urban planning process as one of their many program focus areas. They are doing this by working with developers to include urban gardens and farms in both high end and affordable housing developments.

Distribution of Information

"Distribution of Information" was another main node in the coding tree. This node encompasses different ways of distributing information out from an organization. Several of these distribution methods, both interpersonal and media related sources, are directly related to options in the farmer survey. Other methods, such as volunteer networks and specific programs, are unique to the Extension interviews and arose from their frequency in the coding tree.

Interpersonal Sources

All 15 of the Extension educators within our study area as well as the Cultivate Kansas City (CKC) representative mentioned using interpersonal sources for distributing information. Interpersonal sources were subdivided further into fairs/festivals/booths, workshops/classes, and one-on-one meetings in order to directly address preferences from the farmer survey.

Fairs, festivals, and booths were mentioned as a common ways to distribute information for three of the fifteen Extension educators. All of these educators were Family and Consumer Science educators and were talking about giving out information at health fairs specifically.

Workshops and classes were mentioned by ten of the fifteen Extension educators. Fruit and vegetable workshops were the most frequently mentioned, followed by livestock classes, and workshops/classes focusing on processing, distribution, and equipment.

One-on-one meetings were the most popular interpersonal distribution method. Twelve out of fifteen Extension educators mentioned that they had one-on-one meetings with clients. Many of the agents from Kansas State or from University of Missouri mentioned that this wasn't their main way to distribute programs but they still offered this option. In contrast, Extension educators from Lincoln University and Cultivate Kansas City mentioned that this was one of the main ways that they distribute their information. This difference may be due to the fact that Lincoln and Cultivate Kansas City have a much narrower target audience and have time and resources to focus on one-on-one meetings.

The representative from Cultivate KC had a very interesting perspective on the importance of offering interpersonal resources to urban farmers:

> I think our primary focus has been getting people who know what they're doing talking to other people who want to learn. So it's one-to-one, it's within small groups, its

> workshops, its direct experience. I think to some degree that was a more or less conscious decision also that there were groups like Extension out there that there's people in entities whose job is publications and webinars. So recognizing that we didn't really need to – I think it was just too damn much stuff on paper and on the web and what we really need to do is talk to each other and get people kind of in direct engagement (Cultivate Kansas City).

While most other interviewees discussed moving to a more digital format to try to reach more people, Cultivate Kansas City is focusing on connecting farmers and other interested parties within the food system to create a network of support. Cultivate KC understands that Extension is covering the online presence of information so instead they are offering opportunities to connect in person to others who are in similar situations.

Media Resources

Almost all of the Extension educators indicated that they used media resources to distribute information. Twelve of the fifteen interviewees use media sources which were further subdivided into digital, print, and radio resources.

Digital resources were the most common of media sources used with 12 of the 15 Extension educators using them to distribute information. The most frequently mentioned digital methods were websites and e-mail. Many educators mentioned that this was their most used media source because it was the most available.

Print media was specifically mentioned by 11 of the 15 Extension educators. These sources included handouts, printed Extension bulletins, and articles in the local newspapers. Many educators indicated that print media was not their primary use of media sources but instead preferred other media sources mentioned above.

Radio was only used by two of the fifteen educators. These two educators had mixed opinions of using the radio as a way to distribute information. One educator had a monthly show on a local radio station and thought that it helped reach a new audience that they weren't capturing otherwise. The other educator said they hadn't had much success with radio and instead preferred TV. TV wasn't specifically mentioned by any other educators.

School Programs

Five Extension educators out of fifteen discussed distributing information to youth audiences through school programs. These programs teach youth about gardening and nutrition basics. Many of these programs are also linked to school required curriculum so that teachers can use these programs to enhance other lessons.

Distribution through Volunteers

Nine of the fifteen Extension educators indicated that they rely at least partially on volunteers to distribute information and answer questions for people within the county. Some programs are set up to be a train-the-trainer program where Extension staff train people to then educate the public on a particular topic, while other programs like Master Gardeners and Master Food Volunteers have a requirement of volunteer time and community service. Through these programs and volunteers, Extension is able to reach more people with the limited time, money, and staff that they have.

Reaching out to the Community

Six of the fifteen Extension educators mentioned reaching out to the community. Many of these educators explained that being a part of the community, living there and knowing what is going on in the area helps address the needs of the community and distribute information more effectively. Cultivate Kansas City also mentioned reaching out to the community because a large part of their mission is to address needs of the community. However, their focus is to find effective local food models for interested communities and help them achieve these outcomes.

Notable Programs

During interviews, there were several programs that were frequently brought up and discussed by name. Many of these programs are directly related to educating and training urban farmers and growers or offering supporting systems for urban agriculture.

The most commonly mentioned program was the Growing Growers program with six of the Extension educators discussing it by name. As mentioned previously, Growing Growers is a training program for first generation farmers and covers all aspects from production to distribution, marketing, and finances. The program is a collaboration between University of

Missouri Extension, Kansas State Extension, Lincoln University Extension, Cultivate Kansas City, Kansas Rural Center, and the Kansas City Food Circle.

Master Gardeners was a commonly mentioned program as well among the Extension educators. Four of the fifteen mentioned Master Gardeners by name. Master Gardeners in a program that consists of classes over a several month time period with a pre-approved curriculum covering topics such as soils, pest management, tree care, lawn care, and irrigation. After classes have been completed by participants, volunteer requirements must also be met to be considered a Master Gardener, but the amount varies by institution. Some of this information could be very helpful for a beginning farmer even though all the information may not be applicable. Several Extension educators mentioned how they were trying to work food production into Master Gardener classes. One educator in particular is working with his Master Gardeners to create demonstration gardens that only have edible plants in them.

Master Food Volunteers was mentioned by three of the fifteen Extension educators. Master Food Volunteers is a similar volunteer based program like Master Gardeners, but it focuses on food nutrition, preparation, preservation, and food safety. Volunteers take 40 hours of training over a number of weeks and then must commit to an additional 40 hours of community service to be a Master Food Volunteer. This skillset could be helpful for urban farmers and growers who would be interested in making value-added products such as pickles, sauces, salsas, and jams.

Cultivate Kansas City was mentioned by four Extension educators. The educators noted that Cultivate KC is the forefront of urban farming training in Kansas City and made reference to several of their programs such as their refugee farm training program, Juniper Gardens, and their biannual Urban Farm Tour and accompanying workshops.

Workplace and Structure

Although University of Missouri, Kansas State University, and Lincoln University all have Extension outreach programs, there are definite differences in the structure of their Extension institutions. Extension educators were asked questions regarding their workplace structure to better understand how their Extension structure affected their programing efforts.

Extension County Councils and Programing Development Committees

Nine of fifteen Extension educators said that they rely on their County Councils or their Programing Development Committees to understand and address the needs of the community. The University of Missouri uses County Councils while Kansas State uses the term Programing Development Committees, but the function of both are very similar. These councils/committees are made up of a few members of the area and offer guidance and support to the Extension educator. There is typically one committee or council per county. Because County Councils and Programing Development Committees are only used for University of Missouri and Kansas State, the nine educators who mentioned this part of their structure are only from those two organizations. The Lincoln University educators that I talked to did not have something like this in their structure. However, Cultivate Kansas City mentioned they turn to their Board for insight and advice as well.

Flexible Structure

Ten of the fifteen Extension educators explained that they were working within a flexible structure and had certain freedoms in deciding their emphasis areas. All of the Lincoln University educators commented on the flexibility that they have for programing. Other educators mentioned that their flexibility arises from their specialization in their field or from having a trusting relationship with their Program Development Committee or Extension Boards.

Working as a Team

Working as a team was mentioned by 10 of the 15 Extension educators. The types of teams that were discussed included statewide teams that focus on a specific area, teams within counties when developing interdisciplinary programs, and working as a team as a means for exposure to more expertise.

Regional vs. County Extension Structure

University of Missouri, Kansas State University, and Lincoln University all have different structures dictating the locations of their educators within the metro area. Eight out of fifteen educators explained this system. The University of Missouri has regional specialists that are highly knowledgeable in their areas, such as horticulture or family nutrition, that are responsible for programing within a several county area. Alternatively, Kansas State University

has the more traditional model of county educators where each county has an agriculture educator, family and consumer science educator and so forth. In larger counties, there is some specialization in certain topics. For example, in large counties there can be an agriculture educator as well as a horticulture educator which is a specialization within the agriculture programming area. Lincoln University has a different structure wherein educators serve a several county area but are very specialized. This structure is more free-form than the other two institutions. Because of the fluidity to Lincoln's structure, no educators commented on a strictly regional- or county-based structure.

Reporting systems

Six of the fifteen educators discussed their reporting systems in their university structures. These systems ranged from five-year plan of work reports, different types of evaluation methods for programs, monthly reports to supervisors, and fitting all programs into state-wide categories for reporting purposes. There were no specific trends between institutions and their mentioned reporting systems.

Silos of Extension

Six of the fifteen educators discussed the structure of programing areas which are referred to as 'silos' within Extension. They are called this because much like grain silos, each programing area is separate and contains only certain types of things – programs in the case of Extension and grains in the agricultural metaphor. These silos are broken out into four programing areas at Kansas State University: Agriculture, Family and Consumer Sciences, 4-H and Youth Development, and Community Development. The University of Missouri adds another silo of Business Development to their system. This structure does not translate into the Lincoln University Extension structure, thus none of the Lincoln educators commented on this topic.

Specialization

Four Extension educators discussed the specialized structure within their programing area. Educators discussed how larger counties have specialization within silos as well as the regional specialist structure within the University of Missouri structure.

Funding for Extension

Funding for Extension programing was mentioned by 12 of the 15 educators within the study area as well as one educator outside the study area and Cultivate Kansas City. Several funding streams were discussed. One funding stream that was discussed by four educators is fund generating programs such as Master Gardeners, Master Food Volunteers, food safety courses, and general admission to workshops for the general public. One educator explained that charging for workshop increases attendance in their county:

> And all of our classes are open to the public. We do charge $5 because what we found is that if they're free people don't come, but if you charge something there's value. But we keep it five bucks everybody can afford five bucks. (Horticulture educator, Kansas State)

In this Extension educator's case, by charging money for workshops, not only do people think it is worth their time, attendance is higher and they are creating a funding stream that can be put back into programing for the county.

Other funding streams that were discussed were grants and government and state funds. Eight educators discussed how grant money helped them to hire interns, carry out large programs like the Family Nutrition Program, begin new collaborative projects, and buy equipment and supplies for current programs. Six educators discussed how federal, state, and county funds were used in their programs and how these funds made it critical to reach all parts of the population in their work area because these funds come from everyone.

Support

Different types of support for Extension programing was discussed by 14 of the 15 educators and by Cultivate Kansas City. One type of support discussed was donations and financial support. Most of the 10 educators that discussed this noted that they had very limited in-kind donations or financial support outside of the previously discussed funding streams. The exceptions were a couple educators mentioned being able to rent locations for free for events or having people donate food for events. Alternatively Cultivate Kansas City received in-kind donations of equipment and local expertise.

Eight of the fifteen educators mentioned having paid staff as a support factor. These staff members most commonly helped with large programs like the Master Food Volunteer program

and the Family Nutrition Program. None of the Lincoln educators mentioned having paid staff assistance.

Other types of support included support from other organizations and volunteers. Seven educators mentioned that other organizations supported programs by way of sponsorship or being a collaborative partner. Fourteen of the fifteen educators discussed how supportive their volunteers were to programing efforts. Some of the most commonly supportive volunteer groups were the Master Gardeners and the Master Food Volunteers because they help answer questions and distribute information into the community.

Priorities

We asked Extension educators about their programing priorities as related to the programs themselves, their audiences, and then asked educators to rank some information topics to understand how they prioritized those specific areas.

Audiences

People with limited resources and minorities were the most targeted audience for programming with nine of fifteen Extension educators focusing on this group. Several reasons were discussed as to why these were a prioritized audience. Some educators pointed out that the Small and Innovative Outreach Program through Lincoln University is devoted to reaching underserved and minority populations.

Several other Extension educators discussed the importance of making sure the demographics of participants in their programing matched the demographics of their assigned area to make sure all populations' needs were being met. As one educator pointed out, Extension's mission is to be a resource for everyone and making sure everyone is included is a growing concern for Extension educators:

> That's one of the challenges. When we are working in urban areas we can see the population of different ethnicity. As an Extension agent or Extension specialist I don't think I have reached the ratio that is there operation wise. So that's one of the concerns. It's not the only concern but I think about that. Extension is for everybody so I feel we can work there more (Horticulture educator, University of Missouri).

Reaching all groups of people is a concern for Extension educators and many mentioned continuing to reach more diverse groups in their counties.

A few Extension educators also mentioned that there are more funding streams devoted to helping minorities and those with limited resources. Although this was not mentioned as a primary reason for prioritizing these groups, educators were aware of the connection.

Growers were the next most mentioned prioritized audience with six of fifteen Extension educators indicating that they focused programs on growers. All educators that prioritized growers were either horticulture educators or educators with agriculture responsibilities. Different types of growers were mentioned such as farmers (both rural and urban), home horticulturalist, ornamental horticulturalists, and horticulture therapists. These six educators address the needs and prioritize these types of growers in a different capacity based upon job responsibilities and program focuses.

Youth audiences were prioritized by three of fifteen Extension educators. These three educators focus on food awareness and food nutrition with this audience. One additional educator mentioned that she doesn't typically get requests for information from younger generations unless they've experimented with some of their plants and it has gone wrong. Otherwise, the younger generations don't actively engage with Extension as much as older generations.

Consumers were prioritized by three of fifteen Extension educators with all three educators working within Johnson County, Kansas. There are several Extension programs in this county to reach consumers and raise awareness about where food comes from and how it is produced. As one educator explained, due to barriers in acquiring land in the county, they see a lot more consumers than growers. Because of this, addressing consumers meets the needs of the county residents much more effectively.

Other prioritized audiences were families, elderly, workplaces, and homeowners, but these were not heavily prioritized collectively. All of these audience groups had only one or two educators prioritize them.

Programs

Agriculture and horticulture production programs were the most commonly prioritized types of programs. Seven out of fifteen Extension educators prioritize agriculture/horticulture programing as well as Cultivate Kansas City. These programs include county Master Gardener programs, beginning farmer programs, ornamental horticulture programs, and school garden

programs. Cultivate Kansas City mentioned that their prioritized production programs include their for-profit demonstration farm and the Juniper Gardens refugee farmer training program.

Many Extension educators noted that their prioritized programs are not decided by them directly. Eight of fifteen educators explained that prioritized programs are decided by Program Development Committees or based upon needs of the community. Many educators depend on their Program Development Committees to help them identify community needs and prioritize their efforts. Additionally, some educators use log books to identify the most requested information.

Consumer education programs were prioritized by three educators. These educators are creating opportunities and programs for consumers to connect with their food and understand how it is produced and where it comes from. As one educator explains the need for these types of programs:

> I really think that what I see now is people seem to very much want to connect with more natural food products. They want less food preservatives. They want less pesticide use. There's something that's driving them to connect with the environment. And I think that's a great thing but they have a lot of misinformation as it comes to that. So that would be one [priority] (Family Nutrition educator, University of Missouri).

If more people are interested in connecting with their food and understanding where is comes from, Extension can be that research-based unbiased source that they look to.

Food access was prioritized by three educators all of whom were Family and Consumer Science educators. All of these educators were focusing on nutrition and were working with different local organizations to address the issue of food deserts.

Food preparation and preservation, food safety, prioritizing according to action plans, and statewide based programing were all prioritized by two educators each. Business development, community health, livestock production, living on a budget, and national impact were all only prioritized by one Extension educator each. Only one educator said they did not prioritize their programing efforts.

Ranking of Main Topics

Extension educators were asked to rank the six main topics (production, processing, distribution, marketing, financial resources, and equipment) that were the basis of the farmer

survey. Educators were asked to rank these topics in order that they thought *urban farmers* needed them with #1 being the most needed and #6 being the least needed.

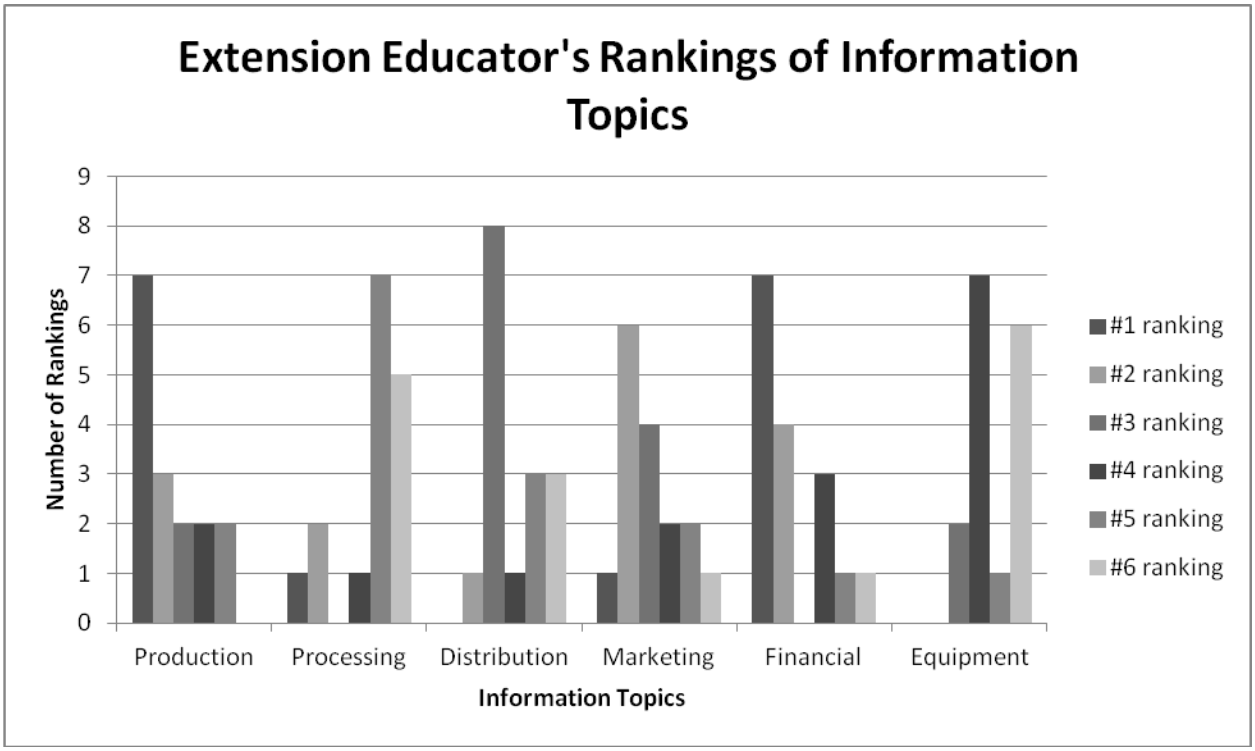

Figure 4-2. Extension educators' rankings of production, processing, distribution, marketing, financial, and equipment information based upon what they thought urban farmers needed. Topics were ranked from most needed as #1 to least needed as #6. n = 17

Production and financial resources both received the most #1 rankings while equipment received the most #4 and #6 rankings (Figure 4-2). Marketing had the most #2 rankings while distribution was solidly ranked in the middle with the most #3 rankings. Processing had the most #5 rankings.

Collaboration

Extension educators were asked if they collaborated with other organizations or other Extension offices for their programing efforts. Answers were divided into the following subnodes.

Collaborations with Campus Faculty

Three out of fifteen Extension educators said they were collaborating with campus faculty. These educators were bringing in state specialists to help with programs or were requesting that certain topics be researched more at the university level. One educator was collaborating with faculty from both Kansas State and University of Missouri.

Collaborations with Community Members

Four out of fifteen Extension educators have collaborated with community members on programing efforts. These educators have brought in local producers to help present a program or had local producers explain their set-up during farm tours. Collaboration has also occurred to design projects that are requesting grant funding from the Sustainable Agriculture Research and Education (SARE) organization.

Collaborations with Other Extension Offices

Fourteen out of fifteen Extension educators have collaborated with other Extension offices. Most collaboration is happening between silos in the same office or between offices in the same university system. Although there is a little collaboration taking place across state lines, it is minimal. There is more collaboration occurring between University of Missouri and Lincoln University than with Kansas State.

Collaborations with Other Organizations

Twelve out of fifteen Extension educators have collaborated with outside organizations. Organizations that are commonly collaborated with are government organizations, such as USDA, NRCS, and state/county health departments, non-profits such as Cultivate Kansas City, Kansas Rural Center, and coalitions such as the Beans and Greens Coalition and the Food Policy Coalition. Some local centers, such as business development centers or minority outreach centers, local businesses, and farmers markets are some other organizations that Extension agents have collaborated with.

Future Collaborations

Fifteen out of the sixteen total Extension educators discussed future collaborations. Many types of future collaborations were within the Extension system. One type of future collaboration

that was mentioned was sharing information between Extension silos in county and regional offices. Sharing information with other Extension offices in the same university system was also discussed. There was also mention of making more effort to collaborate across state lines and university affiliation. Other collaborations with other community organizations to reach new audiences were also discussed.

Reasons for Collaboration

Twelve out of fifteen Extension educators as well as Cultivate KC gave reasons for collaborating with others. One of the most frequently given reasons was that collaboration allows educators from both organizations reach a new audience. One educator noted:

> I believe collaborations are important because those partners probably reach a different audience than I reach or they can help bring more people to the table than what I could by myself, or they have an expertise that maybe I don't have and together we'll do a better job than I can by myself (Community Development educator, Kansas State).

By combining efforts with other organizations, Extension can reach more people and gain exposure in different circles.

Another common reason given that is demonstrated in the above quote is that collaboration also allows people access to more levels of expertise and different skill sets. Different organizations bring in different strengths, and combining efforts maximize the assets of the program.

Another common reason was that due to limited resources, it is hard to do anything *without* collaborating with other organizations. For example, one educator explained:

> There's no way to do [programing] without collaboration now. I think that's the trend of Extension. I mean the resources are limited and we all have to kind of pool our resources together and we have to do what we need to do (Family and Consumer Sciences educator, Kansas State).

A couple other educators echoed this concern that it is difficult to get much done in Extension without partnering with other Extension offices or outside organizations. It is becoming imperative that Extension reach out to other community organizations for support.

Challenges with Collaboration

Only the representative from Cultivate Kansas City spoke about the challenges of collaboration. One challenge that was mentioned was that there were no state-wide urban agriculture networks that they could collaborate with. Another challenge that was mentioned was "institutional turfiness" where other organizations saw Cultivate KC as a competitor instead of a partner.

Benefits

One of the themes that arose out of open coding was a discussion of the benefits of urban agriculture and Extension getting involved in urban agriculture. Three main areas were discussed: Nutrition and Health, Community, and Farmers.

Nutrition and Health

Five of the fifteen Extension educators discussed the benefits of urban agriculture on nutrition and health. These educators explained the educational programs they have to help audiences understand the benefits of fruits and vegetables with an emphasis on locally produced foods. A couple educators mentioned working in tandem with gardening classes and programs that other organizations and Extension educators were offering. In both these cases, there was a stronger emphasis on youth audiences than on the general public. However, one educator discussed the holistic health benefits of gardening and farming for everyone that is involved:

> I mean gardening is like one of the most holistic, in terms of movement. You're healthier because you're going outside even if you're just walking out your backdoor it's more than most people do is sit on the couch all day. Walk out your backdoor and going in the garden. It's nutritional you get to learn how to do foods, you get to eat fresh (Horticulture educator, Lincoln University).

Extension educators are well aware of the benefits to health and nutrition of urban farming and are including these benefits as talking points in their current programing.

Community

Four of the fifteen Extension educators discussed benefits of urban farming/gardening on the community. One educator discussed urban farming as a revitalization tool that brings communities together over common goals. Other educators talked about churches and other

community organizations taking an interest in gardening in the city. Still other educators discussed how urban farming is connecting the producer to consumers and building a sense of community that way.

Farmers

Three Extension educators mentioned how urban farming is benefitting farmers. Urban farming is offering further farmer development and is inspiring a new generation of farmer to take over after the current generation retires. Educators also discussed how Extension is starting to connect with these new farmers.

Barriers and Challenges

This section addresses barriers and challenges in practicing and programing for urban agriculture. These themes arose out of open coding and have been broken into three groups: Extension, urban farmers, and minorities.

Extension

Twelve educators discussed barriers and challenges for Extension working in urban agriculture. Many barriers were discussed but most fit into four categories: lack of resources, structure, audience, and the fact that urban agriculture is a new topic area.

Lack of resources

Eight of fifteen educators within the study area mentioned barriers and challenges related to lack of resources for Extension educators. These challenges include funding, lack of staff, time, and lack of awareness on the educator's part. One educator from Kansas State that worked outside the study area was interviewed because they were making great strides in urban agriculture programing. This person mentioned that a major barrier for them was lack of interest from other Extension agents in the area.

Structure

Eight educators discussed barriers and challenges related to the structure of their Extension institution. These challenges included bureaucracy, limitations of the job, sticking to priorities, and using Extension's traditional county structure. This structure sometimes has

difficulty documenting and publicizing the impact it makes, so sometimes Extension is known as a 'best kept secret.'

Audience

Eight educators discussed challenges related to Extension audiences. These barriers included gaining trust and respect among local residents and minority groups as well as being inclusive and trying to reach as many people as possible.

Urban Agriculture as a new topic area

Four educators as well as Cultivate Kansas City mentioned unknown factors as challenges working with urban farmers. These challenges include lack of reputable information that is needed by farmers and urban agriculture is ambiguous so it is hard to approach from a programing perspective. Cultivate KC pointed out that urban agriculture represents a new context for teaching:

> So I feel like everything that has happened out there is really one big experiment. It's not that people haven't been doing Ag education for years and years and years, but it's happening in such a radical different context that the strategies we use may or may not be appropriate for context. It may pay off in the short term they may not pay off until the long term. So I think a lot of this is like we've thrown a whole bunch of seeds, [they] are in the ground, growing, being planted (Cultivate Kanas City).

This new context can be a challenge to effectively inform new farmers in urban areas.

Urban Farmers

Nine out of fifteen Extension educators discussed various barriers and challenges for urban farmers. These barrier themes arose out of open coding. Although many barriers were discussed, most all fit into three categories: knowledge, resources, and distribution.

Knowledge

Four educators discussed urban farmer barriers and challenges related to knowledge. Some of these challenges include lack of growing history, not knowing what they are getting into, difficulty scaling up, connecting to resources, and urban agriculture is still seen as a large experiment in many aspects.

Resources

Nine educators discussed barriers and challenges related to resources for urban farmers. Of these barriers, those dealing with money were the most commonly discussed. This included finding funding for farms, dealing with high land prices, and making a profit from farming. Because it is becoming increasingly difficult to make a profit at farming, educators explained that many farmers need a second job to make a living.

Distribution

Two educators mentioned challenges relating to distribution for urban farmers. This included talking about a need for food aggregators and food hubs as well as discussing the need for niche marketing in urban agriculture.

Minorities

Minorities face unique challenges when getting involved in urban agriculture. Three educators discussed these types of challenges. As previously mentioned, historically Extension did not make an effort to reach out to minority groups which acted as a barrier for decades and repercussions are still being felt. Another barrier that was brought up is that many minority groups have a family history of agriculture, but they equate this association with need, not passion. Therefore they equate growing things with being poor. As one educator explains:

> When I started, our low resource families they felt like gardening was for poor people and many of our Latino families they had come from Mexico, Mexican immigrants and they didn't want to go back to that. The African American community somewhat was doing some same thing, *my great grandmother did it and I don't want to have to do that I want to go buy my food* (Family and Consumer Sciences educator, Kansas State).

This perception can be a significant barrier in getting minorities involved in urban agriculture and gardening.

Reaching Minorities

This node explores the themes of reaching out to minorities and social inequalities that arose out of open coding. Eight educators as well as Cultivate Kansas City discussed different aspects of social inequality and how they relate to their programing efforts. Since reaching out to minorities is a large focus of Lincoln University's Extension program, all Lincoln educators

discussed this aspect. Many educators mentioned working with community organizations that are connected with minority groups. Extension is targeting minorities for more outreach because they want more community and diverse inclusion in their programing.

Race

Three educators mentioned reaching out to different races. Educators discussed the difficulty in effectively communicating with some racial minorities and explained how some groups need more time or resources than other groups. A couple educators mentioned that they are trying to use the US Census to see if they are reaching all the potential minority audiences that are in their region.

Low-Income

Two educators and Cultivate Kansas City mentioned working with the minority low-income residents. Much of the work going on in this area is towards getting low-income families access to healthy food. It was also mentioned that funding sources grant more money when working with low-income groups.

Food Access

Three educators talked about addressing food access for minority populations. As one educator explains:

> I do a lot with our African American population, our immigrant populations, and our Latino populations primarily here in providing any way that we can increase access to healthy foods and food choices (Family and Consumer Sciences educator, Kansas State).

The majority of the work in this area take the form of classes that instruct participants how to grow and/or cook fresh fruits and vegetables or is part of the Family Nutrition Program which gives monetary assistance for food to low-income families.

Gaining Trust and Respect

Three educators discussed their efforts to gain the trust and respect of the minority groups that they are reaching out to. The importance of understanding minority needs from the inside perspective as opposed to being an outsider and coming in with solutions was discussed. As one educator explained:

> Extension is for everybody so I feel we can work there more…We know their needs and whether we could supply that need. Because from outside you can see *Oh I can do that*, but you cannot do it unless they understand you and they feel like it is important for them. (Horticulture educator, University of Missouri)

Extension historically has not made much effort to reach out to minorities. Another educator explained this rocky past and how Lincoln University is approaching it:

> And typically we have not had a great track record with minorities. We've had lawsuits happening from Hispanics and from African Americans for discrimination, which they won hands down and so they're making more of an effort to reach out…which I think many Extension [institutions] … they help their big programs and they help a lot of people, whereas we are more focused on reaching out and really spending time trying to find those minorities. (Horticulture educator, Lincoln University)

Gaining trust and respect from a community requires time and effort. One educator describes the experience they had trying to get involved in a minority neighborhood:

> Because oftentimes you have to sort of break into communities in order to get access to them and it takes a while. Like I've been working with [a local] neighborhood for almost two years now and the first meeting I went to why would they talk to me or why would they trust me, there's no reason for them to. But now that I've been going for two years people really open up, they ask me questions and they've come to trust my advice and I guess respect the program too. (Horticulture educator, Lincoln University)

Extension as an Institution

The next node focuses on what Extension educators thought about Extension instead of specifically the structure of Extension. This sections looks specifically at what Extension educators perceived as the role of Extension and what kind of relationships they have with their clients as Extension educators.

Role of Extension

Fourteen out of fifteen educators within the study area as well as Cultivate Kansas City discussed the role of Extension. One of the most discussed roles was Extension is a research based institution that focuses on problem solving. Ten educators mentioned this role, explaining that Extension represents an unbiased opinion with trustworthy information that strives to make

research applicable to everyone. As one educator explained in response to being asked what could they do to ensure farmer success:

> I think do what we do best. We provide that research-based information that they need. So we're always there. We're not selling anything, we don't represent any company, and so we're just there to hook them into the information and resources that they need. And so I think that's what we'll continue to do (Family and Consumer Sciences educator, Kansas State).

A couple educators mentioned needing to further research in production and processing aspects for small farmers to meet the needs of urban farmers.

Another commonly discussed role was helping people. Eight educators discussed how Extension has a vast base of knowledge to help people and that Extension's goal is to help people help themselves. As one educator discusses:

> How is Extension best equipped to ensure the success of producers? We can only help people to a certain extent. And I think one of the most important things about what we can do to help them is equip them with the knowledge of whenever they do come to a crossroads of decision making they make the most appropriate decisions. And the most appropriate decisions might be different for one person than it is for another. It's not up for us to decide it's entirely up to them to decide (Horticulture educator, University of Missouri).

This help requires varying levels of commitment depending on the people. One educator mentioned that they wanted to help people feel empowered, specifically to grow their own food.

Creating connections was discussed as a role by eight educators. These connections include bringing together producers with other producers, with distribution markets, and with the consumers. Several educators also discussed collaborating with other organizations and creating connections and networks between growers and those partners.

> I mean Cultivate Kansas City has all these connections, and Community Gardens has all these connections, and then we have all these connections, and so when you bring that together it's an amazing network and then you can really help people help each other. (Horticulture educator, Lincoln University)

A couple educators also mentioned that Extension's original purpose was to connect people to the University system, regardless if it's through formal or informal education. As an educator explains:

> Another aspect of my job that I think's really important is that it links people to the university system that may never have that opportunity. I still believe in the land-grant mission, which is everyone deserves to have education, whether that's formal or informal education. And that I believe that there's a multitude of ways that we educate people (Family and Consumer Sciences educator, University of Missouri).

Eight educators discussed Extension role and involvement in urban agriculture. Educators explained that as an institution they have vast amounts of knowledge that could be applicable to urban gardening and farming and in fact that makes them one of the best resource organizations for this. As one educator explained:

> So Extension really is poised and is prepared and has the expertise to bring a multitude of aspects to urban gardening, probably better prepared than any other institution in the United States as it currently stands. Because we live within our communities, we understand those communities, we buy groceries, we sleep there, we go to church there, we're part of them. And so part of it is the trust factor and you have to have trust when you're going to work on a project such as this and you only earn that trust by being true to your word, knowing what you say you know, doing what you say you're going to do, and being there when you say you're going to be there. And that is a huge part of building collaborative work in an area such as urban agriculture because they have to know that they can depend on us and they have to depend on us in multiple aspects. So Extension can do that (Family and Consumer Sciences educator, University of Missouri).

Other educators discussed how imperative it is that Extension gets involved in urban food systems because the demand for this information isn't going to decrease.

> I think it's real important that Extension, all Extension, gets on board with urban agriculture because I mean people are moving to cities but they still want to be connected to their food. And so the way to be able to do that is by helping people create successful urban agriculture systems that can be productive for them (Horticulture educator, Lincoln University).

One educator lamented that their Extension institution hadn't got involved in urban agriculture education sooner and saw that many urban growers and farmers were seeking out other organizations:

> I think our biggest missed opportunity was not doing a better of job of getting that group of people brought in to using Extension. I think to me that's my biggest regret … But what I think has happened is, I think you kind of touched on it early on, is that group is now finding other avenues [for] getting the information (Horticulture educator, Kansas State).

Still, several other educators that are involved in the University of Missouri's Statewide Metro Foods Team mentioned that they are currently exploring what Extension's role is in metro food systems specifically in order to meet these need appropriately. As one of these educators describes:

> Extension hasn't always been the best of identifying urban agricultural needs – I think we're really good at educating people on agriculture. We're really good at doing urban programing, but just hadn't put the two of them together (Community Development educator, University of Missouri).

This Metro Foods team is trying to find the most effective way to fit these pieces together.

Seven educators discussed how the role of Extension is changing focus and explained that Extension's role evolves as their audience evolves. Several educators mentioned that there are specific teams within their institution that help decide how to change the focus of Extension programing. Also, the specific Extension Outreach program at Lincoln University that was examined in this study is only four years old therefore their priorities and roles have changed a great deal since their premiere.

Four educators mentioned food awareness and appreciation as a role of Extension. These educators discussed how their educational programs aimed at nutrition and food awareness is aimed primarily at youth and consumer audiences. All educators as well as Cultivate Kansas City spoke that one of their main roles is to serve the need of their residents and clients.

Relationships with Extension

Extension educators described the types of relationships that they have with their clients and residents. Many different types of relationships were discussed, but the most popular was

being a facilitator. Ten educators discussed how they helped facilitate creating networks or connecting people with other organizations or other producers. One educator discussed how they structure their workshops loosely to promote facilitation of knowledge. As he explains:

> But I would [have loosely structured workshops] more. I just want people to be able to come and know. We have some goals that we need to achieve but use a format where you're hands are on it, you're walking, you're standing up, and you're mixing. That's what happens…because you're walking to move, the relationships of the people changes as they move, and it seems to facilitate exchange, which is what I'm trying to do – which is to get people to connect and share, if they have any, actual practical experience plus maybe link up with somebody because that's what's going to, I think, make it work to talk to other people to help solve your problems, maybe get some advice or whatever. (Horticulture educator, Lincoln University)

Another educator described their sentiment towards facilitation as "help people help each other."

Education was described as the main relationship with clients by eight educators. This was described as being the basic function of Extension and that as educators they need to equip people with knowledge. Some educators mentioned that acting as an educator as opposed to another type of role is more common with new clients where a working relationship hasn't been built yet.

Collaborator was a type of relationship that was discussed by three educators. This role helps Extension educators to better understand the needs of the farmers and growers while also helping the further development of the farmer and their knowledge.

Five educators described having very involved relationships with their clients. All of the Lincoln educators discussed this and how they work to become close with their clients and gain their trust. One educator mentioned that the more involved a relationship or the longer the relationship they had with a client the more they felt they could challenge their client and ask them more about their decisions.

Conversely, two educators said that they did not have involved relationships at all with their clients. One educator explained that they did not work closely with most of the public but instead they work primarily on train-a-trainer programs. The other educator explained that they were there to help with problems, not get involved in people's lives.

Four educators stated that Extension best serves in several roles at once. As one educator explained:

> Well I think Extension is unique in the fact that it can play multiple roles. It can be the educator, it can also be a collaborator which helps bring in resources, the education part which actually helps people with their basic knowledge, and then third is to facilitate growth. Growth whether it be educational growth, collaboration growth, business growth, whatever that may be (Family and Consumer Sciences educator, University of Missouri).

Another educator explained the possible roles they prioritized:

> Our roles at Extension is not just to give PowerPoint presentations, right? We need to help people develop communities, develop businesses, develop our economies (Horticulture educator, Kansas State).

One educator explained that sometimes it's hard to know which role has more impact so it's best to serve several at once.

Acting as a sounding board was discussed by four educators. Educators explained that they help clients figure out their options and can give research-based knowledge to help make decisions.

Two educators explained that Extension should not only be educating, but building skills as well. They explained that giving people the skills as well as the knowledge is necessary to help people learn and to make a larger impact. One educator described the importance of hands-on activities to build skills:

> So if there are people that are out there working with Urban Ag producers, or any adult for that matter, and they're attempting to equip them, not just with knowledge but also with skills and they're not doing the hands-on activity with the adults, they're not doing their job anymore (Horticulture educator, University of Missouri).

Conceptualization and Rhetoric

This section looks at how urban agriculture is conceptualized and what words are commonly used in association with it. This node arose out of open coding.

How Urban Agriculture is Discussed

This section explores the context in which urban agriculture is discussed by Extension educators. This context shows the differences in how educators perceive urban agriculture and how they are 'packaging' their information for people interested in learning more.

Hobby vs. Business

Eight educators discuss urban agriculture as a hobby or as a business. Two educators had more exposure to the hobby aspect of urban farming in both the production and food preservation aspects. One educator discusses the growing popularity of small urban farms, when talking about edible horticulture:

> But certainly over the last five plus years we've seen resurgence in the interest in edible horticulture and the movement of more small farms, hobby farms, urban farms, whatever you want to call them (Horticulture educator, Kansas State).

Alternatively, four educators discussed urban farming in the light of business ventures and finding niche markets for profitability. Several educators also mentioned the balance between making a profit and keeping their produce affordable for local residents. One educator talked about the relationship between affordability for residents and profits:

> This has to be balanced. Like I can only afford that one so it should be after sometime, people should be careful in … the way we are trying to promote [urban grown food] because farmers will go and they get the best price. But you don't want to go to people who can only afford [the highest price]. Like last time one time the tomatoes were selling $5 dollars a pound – organic tomatoes, urban tomatoes, so those are like high end. So that balance is long term. I don't know how it's going to balance I'm just giving you my experience. (Horticulture educator, University of Missouri)

Food Culture

Ten out of fifteen educators discussed urban farming in relation to food culture or the culture surrounding food. A large part of this was discussing food awareness and appreciation. Extension educators are noticing more people want a stronger connection to their food and are taking that opportunity to teach them. As one educator describes:

> It really is exciting to see people interested in wanting to know where their food comes from and want to access that and then people responding to that. Sometimes it's almost

overwhelming actually trying to put those two groups together (Community Development educator, Kansas State).

Another theme within food culture was that six educators discussed how people are taking part in urban agriculture to grow food for themselves. One educator explained how this typically looks in their work region:

> We have community gardens, the schools have got the Eating from the Garden Program, and then we have more and more producers all the time that are producing in their backyards or going out and leasing a small plot of ground at the edge of town and producing their own food, which I think is feed yourself and then feed your neighbor, then if you're good at that then maybe you can start selling some (Horticulture educator, Lincoln University).

Innovative

Three educators discussed urban agriculture as an innovative practice. The non-traditional nature of urban agriculture was described as well as mentioning the sustainable agriculture practices that are commonly used in urban agriculture, specifically in reference to soils. One educator explains how these sustainable practices make it more necessary for higher land security:

> And so that focus on sustainable agriculture will still be there helping people understand that the soil and making it healthy for them. Because one thing that is misunderstood in urban agriculture is like *we have this empty lot and it'll go up for sale in five years, why don't you just start a farm there?* And it's like *well, it's great for you maybe you don't have to mow the lawn, but it's not great for the farmer because they spent five years building up that soil and then they have to leave*, so protecting that farmer from being kicked off the land but his influx (Horticulture educator, Lincoln University).

Future

Thirteen Extension educators and Cultivate Kansas City discussed urban agriculture looking towards the future. Their discussion included themes of the growth of interest in urban agriculture, the evolution of urban agriculture over time, and urban ag as an opportunity.

Twelve educators and Cultivate Kansas City discussed the growing interest in urban agriculture and local food that they've noticed. One educator explains this trend:

> I really think that what I see now is people seem to very much want to connect with more natural food products. They want less food preservatives. They want less pesticide use. There's something that's driving them to connect with the environment (Family and Consumer Sciences educator, University of Missouri).

Some educators are excited about this increase in interest and want Extension to play a larger role in educating these people. As an educator noted:

> I think that number [of small acreage farmers] will actually continue to increase and get bigger. I think people will continue to have an increasing interest in having a local connection with where their food comes from and want to know that. And I believe the Extension office and my role as an agriculture agent are in a great role to facilitate that learning, that education, and putting those two customers or those two clients together then. So yes I think we'll do more of what we're doing but I think we'll actually step up our efforts and we'll do more of that then. (Community Development educator, Kansas State)

Other educators seemed a little more pessimistic about this growth, discussing the burn out rate for some of these endeavors. One educator talks about this in the context of community gardens:

> Like right now community gardens are a hot topic. Everybody wants to get involved in community gardens. So even though 50% fizzle out once they figure out the work involved, you at least have to try to get a group a people to go out and talk about that. So that's kind of how that works (Horticulture educator, Kansas State).

The evolution of urban agriculture over time was discussed by eight educators. Educators discussed both where urban ag has evolved from as well as where they expect it to go. One educator discussed the need for more growers and expected that more first generation farmers would continue to get involved in urban agriculture:

> Anybody that's first generation, and I think part of the reason that we do that is because in this area we need more growers. We need to be developing new growers and we need to be converting the energy that people have to become part of the local food production system into a useful sustainable part of the food production system and it's not easy growing vegetables (Horticulture educator, Kansas State).

Other educators were still hesitant about conjecturing what the urban agriculture movement would do next. One educator explains their flexibility in this situation:

> I don't know… I don't pretend to have a crystal ball to recognize what those future needs are going to be. I would assume that there will be future needs in urban agriculture and that it'll all evolve as my clients' needs evolve, but I really don't know (Community Development educator, University of Missouri).

Urban agriculture was mentioned as an opportunity by three educators and Cultivate Kansas City. Urban agriculture represents an opportunity to change to food system and to connect better with farmers and residents. Cultivate Kansas City put it most succinctly when they said:

> So as an organization I think our biggest contribution to urban agriculture has been offering up a vision and a sense of inspiration and inviting other people to take risks and to change their community, and do either as an individual what they think they would like to do. As people working in organizations or in neighborhoods, we invite them to recognize that they can change the food system and have a positive impact…Then I guess some of it is just promoting a culture of learning and experimentation and kind of resiliency because urban, we're sort of in really unprecedented times around food and food production and food access. (Cultivate Kansas City)

Audience

Five educators discussed urban agriculture based upon its audience. Things like audience diversity, inexperience, and youth interest were explored. One educator discusses how the younger generations only ask them questions once something has gone wrong:

> Typically when I hear from [younger generations] it's when they've gotten on the internet and gotten into trouble. They've read so much that they've tried something, and guess what, it wasn't research driven so they've just killed their lawn. So a lot of times the technology age come to us when they've gotten themselves into trouble (Horticulture educator, Kansas State).

Another educator discussed how they've observed younger generations taking more interest in eating more whole foods:

> The other thing I'm noticing is young people are getting more conscious about good food like the one food from a source they know and they have read more about significant information they have. So they are more concerned about quality of food. That's my observation (Horticulture educator, University of Missouri).

One educator compared people involved in urban agriculture to a cult:

> It seems to be kind of, I almost want to say it's like this underground cult that somehow they – I don't know mean negative in cult or cult using kind of negative – but it's like this little myth. I mean society is full of these little interest groups and for some reason they just find each other. I don't know how they do it. It's really interesting for supporting things. They all kind of know about each other somehow (Horticulture educator, Kansas State).

Attributes

Two educators and Cultivate Kansas City discussed urban agriculture based upon its attributes. The two attributes that were discussed were its hands-on approach and its holistic nature.

Location

Four educators discussed urban agriculture according to locational factors. Two educators thought that urban agriculture was strictly urban and that did not describe their county. One educator described their definition of urban agriculture as, "urban meaning densely populated and diverse population, not a lot of green space – that doesn't describe our county" (Family and Consumer Sciences educator, Kansas State).

Two other educators also discussed how the Kansas City metro area will continue to get more urban. One educator described this sentiment as well as what they thought this meant for local farmers:

> I believe urban agriculture [here] is going to change and evolve just as it has the last 25 years, 28 years that I've been here. We are going to grow more urban and urban in our population, less and less farm land is going to be available. So people are going to have to produce in a different way. I actually think there will be a growing population of small acreage landowners who want to be involved in commercial fruit and vegetable production, or some kind of agricultural production (Community Development educator, Kansas State).

Rationale for Programing

Need Level

Seven educators and Cultivate KC discussed the need level as a reason for doing urban agriculture programing. Two educators, both horticulturalists from Kansas State University, said they didn't see much need for programming in this area, while seven educators discussed the needs they saw in this area. These needs included programing for regulations, connecting organizations in the food system, new growing techniques, and reaching inexperienced audiences. One educator explains how they identified these needs and how they develop programing from that. As they explain in response to the question *Why did you decide to do those programs?:*

> Just from the need that we see. When I first started I went out and was just going out and meeting people and you can stand and you would see 60 chickens in a 10 x 10 pen so you knew they needed some help, needed some education, and so visual on-farm visits. And then feedback from colleagues too and community people *hey, there's the person you need to go see.* And that's how we developed our programming to meet the needs of what we see. Then as they become comfortable with us they ask us for information and then we're able to develop programming around that. (Horticulture educator, Lincoln University)

Accountability

Accountability was mentioned as a rationale for urban agriculture programing by four educators. This included being accountable to the city, to their own impact by using standardized measuring methods, to their coworkers, and to their clients by being an example. One educator explained their rationale of being an example of empty lot farming:

> So the whole goal was to find out what are the constraints. People say there are so many plots are there, lots of it, can you do gardening there. So there are some challenges so we wanted to start there but by doing that we are trying to show people what they can do (Horticulture educator, University of Missouri).

Geared Toward Audience

Three educators discussed their rationale of having been geared towards their audience. This rationale was used both to justify doing urban agriculture programing as well as not doing urban agriculture programing.

Interest Level

Three educators discussed interest level in urban agriculture programing. Several said that is was the "up and coming area" in their fields of both nutrition and horticulture.

Helping Low-Income

Two educators mentioned helping low-income residents as a reason for doing programing involving urban agriculture. One educator explains how urban farming fits in with trying to reach their low-income, limited food access population:

> Within that then that's how we ended up getting into urban agriculture because we're talking about access to food and you're looking for ways that you can help low income families have access to healthier foods. It was just logical to kind of connect with some of our urban farming agencies that were doing that. And it's like on the one hand you wanted to farm and on the other hand it's like what do you do with this once you get it out of the ground (Family and Consumer Science educator, Kansas State).

Something New

One educator and Cultivate Kansas City discussed doing something new as a rationale for doing urban agriculture programing. One educator describes how they go about this:

> I wrote [an article about urban poultry]. It was an opportunity that no one had taken advantage of. I'll do stuff like that, not just "playing I the dirt." In the material I'm looking through, if there seems to be an opportunity that a group ought to consider, I'll bring that in to the conversation. That's something I would e-mail out, which I've done a couple of times. Something they'd find interesting that are hard to find (Horticulture educator, Lincoln University).

Urban Agriculture Definition

All Extension educators as well as Cultivate Kansas City were asked to define urban agriculture. Their responses were compiled and a word count was conducted on the resulting list. Table 4-2 shows the top 20 words that were used in these definitions.

Table 4-2. Most commonly used words in Extension educators' definitions of urban agriculture.

Placement	Word	Count	Similar Words
1	urban	55	urban
2	agriculture	39	agricultural, agriculture
3	area	21	area, areas
4	city	19	cities, city
5	think	17	think, thinking
6	food	12	food
7	growing	12	growing
8	products	11	product, production, products
9	part	8	part, partly
10	community	7	communities, community
11	garden	7	garden, gardener, gardening, gardens
12	guess	7	guess
13	people	7	people
14	program	7	program, programming, programs
15	within	7	within
16	animal	6	animal, animals
17	consider	6	consider, considered
18	farmers	6	farmer, farmers
19	live	6	live, living
20	lot	6	lot, lots

After all the interviewees offered their definition of urban agriculture, I supplied us with a reference definition to use for the rest of the interview. The definition that I offered educators to use in the interviews was *the growing, processing, and distribution of food and other products through intensive plant cultivation and animal husbandry in and around cities*.

Proactive vs. Reactive programing

Seven educators discussed whether their programing was considered proactive or reactive to issues. To some extent, all Extension is reactive because their purpose is to serve the needs of the people and you don't always know what these needs will be ahead of time. Having said that,

between the seven educators there was a distinct pattern between favoring proactive or reactive programming based upon institution. All educators from Kansas State University that commented on this favored reactive programing while all educators who answered from University of Missouri or Lincoln University favored proactive programing. This will be discussed in more detail in Chapter 5.

Urban and Rural Farmers

Seven educators discussed the similarities or differences between urban and rural farmers. A couple educators explained that when it comes to food preservation and canning, on average rural people are more familiar with the process while people from urban areas need more basic instruction. One educator pointed out the difference in regulations between urban and rural areas, specifically as it relates to poultry. A couple educators discussed how farming techniques themselves are very similar between urban and rural farms, just the scenery is different. As one educator explains:

> It's figuring out how to grow vegetable and organic vegetable production is a small scale thing. I mean it really is, especially here in Kansas. And I think what a lot of people don't realize is that a small farm out in the country oftentimes looks very similar to a small farm in the city, it's just surrounded by pastures instead of being surrounded by buildings (Horticulture educator, Kansas State).

Discussion

Half of interviewed Extension educators discussed the similarities and differences between urban and rural farmers. Some educators are approaching these populations differently by offering more basic instruction to more urban residents since some of the production or processing techniques are more likely to be new to these residents than rural residents. In this way, urban Extension educators are attracting and serving urban population needs and in return are gaining support from these urban residents. Warner and Christenson (1984) explain that Extension is equally likely to gain support from urban residents as it is from rural residents. However, raising awareness of the urban population to the services of Extension may be a challenge. As Prawl et al. (1984) explains "a substantial majority of people, especially those in towns and urban centers are not aware of the Cooperative Extension Service or what it has to offer. Or, if they are aware of it, they feel it is only for people living on farms." Being

recognized in urban areas as a source for urban agriculture information may be a challenge for raising support for Extension and their programs.

The awareness of urban residents to Extension's existence and services can greatly help or hinder support for Extension. Warner and Christenson (1984) found that it was possible that people recognize the specific programs of Extension instead of recognizing Extension as a whole entity. For example, urban farmers may recognize Master Gardeners or Master Food Volunteers without realizing that these are Extension based programs. As Extension continues to approach new audiences and serve different needs, they may become more unrecognizable as a whole. This will be a continuing challenge because, as Carlson (2012) points out, state funding is typically driven by legislature that is primarily metropolitan. Thus, it is important that Extension is working, well known, and relevant in metro areas in an effort to maintain state funding streams.

The future of Extension seems to be changing. The role of Extension was discussed by 93.3% of interviewed educators with 46.7% of them specifically discussing how this role is changing. Warner and Christenson (1984) explain that "Extension is finding itself pulled in two directions – to reach out to persons with specialized needs while at the same time continuing to serve more traditional audiences." Looking at Extension's involvement in urban agriculture specifically, they are trying to meet the needs of urban populations that are new to farming/growing and who are typically trying to produce on small parcels of land. Rasmussen (1989) points out that it is the farmers who are operating small part-time farms are those who need Extension the most even though their production value is small. Extension educators in the Kansas City area appear to know about urban agriculture and understand the urban farmers' information needs, but are not necessarily offering the most needed types of programs for various reasons. Warner and Christenson (1984) explains this lack of programing by noting that "with increased specialization has come the need for more detailed technical expertise, sometimes beyond what the county staff can provide." Perhaps some of the information needs of urban farmers are too specialized for Extension educators to teach effectively but it is possible to have a third party that is more knowledgeable in a specific area to collaborate with Extension on an educational program. Regardless, Raison (2010) emphasizes that Extension needs to be facilitators when working within local food systems and help communities discover the talents and abilities within those groups and help develop those assets.

Conclusions

Through these interviews we wanted to understand what type of information Extension educators were offering, the methods they were using to distribute it, if they were aware of urban agriculture and if they were addressing urban agriculture specifically. Through coding the interviews from 15 Extension educators in the Kansas City metro area, we were able to answer these questions.

Production and processing information is being offered by 73.3% of interviewed educators. Distribution, equipment, and marketing information is offered by 53.5%, 46.7%, and 40% of educators respectively. Financial information was only offered by 26.7% of educators while nutrition, policy and urban planning information, and information on specific production practices were offered by 20% or less of educators.

Extension educators use a wide variety of methods to distribute information. All interviewed educators used interpersonal sources with 80% using one-on-one meetings. Workshops and classes were used by 66.7% and only 20% mentioned using booths at fairs and festivals. Media sources were used by 80% of Extension educators with all 80% using digital sources. Print media was used by 73.7% of educators and only 13.3% of educators mentioned radio.

Most Extension educators are aware of urban agriculture in the KC metro area as seen by the benefits and barriers that were listed during interviews. Barriers to Extension working in urban agriculture were discussed by 80% of educators while barriers to farmers were discussed by 60% of educators. Barriers for minorities working in urban ag were discussed by 20% of educators. The benefits of urban agriculture for farmers, the community, and personal nutrition and health were discussed by 20%, 26.7%, and 33.3% of Extension educators respectively.

Extension educators are addressing urban agriculture in varying degrees. The level of involvement typically corresponds to their Extension institution. Lincoln University has the most involvement in terms of time commitment and informational focus areas. University of Missouri has a statewide team that is looking at Extension's role in urban food systems and has volunteer programs and train-a-trainer programs to address urban agriculture. Both of these institutions are proactive about their urban agriculture programing. Kansas State University is reactive to urban agriculture programing and doesn't chose to have programing emphasizing urban agriculture but instead answers questions as they are brought to educators.

Another sign that educators are addressing urban agriculture are their prioritized audiences and programs. Growers were considered a prioritized audience by 46.7% of educators. The only other audience that was prioritized higher was minorities with 60%.

The role of Extension as self-identified by educators also shows that they are beginning to address urban agriculture. Extension involvement in urban ag, creating connections, and helping people were all roles that were described by 53.5% of educators. The role of problem solving and research based information resources was the only role that was mentioned by 66.7% of educators. To address urban agriculture and urban food systems, Extension educators are relying on collaboration with their Extension colleagues, other Extension offices, outside community organizations, and groups of farmers and growers.

Related to the role of Extension, the type of educational relationship that Extension educators have with clients also has an impact on connecting with urban farmers. Being a facilitator between groups of people, organizations, and Extension was mentioned by 66.7% of educators while having an education-based role was mentioned by 53.5% of educators.

The next chapter will connect the results of both the Urban Farmer/Grower Survey and the Extension educator interviews. It will compare the information farmers want and need to the information that is offered by Extension. It will also look at information distribution methods and compare farmers' preferred way to learn to current educational relationships with Extension. Gaps and overlaps between what is offered and what is needed will be discussed.

Chapter 5 - Synthesis

This chapter will connect the pieces from both the Farmer/Grower Survey and the Extension Interviews and will be a conversation between the two data sets to understand the interaction between these two groups. There were several major themes that surfaced during analysis of the two data sets. These themes include farmer information needs, distribution of information, preference in learning, and Extension as a resource.

The following data and connections are merely a snapshot in time, seen at the time that we collected data. Extension programing and farmer needs are highly changeable and it is possible that some of the disconnect between these two groups has been bridged already.

Farmer Information Needs

Farmers were asked to rank six topics of information (production, processing, distribution, marketing, finances, and equipment) in order from #1 as most needed to #6 as least needed. Production and Finance received the most #1 rankings, meaning they were the most needed information topics (Figure 5-1). Distribution and Marketing both ranked highly as #2 for farmers. Processing and Equipment were ranked highly as the #3 most needed topics. Equipment received most of its rankings as #3 or lower while the majority of Marketing's rankings are #3 and above. Both Production and Finance have a bi-modal distribution for farmers with many low and high rakings.

Extension educators were then asked to rank the same topics in order that they thought *farmers* needed these information topics. The educators' rankings are less varied than the farmers. Both Production and Financial information received the most #1 rankings and were thus thought to be in high need for farmers (Figure 5-2). Marketing and Financial information received many #2 rankings from educators. Distribution had the most #3 ranking by far, followed by Marketing. Processing had the most rankings at #5 and Equipment had the most rankings at #4 and #6. Similar to the farmers' rankings, Equipment did not receive any rankings higher than #3.

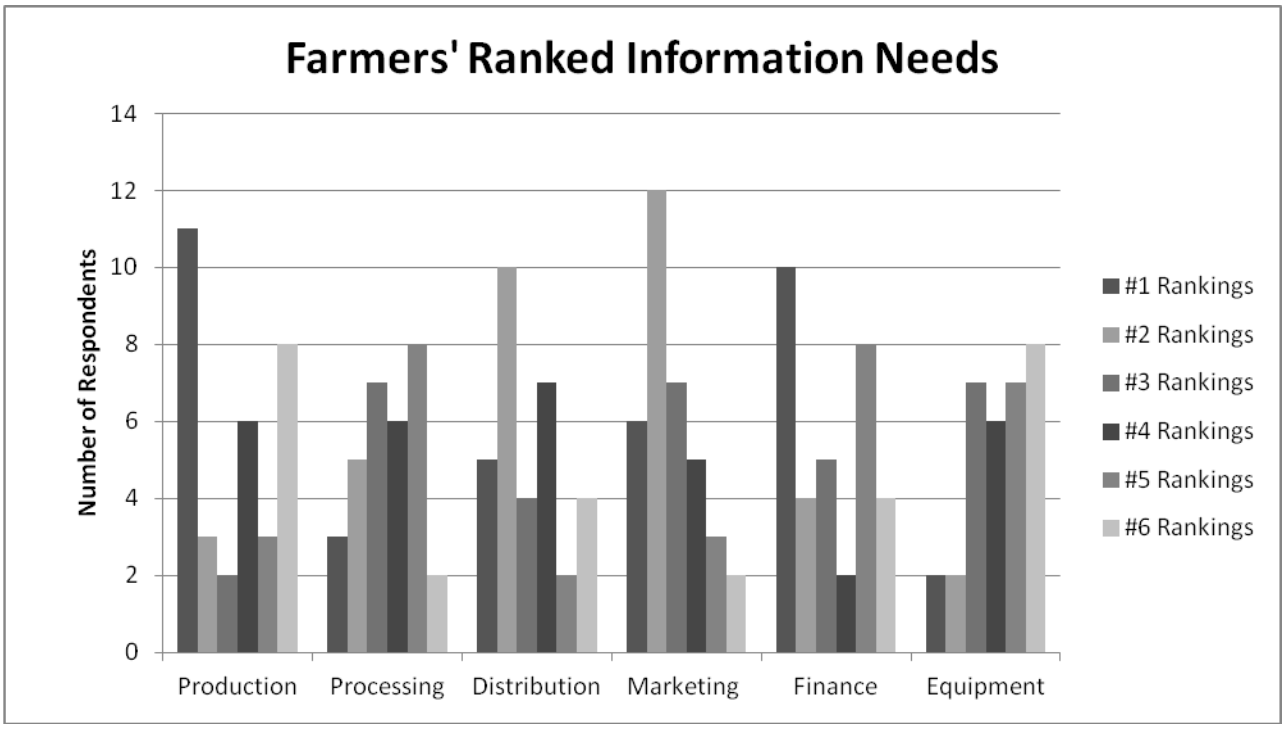

Figure 5-1. Farmers' rankings of information topics they need from most needed ranked as #1 to least needed ranked as #6.

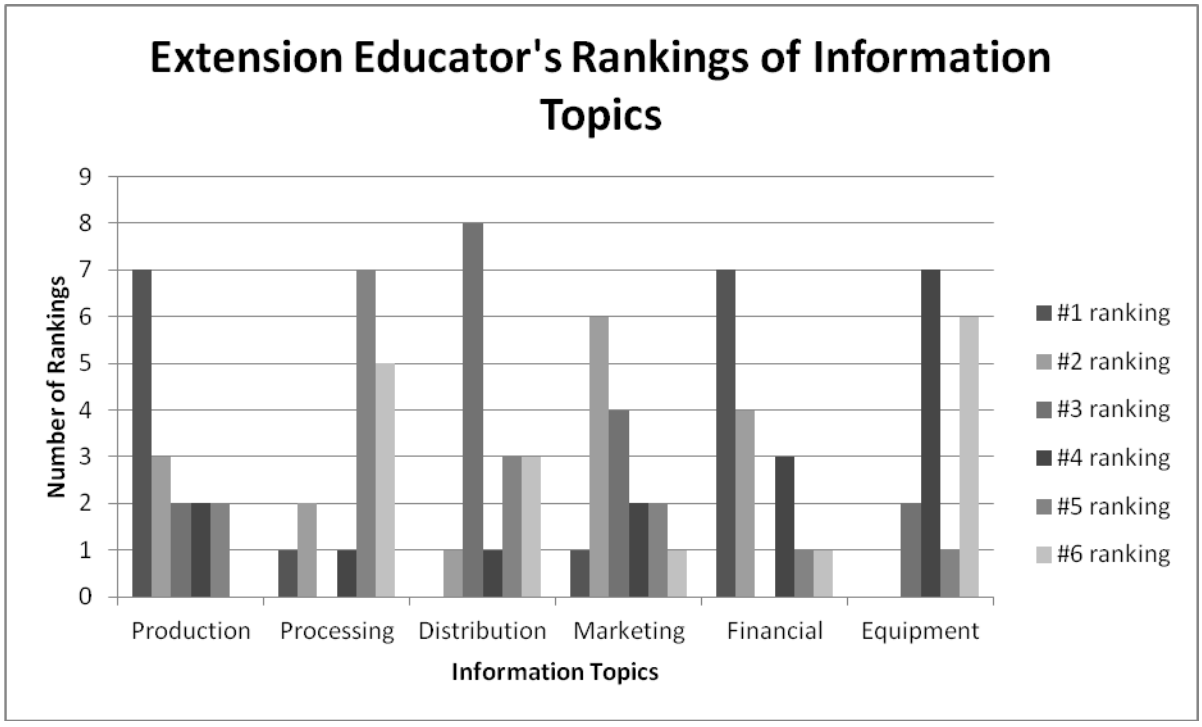

Figure 5-2. Extension educators' rankings of information topics based upon what they think urban farmers need. Most needed topics were ranked as #1 while least needed topics were ranked as #6.

Extension educators were also asked in interviews what kinds of programs they offered. These programs were then divided into these six categories, as well as a couple others that arose in coding. Of these six categories, 73.3% of interviewed Extension educators were offering both Production and Processing programing. Distribution was offered by 53.3% of educators and Equipment was offered by 46.7%. Marketing was offered by 40% of educators while only 26.7% were offering Finance programing. This is in contrast to both the farmers' and educators' high #1 rankings of Financial information. Marketing was also given high #2 rankings by both farmers and educators but less than half of educators are offering programing related to Marketing. High rankings of Production correspond to widespread programing for Production.

Extension's similar rankings to those of farmers in regard to Financial and Marketing information indicate that they understand farmers' needs, but are not currently in a place to offer these types of programs. The discrepancy between the high rankings of these two categories but the low offering of these types of programs could be explained by limited resources and limited experiences on the part of Extension educators. They may also believe that it is or should be offered by others.

Limited resources such as time, money, or staff play a crucial role in what programs Extension offers. Extension educators offered these as limitations in reaching urban farmers and growers. These limitations may have particular resonance with why Extension is not offering programs in financial or marketing information comparable to the highly ranked need of these programs. While discussing a successful business planning program targeting small food-based businesses, one educator explained that they probably wouldn't be continuing this program because it had gotten too big for their office. As they explain:

> It's gotten big. We were there when it was struggling and it fit our office and the amount of time and resources we had to give… if I don't start focusing and narrowing down my programs it tends to get a little bit out of control and then we don't do anything well… I mean it's like somebody could do [this programing] all the time in this area (Family and Consumer Sciences educator, Kansas State University).

Though the business planning program was successful, it has outgrown the time and staff that Extension can offer for it and thus will be discontinued.

Another Kansas State Extension educator discussed how a few years ago, there was a staff person in their county who specialized in small fruit and vegetable production. The person in that position left, and then that position was cut due to budget constraints. Since then, time and resources of the county's other horticulture and agriculture educators have been split between several different areas trying to cover their emphasis areas as well as that now vacant staff position's emphasis areas. With the lack of time and staff, urban agriculture is slipping through the cracks.

Limited experiences dealing with financial or marketing information may be another reason Extension educators are not offering many programs in these areas. While explaining factors that would influence new programs, one University of Missouri educator explained, "My confidence and ability to successfully pull off such programs is a … factor" (Horticulture). This educator also listed grant funding and new programming introduced by other Extension educators as influencing factors.

Not all Extension educators have the previous experience or confidence in areas such as marketing or finance to feel comfortable offering programs in these areas, particularly if they are Horticulture or Family and Consumer Sciences educators. Some educators are willing to branch out and address these needed information topics. One educator explains,

> I don't have an MBA. I have an MPA, so my background isn't in business, but I'm passionate about helping to develop our food system. I'm willing to put aside other more community based programs to assist in filling the role of this development person in that regard (Community Development educator, University of Missouri).

Still, other educators chose to collaborate on programing with community members or organizations that have ample experience in these areas if they do not feel comfortable covering these topics. One educator explains this while talking about the importance of collaboration,

> I believe collaborations are important because those partners probably reach a different audience than I reach or they can help bring more people to the table than what I could by myself, or they have an expertise that maybe I don't have and together we'll do a better job than I can by myself (Community Development educator, Kansas State University).

For some educators, collaboration with other organizations or partners gives them the confidence to offer programing out of their emphasis areas.

Whether it is limited time, staff, money, or experiences, there is clearly a barrier to Extension educators offering programing on marketing or finances. One Extension educator explained that "being a modern Extension [educator] is really doing as much as we can with very little" (Family and Consumer Sciences educator, Kansas State University). It may be a struggle to find the resources, time, or expertise on these areas, but the need and want for this information is there.

Distribution of Information

When farmers were asked to rank various sources of information in order from most used to least used, farmers demonstrated that they are currently getting information from a variety of sources, most of them being self-driven. Self-research was ranked as #1 most used by 72.22% of farmers and was statistically different than all other sources listed. Other Farmers were ranked at #2 most used by 38.36% of farmers while Friends/Family were listed as #2 by 35%. Extension was ranked at #4 by 30.23% while the Other category was listed as #4 by 40% of farmers. Non-profits, Private Consultants, and Formal Classes were not ranked very high and thus are some of the least used sources.

Of media formats used, farmers ranked Websites #1 the most often with 23 respondents choosing this answer. E-mail and books also ranked highly as #1 with 10 and 11 respondents respectively. These three categories were ranked highest out of all the categories for #2 as well. Generally speaking, TV and webinars are some of the least used formats for information.

Extension educators use digital media the most out of digital and print media and radio. Digital media is used by 80% of educators with no distinctions between websites, blogs, listservs, etc. Print media is used by 73.3% of educators but this is typically in the form of Extension bulletins, pamphlets, and brochures.

Extension educators are using a great deal of digital media, but it seems that farmers prefer websites over other digital outlets such as webinars, blogs, and listservs. Also educators being available via e-mail may be of value to farmers since e-mail is highly used by them. The print media used by farmers primarily was books, which Extension is not in the habit of publishing. However a suggested book list from Extension of research-based books or those written by credible sources may help farmers find the information they need while coming from a reliable source.

Farmers ranked Friends and Family highest of interpersonal formats with 16 respondents ranking it #1. Informal Personal Channels and Workshops had high #1 rankings as well with 12 and 13 respondents respectively. These three categories also had the most #2 rankings out of all the categories as well. One-on-one received the most #3 rankings by farmers. Of the most ranked interpersonal categories for #1, 2, and 3, only workshops are something that would be done by an outside organization. Both Friends and Family and Information Channels are self-driven.

One-on-one meetings are used most often by Extension educators with 80% mentioning using this format. Workshops and classes were mentioned by 66.7% of educators while fairs and festival booths were only mentioned by 20% of educators.

Although farmers ranked Friends and Family and Informal Channels highly, there is little Extension can do to fit into these categories with the exception of raising awareness of themselves. However, perhaps Extension services should generally focus on workshops and classes and put less emphasis on one-on-one meetings. Farmers seem to prefer workshops more and it would be less time to reach more people for Extension educators.

Preference in Learning

Farmers were asked to rank their *preferred* ways of learning (as opposed to their current ways of learning) from most preferred to least preferred. Farmers ranked Classes/Workshops the highest with 18 respondents ranking it #1 as most preferred. Field Days/Farm Tours had 16 respondents rank it #1. Field Days had the most #2 rankings as well. Collaboration with an expert had a lot of mid-range rankings while Community ties had the most #5 rankings. Trial and Error had a bi-modal distribution with 17 respondents marking it #1 and 15 respondents marking it #5.

Of the listed options for farmers, Extension has little to no influence over Trial and Error or Community Ties. However there are opportunities for Extension educators to get involved in workshops, farm tours, and collaboration with farmers and offer the in-person approach that other options don't have.

With classes and workshops ranking as the second most used interpersonal format by farmers, educators are already offering a variety of topics in these formats. The most common topics are fruit and vegetable production, livestock production, but topics such as distribution, equipment, food safety, finances, and processing are also offered in limited quantity.

Four educators mentioned farm tours in their interviews. However, two of them were discussing how putting together a collective tour of farms in their county would be a good idea for future programs, one educator was discussing the bi-annual Urban Farm Tour that is coordinated and run by Cultivate Kansas City, and the other educator discussed individual farm tours that were part of the Growing Growers apprenticeship. None of these educators discussed farm tours hosted by Extension for urban farmers that are currently being planned or have happened already. There was no mention of field days by Extension educators. Of the four educators that discussed collaborating with the community, three of them collaborate with farmers specifically in both grant writing and workshop situations.

Extension as Source of Information

When farmers were asked to rank Extension, Farm Community, and Non-profits in order of Quantity of Information, Quality of Information, and their Go-To Source, Extension and Farm Community were ranked statistically higher that Non-profits in every scenario. This was unexpected given the high activity and publicity of agriculture-based non-profits in the KC metro area such as Cultivate Kansas City, the Kansas Rural Center, and the Kansas City Food Circle. These unusual results may be due to the high amount of collaboration that Extension does with community organizations. Cultivate Kansas City and the Extension services in the KC metro area collaborate on a number of projects with the Growing Growers program being the most notable.

Finding localized information was listed as a barrier for 12.77% of the 42 farmers that listed barriers while 9.09% of farmers mentioned having local help and regional growing information would make getting needed information easier. Credible sources of information were listed by 9.09% of farmers as something that would make gaining needed information easier as well. When asked to give specific examples of information needed, several farmers mentioned they wanted non-biased information. As one farmer explained it, they wanted "feedback, good and bad, on the new distribution companies. The only thing you hear is *Let us help you* – no other information."

Non-biased, credible sources and localized information that is research-based are areas that Extension excels at. Two thirds of the educators discussed this as one of the crucial roles of Extension. With so much information easily available to anyone, finding unbiased and credible

information can be of great service to farmers trying to make a profit. This is one area that Extension can capitalize and set themselves apart from other information sources.

Differences in Extension's Approach to Urban Agriculture

The three different Extension institutions that were studied are all approaching urban agriculture in different ways according to their target population, Extension structure, available resources, and institutional support and interest.

Lincoln University's Innovative Small Farmers Outreach Program is specifically addressing small, minority, underserved farmers in accordance to their mission as a traditionally black university. This target population allows Lincoln educators to focus solely on urban farmers and spend large amounts of time with each client. This requires a high personal investment on the part of the educator. Lincoln's program is aptly named because it also focuses on new and cutting edge farming techniques and equipment, such as aquaponic farming systems and high tunnels. Much of Lincoln's programming is proactive, identifying new or innovative techniques that could be helpful for small urban farmers and offering this information during one-on-one meetings or the occasional workshop.

Both the University of Missouri and Kansas State University are 1862 land-grant universities, meaning that their target audience for Extension programing is the population at large. They are both larger institutions than Lincoln and can afford to employ more Extension educators. However, they each address urban agriculture programing in different ways.

The University of Missouri Extension has a regional structure, meaning that each region (group of several counties) has only one or two Extension specialists for each of their outreach areas such as horticulture, community development, etc. This allows educators to be highly specialized in a specific area and have more flexibility within that area because their responsibility is to their emphasis area. The University of Missouri Extension also uses a variety of train-a-trainer programs wherein they train volunteers to go out and educate the general public or school groups about things like gardening or healthy eating. This allows Extension educators to maximize their time while still reaching large audiences within their region. The University of Missouri is very proactive in urban agriculture programing. This could be due in part to high personal interest in urban foods. Several educators also mentioned the University's Metropolitan Foods Systems Team. This team is made up of Extension educators across the state and a few

campus-based faculty that are combining resources and ideas to evaluate and address needs regarding urban food systems. This team is only a few years old, but already it has published a Community Garden Toolkit for communities to use and has started taking an interdisciplinary approach to programing for food systems so important issues that don't fit neatly into horticulture or family and consumer sciences don't get ignored.

Kansas State University has a county structure, meaning that each county has at least one educator in each of the outreach areas and their responsibilities are to cover all topics within that area for the entire county. For example, a horticulture educator needs to cover all horticulture related topics ranging from lawn care, house plants, and vegetables for everyone in the county. This structure leads to generalization within the county and less connection to resources or organizations outside of the specific county. Kansas State Extension's programing around urban agriculture is typically reactive, meaning they respond to specific needs or requests. Most educators aren't planning events or workshops ahead of time but instead are waiting for questions so they can tailor their answers to individuals. This reactive stance could be due to the low personal interest in urban foods, the lack of staff that specialize in this area, and the lack of institutional networks that are addressing urban foods. K-State has recently started an Urban Food Systems Master's program, but it is still fairly new. Extension personnel involved in the program as MS student advisors have not yet collaborated on Urban Food Systems Extension programming, but that could be a future direction.

Kansas State educators also feel like they are in competition and/or need to provide complementary programing with Cultivate Kansas City, a local non-profit that focuses on urban agriculture specifically. Kansas educators spend their time answering specific questions rather than offering general workshops or events for farmers. As one educator explains, they typically get calls about specific questions, not about general information. When asked if they receive requests for information about urban agriculture, this educator responded:

> "Not about urban agriculture but about problems. Like for instance … I'll get calls of *we've got this devouring our peppers, what could it be and what do we do, or what varieties would you recommend, or whatever?* Those are the general things. But I don't have anybody call me up and say *Do you have any information on urban agriculture in [this] county?* … [They want to know] how to fix it. *This is what's happening all my*

transplants are turning white, what's wrong with them? What do I do? So it's usually *I've got a problem, help me fix it"* (Horticulture educator, Kansas State University)

It is difficult to try to meet the information needs of everyone in the county or region with little specialization. When K-State educators are already low on resources, time, and staff and don't have a supporting network within the institution, it is no surprise that urban foods programing is slipping through the cracks and is only being addressed on a reactive basis.

An interesting point that was brought up by a couple educators was the sense of competition between Extension institutions and Cultivate Kansas City. Many educators mentioned that there is little collaboration across the state border. Most said this was not for a particular reason, but that they just didn't do it. Cultivate Kansas City explained a sense of "institutional turfiness" that they had experienced doing similar education to Extension.

> We kick off anxiety in the hearts of lots of Extension people because they're not used to having other people in the field…when we got started there was sort of institutional and individual response to that. By in large I think that most Extension [educators] understand that nonprofits can be partners, assets to them, bringing in different relationships and skill sets … I feel like there's a little bit of institutional turfiness that wants to emerge that people know they need to deal with but still the instinct of the response is still there (Cultivate Kansas City).

A sense of competition or separation between each Extension institution or with local non-profits working in this area has potential to make collaborative work on issues that transcend just one area or one institution very difficult.

This sense of separation also exists within each institution between each area of outreach, or silo. As one educator explains,

> "In Extension you may have heard the word *silo,* so oftentimes our programming is very siloed [or separated]. Even within a category it can be [separated] so Agriculture and Natural Resources [for instance]. Do I [as a horticulture specialist] collaborate with the corn and soybean growing specialist? No not really. So we're pretty siloed from each other. It's even worse among [other] disciplines" (Horticulture educator, University of Missouri)

Though educators mentioned collaboration with other educators from different programing areas in their county, there are still areas such as marketing, finances, and distribution that get

dismissed unless an interdisciplinary programing approach is taken. This is part of the reasoning behind the University of Missouri's Metropolitan Food Systems Team. As an educator involved in the program explains,

> So what we're doing with this Metropolitan Food Systems team is we've got at least one individual from each of those five programming areas and we're really trying to start to understand how we can work together to address urban needs, the urban food needs. And so we've identified that there really are three areas of metropolitan food that we or anybody else could address and that's distribution, production, and food consumption/literacy (Horticulture educator, University of Missouri).

By using more interdisciplinary programing models between Extension program areas and across institutional boundaries, important issues that require a comprehensive approach are more likely to be available for urban farmers.

Differences in Informational Needs of Farmer Subgroups

The educator interviews and farmer survey resulted in a rich and complex data set. The analysis that has been completed is a good baseline for seeing snapshots within the population as a whole but we can understand more about this population by looking more closely at subgroups.

Due to limitations on time and resources, farmer subgroups were not fully explored. However, further analysis of data will be completed for future publication. A few preliminary findings for several farmer subgroups will be discussed briefly as a preview to some emerging trends.

Within each following subgroup we examined the questions that 1) asked participants to rank Extension, non-profits, and the farming community in order of their "go to source," 2) asked participants to rank production, processing, distribution, marketing, financial, and equipment information in order of most needed 3) what their current sources of information were and 4) the scale of their farms measured in acres. For some groups we explored what media formats participants were currently using as well.

Age

When farmer survey responses were divided into groups based upon age (under 40, 40-59, and 60+), a couple trends were seen. Unlike the 40-59 or the 60+ groups, the under 40 group did not list Extension as their "go to" information source from the options Extension, non-profits

or farm community. Instead they listed the farm community (Table 5-1). Self-research was overwhelmingly the number one source for all groups. The under 40 group also ranked financial information as their most needed topic which may be a reflection of the difficulty of gaining access to capital to run a farm as a young person. All three groups listed websites, books, and e-mail as their top media formats that they are currently using to get information. Most younger respondents have smaller farms, with 43% having farms under an acre and 43% having farms 1-20 acres. Respondents 40-59 have a little more spread with 32% of them having under an acre farms, 52% having 1-20 acres, and 15% having over 20 acres of farm land. Respondents that were 60+ had a similar trend with 30% having less than an acre, 55% had between 1 and 20 acres, and 15% with over 20 acres.

Race

Respondents were divided into seven groups: American Indian/Alaska Native, Asian, Black/African American, White, Other, Prefer not to answer, and More than one category. Total, we had one American Indian/ Alaska Native respond, five Asians respond, five Black/African Americans respond, forty-seven Whites respond, one respondent who marked Other, two Prefer not to answer, and three respondents who marked more than one category (Table 5-1). The American Indian/Alaska Native respondent did not answer who their "go to" source was. Asians listed farm community as their "go to" source the most. Whites and respondents who marked more than one category listed Extension as their "go to" source the most. Respondents who preferred not to answer listed both Extension and the farm community as their "go to" sources. Black/African American respondents listed the farm community and non-profits as their "go to" sources most often. Respondents who marked other listed only non-profits as their "go to" source. All categories listed Self-research as their #1 source of information while Black/African American respondents also listed Other farmers as a #1 source. Respondents who marked more than one category also ranked non-profits as a #1 source of information as well. American Indian/Alaska Native respondent and those who marked prefer not to answer ranked marketing as their most needed topic of information. Black/African American respondents and those who marked Other ranked Financial information as their most needed topic of information. White respondents ranked Production information as their most needed topic while Asian respondents ranked both production and financial information as most needed topics. Respondents who

marked more than one category ranked production, marketing, and distribution as the most needed topics of information. All races tended to have the majority of respondents with farms under 20 acres. The only exception is that the one American Indian/Native Alaskan has a farm over 20 acres. Although some trends have been identified by race, it is important to note that these trends have limited usefulness due to the small sample size of some of these groups.

Gender

There was little difference between the responses of male and female participants with the exceptions that female responses were a bit more varied. Both genders listed Extension as their "go to" source while females ranked non-profits as their "go-to" source as well (Table 5-1). Both genders used Self-research as their current source of information. Males tended to rank production and financial information as the topics that were still needed the most while females listed everything except financial information as topics that were still needed. Men respondents tended to have smaller farms with 38% under an acre and 49% 1-20 acres. Women respondents tended to have larger farms with 67% having farmer 1-20 acres and 22% having farmers larger than 20 acres.

Education Level

Respondents with high school degrees and undergraduate degrees ranked Extension as their "go to" source while those with either an Associate's degree and a Master's degree ranked both Extension and the farm community as their "go to" source. Respondents with less than a high school diploma/GED ranked non-profits as their "go to" source, while the respondent with a PhD ranked farm community as their "go to." All education levels ranked self-research as their most used source. Respondents with less than a high school diploma/GED and those with an Associate's degree ranked financial information as being most needed while all other levels of education ranked production as their most needed topic of information. All education levels had the majority of respondents with farms under 20 acres. The exception to this is those with a high school diploma with 30% having farms over 20 acres.

County

Most counties listed their "go to" source as Extension with the exception of Wyandotte and Leavenworth, KS (Table 5-1). Those two counties listed non-profits as their "go to" source. Self-research was overwhelmingly listed as the #1 used source across counties to find information. All counties with the exception of Leavenworth and Wyandotte listed production as the #1 most needed type of information. Wyandotte county, Kansas, which is the least wealthy county of all those included in the study area, listed financial information as the #1 most needed information still needed. Leavenworth listed marketing information as the #1 most needed. Cass county had the highest percentage of farms over 20 acres with 50% of Cass county respondents marking this category. Clay and Jackson had the highest percentage of farms under an acre with 60% and 53% respectively.

Product Type

Participant responses were split into five groups based upon participants' products: vegetables, fruits, meat and eggs, dairy, and other. All groups with the exception of other listed Extension as their "go to" source (Table 5-1). The other group listed the farm community as their "go to" source. Self-research was listed as the #1 used source of information across all product types. The dairy farmers were the only ones to rank "private consultant" as number 2, possibly reflecting the need for specialized information for this product type group. The vegetable, dairy, and other group listed production information as the #1 most needed topic of information while the fruit group listed production and financial information. The meat and egg group listed marketing as their #1 most needed topic of information. Dairy and meat and egg producers had the most large farms with 22% and 29% having over 20 acres respectively. Fruit, vegetable, and other producers had the most small farms with 28%, 36%, and 37% farms under an acre respectively.

Table 5-1. Go to source, general sources, information needs, and scale of farms of respondents categorized by age, race, gender, farm county, farm product type, whether participant grew up in a farming family, and size of farm. Sources and information needs are ranked #1 through #3 with #1 being most used sources or most needed information. Blank spaces were left if there was not enough data to be ranked to that placement. An 'N/A' indicates that participants did not fill out the question.

		Go To Source	Sources			Information Needs			Acreage			Total N
			1	2	3	1	2	3	> acre	1-20 acres	20+ acres	
Age	Under 40	Farm Community	Self-research	Other farmers & Non-profits		Financial	Processing		43%	43%	14%	7
	40 - 59	Extension	Self-research	Extension Friends and Family	Non-profits Other farmers	Production	Distribution	Marketing Financial	32%	53%	15%	34
	60+	Extension	Self-research	Other Farmers	Extension Private Consultants Friends and family	Production	Marketing	Financial	30%	55%	15%	20
Race	American Indian/Alaska Native	n/a	Self-research	Other farmers	Other	Marketing	Distribution		0%	0%	100%	1
	Asian	Farm Community	Self-research	Friends/Family		Production Financial	Marketing	Equipment	20%	80%	0%	5
	Black/African American	Farm Community and Non-Profit	Self-research and Other Farmers			Financial	Marketing	Equipment	50%	50%	0%	5
	White	Extension	Self-research	Extension Other farmers	Friends/Family	Production	Marketing	Processing	34%	49%	17%	47
	Other	Nonprofits	n/a			Financial	Distribution	Marketing	0%	100%	0%	1
	Prefer not to answer	Extension and Farm Community	Self-research			Marketing	Distribution	Equipment	50%	50%	0%	2
	More than one	Extension	non-profit and Self-research			Production, marketing, distribution	Processing financial	distribution equipment	33%	67%	0%	3
Gender	Male	Extension	Self-research	Extension Other Farmers	Friends and Family	Production and Financial	Marketing	Distribution	38%	49%	13%	55
	Female	Extension and Non-Profits	Self-research	Other Farmers	Non-Profit	Everything except Financial			11%	67%	22%	9
Education Level	HS Not Completed	non-profits	Self-research other farmers	friends and family non profits	Nonprofits other farmers	Financial	Marketing	Equipment	100%	0%	0%	2
	HS Degree	Extension	Self-research	Other farmers friends and family	Extension Other	Production	Marketing	Financial	26%	43%	30%	23
	Associates Degree	Extension/ farm community	Self-research	Other farmers friends and family	Extension other farmers	Financial	Marketing	Distribution Equipment	38%	50%	12%	9
	Undergraduate Degree	Extension	Self-research	Other farmers	Extension other farmers	Production	Processing Distribution	Marketing	33%	62%	5%	21
	Masters	Extension Farm Community	Self-research	Self-research other farmers	other farmers	Production	Distribution Marketing	Processing	44%	56%	0%	9

		PhD	Farm Community	Self-research	non-profit	Extension	n/a			0%	100%	0%	1
County	**Kansas**	**Johnson**	Extension	Self-research	Non-profits Friends and family		Production	Distribution Financial		22%	56%	22%	9
		Leavenworth	Non-Profits	Self-research			Marketing	Production Financial Equipment		0%	83%	17%	6
		Miami	Extension	Self-research	Other farmers					0%	67%	33%	3
		Wyandotte	Non-Profits	Self-research	Non-Profits	Other farmers	Financial	Equipment		38%	62%	0%	13
	Missouri	**Cass**	Extension	Self-research Extension Private consultants Other farmers			Production	Financial		25%	25%	50%	4
		Clay	Extension	Other Farmers	Extension Self-research		Production Processing Marketing			60%	20%	20%	5
		Jackson	Extension	Self-research	Friends and Family	Other farmers Extension	Production Processing Distribution Marketing Financial			53%	47%	0%	18
		Platte	Extension	Self-research	Extension		Production			33%	33%	33%	3
		Ray	Extension	Self-research			Production			0%	100%	0%	2
Product Types		**Vegetables**	Extension	Self-research	Extension Other farmers	Non-profits Friends and family	Production	Financial	Processing Marketing	36%	57%	8%	54
		Fruits	Extension	Self-research	Extension Other farmers	Non-profits	Production Financial	Processing Marketing	Equipment	28%	66%	7%	30
		Meat and Eggs	Extension	Self-research	Extension Friends and Family	Other farmers Private Consultant	Marketing	Production	Distribution Financial	13%	58%	29%	24
		Dairy	Extension	Self-research	Private Consultant		Production	Distribution Marketing		0%	78%	22%	9
		Other	Farm Community	Self-research	Non-profit	Extension Private Consultant	Production	Financial	Distribution	37%	57%	7%	27
Size of Farm		**Less than an Acre**	Farm Community	Self-research	Extension Non-profits Other farmers Friends and family		Financial	Production	Distribution	-	-	-	22
		1-20 acres	Extension	Self-research	Extension Other farmers	Non-profits Friends and family	Production	Financial	Processing Marketing	-	-	-	33
		20+ acres	Extension	Self-research	Other farmers	Private consultant	Marketing	Production Distribution		-	-	-	9
Farming Family?		**Yes**	Farm Community	Self-research	Friends and Family	Extension Other farmers	Production	Marketing	Processing	40%	40%	20%	25
		No	Extension	Self-research	Other farmers	Other farmers	Financial	Distribution	Marketing	31%	59%	10%	40

Farm Size

Participants were divided into three groups: less than an acre, 1-20 acres, and 20+ acres. For both the 1-20 acre and the 20+ acre groups Extension was ranked as the number one "go to" source while under an acre group ranked the farm community as their number one "go to" source (Table 5-1). All groups listed Self-research as their number one used source of information. The less than an acre group listed financial information as the #1 most needed topic of information, 1-20 acres listed production as #1 and 20+ acres listed marketing as their #1 most needed topic of information.

Farming Family

Respondents who came from a farming family ranked the farm community as their "go to" source while those not from a farming family ranked Extension as their "go to." Both groups listed self-research as their most used source of information. Respondents from a farming family ranked production as the most needed type of information while those not from a farm family listed financial information. Both groups tended to have the vast majority of farms under 20 acres. Forty percent of respondents from farming families had under an acre farms and forty percent had one to twenty acres. Respondents not from a farming family had 31% with under an acre farm and 59% with 1-20 acres.

Conclusions

The above results from farmer subgroups are meant to be a preview of future research to be explored from this project. As with any study, many more questions were raised than answered. From our study, it appears that Extension knows about urban agriculture and is familiar with most of the needs of urban farmers in the Kansas City area, but they are not offering some needed information topics for this clientele group for various reasons. Different Extension institutions are approaching urban agriculture education differently while urban farmers are very self-motivated and are relying on many independent resources for information rather than other organizations.

There is some overlap between urban farmers and Extension on media types used. Farmer respondents are using mostly websites, books, and workshops/classes for information. Eighty

percent of Extension educators are using digital media, 73% are using print media, and 67% are using workshops to disseminate urban agriculture information.

Respondents preferences in methods of learn also have some overlap with Extension programs. Respondents preferred to learn through classes/workshop and field days/farm tour. Two-thirds of Extension educators are doing workshops or classes related to urban agriculture topics, but there was no mention of field days or farm tours hosted by Extension that focuses on urban agriculture.

Although there is some overlap, there is still room for improvement in urban agriculture education. When asked "What are some barriers to getting needed information?" and "What would help getting needed information?" a few respondents noted that they wanted non-biased information based upon their specific region. Research-based, non-biased information was mentioned as a crucial role for Extension by 67% of interviewed educators. Either the farming respondents do not know that this idea is the foundation of Extension, or those who mentioned this idea are not familiar with Extension as a whole. Offering this neutral and locally based information is Extension's opportunity to help urban farmers get accurate and accountable information.

Chapter 6 - Conclusion

This chapter outlines the major findings from the farmer/grower survey, the Extension educator interviews, and the synthesis of these two data sets. This chapter also discusses this study's limitations and future directions for research.

Farmer Findings

The majority of our farmer respondents had small, diversified farms and were relatively new to farming. Our respondents were primarily older white men and had at least a Bachelor's degree. Most respondents have off farm jobs and their farming efforts are supported by product profits and funds from other jobs.

Respondents used primarily independently-driven sources, with Self-research, other farmers, and family/friends ranked as highly used. With most sources and formats used being self-driven, respondents are not currently relying on outside organizations for needed information.

When asked to rank Extension, farm community, and non-profits based upon their quality of information, quantity of information gathered, and which was their "go to" source, respondents consistently ranked Extension higher in all categories.

Interview Findings

Production and processing information is offered by over 70% of Extension educators while distribution, equipment, and marketing information is offered by between 53% and 40% of educators. Financial information is only offered by 26% of educators. Extension educators also used a wide variety of methods to distribute information, with 80% of educators using one-on-one meetings and digital media resources.

The role of Extension offering research-based, non-bias information was the most discussed role by educators. Being a facilitator was discussed by 2/3 of educators while over half of educators discussed being an educator.

Synthesis Findings

It seems that Extension knows what urban agriculture is and is familiar with most of the needs of the area's urban farmers, but they are not offering some needed urban agriculture information topics for various reasons.

Although farmer respondents are using primarily self-driven independent sources for information, such as Self-research, friends and family, and other farmers, they still are using workshops/classes, and websites. Extension is using some of these formats with 80% using digital media and 67% doing workshops on urban agriculture topics.

Trends show that farmer respondents prefer to learn with either classes/workshops, field days/farm tours, or trial and error. These preference overlap somewhat with what Extension is offering. Classes and workshops were the second most used interpersonal format by Extension, although no educators mentioned farm tours or field days hosted by Extension for urban farmers.

There was also some potential for more interaction between these two groups. Farmer respondents mentioned finding localized information with access to non-biased information would be helpful for their growing endeavors while 67% of Extension educators discussed being a research-based, non-biased organization as a crucial role of Extension. Although Extension described their role in this way, it is possible that farmer respondents do not know this is the ideal Extension is based around, and that all their information has a certain standard in order to be used.

Each Extension institution is addressing urban agriculture in a different way – Lincoln University has the most involvement with their clients, is on the cutting edge of urban agriculture technology, and is proactive about programing. University of Missouri has a statewide local food team that is exploring Extension's role in urban food and also uses proactive programing. Kansas State University is reactive to urban agriculture and answers specific questions as they are brought to educators.

Study Limitations

As with all studies, there are limitations and caveats that should be discussed. Although we had a 54% response rate with our survey, because the diversity of our respondents were not very similar to the population as a whole, it is likely that we had some non-response bias. This

means that our results cannot be generalized and are therefore only describing the people that responded to our survey.

Another limitation is that for the sake of time and resources, we only interviewed Extension educators that were working on urban agriculture programing instead of interviewing all Extension educators in the study area. This means it is possible that we could have missed someone who had just began working in this area or who was interested in this area. However, our use of the snowball interview method should have minimized this possibility.

Also, because the Kansas City metropolitan area has it's unique sets of laws, cultural and political boundaries, resource organizations, and growing conditions, these surveys and interviews can only describe Extension and urban farming survey respondents in this area at this particular point in time.

Future Research

One area of future research could include further identifying the relationships between several key factors regarding urban farms: farm production type, farm size, farmer demographics, farm location, and farmer information needs. There might be a relationship between farmer information needs and farm production type and size. I expect small farms would have different information needs than larger farms and need more information about intensive cultivation through small but efficient techniques. Similarly, farms producing different types of products, such as dairy and vegetables, are going to need different types of information specific to their farming practices. It is also expected that farm production type and farm location would be related with more of the dairy and meat producers in the more peri-urban or rural locations and vegetable producers being located all over. Similarly, I think there could be a relationship between farm product type and farm size with dairy and meat producers needing more land to produce.

Other questions that could be explored are regarding Extension services used. In this study, farmers ranked Extension consistently above the farm community and non-profits. However, we didn't ask about which Extension Institution(s) they are turning to. I would expect this answer to be a blend of local Extension services coupled with online resources from national Extension leaders, such as Cornell or Purdue. It would also be interesting to know what specific

services urban farmers are using from Extension, such as online information, workshops, or contacting their local Extension educator directly about specific questions or problems.

On a larger scope, looking further into types of sources that urban farmers prefer could yield some useful information and give education organizations some direction. This study found that urban farmers are using primarily self-driven sources of information, such as internet, Self-research, and books. However, these farmers preferred to learn in classes/workshop or through field days/farm tours. Is this discrepancy because the classes and farm tours farmers want are not being offered? Do they prefer to research certain information topics themselves while preferring classes for other types of topics? Are online sources or personalized sources more useful to them, or is that dependent upon the experience of the farmer? Exploring these questions would help better understand urban farmers and meet their education needs.

Following up on some of the urban farmers' comments about barriers and aids to overcoming barriers in urban farming could yield some interesting answers as well. Though not one of the most popular answers to the question *what are some barriers to obtaining the information you need about your farming/growing business* several participants mentioned that they didn't know what questions to ask. That coupled with several comments stating that a mentor or network for urban farmers would be helpful to overcome these barriers supports the idea that feasibility research about starting an urban agriculture network for producers either within each state or within the region is another potential area of fruitful research.

Researching urban agriculture networks would be helpful for education organizations as well. It was mentioned by Cultivate Kansas City that there is not currently a formal regional or national urban agriculture network or society to be used as a resource although some informal ties between farmers and organizations exist. The University of Missouri has their Metro Foods Team (which is statewide program) for their Extension educators to start addressing Extension's involvement in urban food systems, but Kansas State doesn't have a comparable program. Perhaps a program like this would encourage more participation in this area from K-State Extension educators and act as a support throughout the state for educators working on new programing in this area.

Some other comments that seemed pertinent from farmer participants discussed their information needs from Extension in Kansas specifically. These comments typically discussed the lack of information for small producers of all kinds and limited information for specialty crop

products such as fruits and vegetables. As one farmer explained a barrier to getting information about their farming business, "[There is a] lack of state of Kansas support of small farmers. K-State is GREAT! And I appreciate that asset but the state of Kansas itself doesn't seem interested in anything but big cattle or grain production." Exploring other options that Kansas Extension could use, both on the side of Extension and the farmer, to reach these small and specialty crop producers could help broaden Extension's audience and better serve more urban and peri-urban producers.

Another direction for future research would be to conduct similar-type studies in other metropolitan areas. Looking at how different Extension institutions interact with urban farmers could be helpful for those institutions trying to become more involved in this movement. It would also be interesting to see if the number of Extension institutions has an effect on the types of interactions with urban farmers or on farmer information needs. Using a similar study for non-profits that emphasize urban agriculture in other metropolitan areas could be very useful in pinpointing effective ways to reach urban farmers as well.

Chapter 7 - References

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Appendix A – Farmer/Grower Survey

Section A

Please provide us with some general information about your farming/growing operation.

Please have the primary farmer and/or grower fill out this survey. If there are two or more people who share the farming/growing responsibilities, choose one person to fill out this questionnaire.

1. In 2012, how many acres did you have in production? Mark one.
   - ☐ Under ½ acre
   - ☐ ½ acre - 1 acre
   - ☐ 1 acre - 5 acres
   - ☐ 5 acres - 10 acres
   - ☐ 10 acres - 20 acres
   - ☐ 20+ acres

2. How many years have you been farming your current operation?

   _____ years

3. How many total years have you been farming?

   _____ years

4. What county is your farm in?

   _____County

5. In 2012, what products did you produce?
   They can be grown, raised, processed, preserved, etc.
   Mark all that apply.
   - ☐ Vegetables
   - ☐ Fruits
   - ☐ Eggs
   - ☐ Poultry
   - ☐ Pork
   - ☐ Beef
   - ☐ Goat/lamb
   - ☐ Cheese
   - ☐ Milk
   - ☐ Baked Goods
   - ☐ Mushrooms
   - ☐ Honey
   - ☐ Canned goods
   - ☐ Other _____

6. Do you follow any specific practice(s) of growing food (such as organic practices, biointensive, biodynamic, permaculture, hormone-free, kosher, etc.)?
   - ☐ Yes, if yes, what practice(s)?

     _____

     _____

     _____
   - ☐ No

Please continue onto Section B

Section B

Please provide us with some information about your needs and resources.

The following questions ask about the different topics of information farmers/ growers use. These topic areas include:

Production

The processes involved in growing and/or raising of food. Examples include site preparation, timing for growing/raising, pest management, nutrient needs, etc.

Processing

The processes after the food has been grown/raised to create a marketable product. Examples include post-harvest, food safety, butchering, preserving, packaging, storage, etc.

Distribution

The processes of delivering your goods to different markets. Examples include information about food hubs, farm to institution procedures, etc.

Marketing

The processes of targeting consumers and finding outlets to sell your goods. Examples include identifying niche markets and target customers, pros and cons of different market outlets, making and using blogs and websites, etc.

Financial

The information needed regarding farm finances. Examples include finding start-up funding, farm/business budgeting, tax incentives, finding grants, etc.

Equipment

Farm equipment or upgrades, not computer related in this context. Examples include chisel plow, hand seeders, nutrient film technique (NFT) hydroponics, etc.

Production	Processing	Distribution	Marketing	Financial	Equipment

Please **mark all** that apply.

7. Which topics of information have you learned about?

○ ○ ○ ○ ○ ○

Please **rank all options in order** of difficulty with #1 as most difficult and #6 as least difficult.
Put an **N/A** in the box if you have insufficient information or if it doesn't apply to you.
Each box should have a different number between 1 and 6.

8. How difficult was it to gather this information?

#	#	#	#	#	#

Please **rank all options in order** of need with #1 as most needed and #6 as least needed.
Put an **N/A** in the box if you have insufficient information or if it doesn't apply to you.
Each box should have a different number between 1 and 6.

9. Rank the topics in order that you still need information

#	#	#	#	#	#

Please **mark all** that apply.

10. Have you ever been a source of information (e.g. published material, workshop presenter, etc.) for any of these topics?

○ ○ ○ ○ ○ ○

Section B

The next two questions also ask about the different topics of information farmers/growers use.

	11. What are 1-2 sources for each topic that have been particularly helpful?	12. Please list 1-2 examples of the types of information you need within these topics.
Production	*For example, Kansas Garden Guide*	*For example, no-till site preparations*
Processing		
Distribution		
Marketing		
Financial		
Equipment		

The following questions ask about barriers to obtaining information for farming/ growing.

13. What are 3 barriers to obtaining the information you need about your farming/ growing business?

1. _____
2. _____
3. _____

14. Given the existing methods of getting information you use, what would make it easier for you to get more information?

_____
_____
_____
_____

Please continue onto the next page

Section B

The following questions ask about how and where you get your information on farming/growing.

15. Please rank the following *sources* of information in order from most used to least used, starting with 1 as most used.
Please put a line through any sources you do not use.

_____Cooperative Extension services
_____Cultivate Kansas City, Kansas Rural Center, or other non-profit organizations
_____Self-research
_____Formal class settings (colleges/universities)
_____Private consultants
_____Other farmers
_____Friends or family
_____Other, please specify

_____
_____

16. Please rank the following *media formats* of information in order from most used to least used, starting with 1 as most used.
Please put a line through any sources you do not use.

_____E-mail
_____Listservs
_____Blog
_____Bulletins
_____Newsletters (e-news or mailed)
_____TV
_____Websites
_____Webinars
_____Books
_____Other, please specify

_____
_____

17. Please rank the following *interpersonal formats* of information in order from most used to least used, starting with 1 as most used.
Please put a line through any sources you do not use.

_____One-on-one consultations
_____Workshops
_____Formal mentor
_____Informal personal channels
_____Friends and family
_____Other, please specify

_____
_____

Section C

Please provide us with some information about support services

The following questions ask about your opinions on learning stratagies and sources of information.

18. There are a variety of different ways to learn new information.
Please rank the following choices in order of your general preference from most preferred to least preferred (starting with 1 as most preferred).

_____Learning by attending a class or workshop with an expert giving information in a lecture type presentation

_____Learning by attending an event such as a field day or farm tour that involves a discussion with others that is facilitated by an expert

_____Learning through collaboration with an expert by testing information on a farm setting

_____Learning through my community ties with no expert involved

_____Learning through trial and error on my own

Please rank from 1 to 3 these sources of information in order...	Extension Service	Farming Community	Non-profit Organization
19. of *quantity* of information they have provided you, starting with 1 for the highest quantity. *	#	#	#
20. of *quality* of information they have provided you, starting with 1 for the highest quality. *	#	#	#
21. of the most reliable for *finding information* (i.e. your "go to" source), starting with 1 for the highest reliability for finding information. *	#	#	#

* Each box should have a different number between 1 and 3

The following questions are about the Extension Service.
Please mark Yes or No for each question.

	Yes	No
22. Do you know who your regional or county extension agents are?	○	○
23. Do you have a regional or county agent working in your current farming interest areas?	○	○
24. Have you contacted one of your extension agents directly in the past three years?	○	○
25. Have you visited your regional or county Extension website in the past three years?	○	○
26. Have you attended an event organized by your regional or county extension office in the past three years?	○	○

Please continue onto Section D

Section D

Please provide us with some more information about your farming/growing business.

27. In 2012, what were the markets for your products?
Please mark all that apply. Circle your primary market.

- ☐ Farmers market
- ☐ Wholesale market
- ☐ Local health food store/ co-op
- ☐ Local chain grocery
- ☐ Community Supported Agriculture (CSA)
- ☐ Food hub/product aggregator
- ☐ Restaurant
- ☐ School/institution
- ☐ Direct sales
- ☐ Other

_____

_____

28. When you *started* farming, who was your target customer?

_____

_____

29. At *this time*, who is your target customer?

_____

_____

30. If your target customer has changed from when you started farming, please give a brief explanation of why.

_____

_____

_____

31. Is this farming operation the primary income for you or any of your business partners?

- ☐ Yes
- ☐ No

32. What percent of your annual income is provided by this farming operation?

	%

33. Are there any other individuals other than yourself whose sole income is derived from this farming operation?

- ☐ Yes
- ☐ No

34. What financial sources support your farm costs? Check all that apply.

- ☐ Product profits
- ☐ Funds from other job
- ☐ Membership fees
- ☐ Workshop or tour participant fees
- ☐ Government farm programs
- ☐ Cost/share programs
- ☐ Grants
- ☐ Other _____

Section D

35. In a typical week during the growing seaon, how many hours do you work?

hrs

36. In 2012, how many people did you hire for pay?

people

37. In 2012, how many people provided volunteer hours?

people

38. In 2012, how were interns classified on your farm (apprentices are included in this category)?

- ☐ I did not have interns in the past year
- ☐ Paid hourly
- ☐ Stipend (a set amount for a set number of hours or months worked)
- ☐ Volunteer

39. In 2012, what services did you supply for your interns? Mark all that apply.

- ☐ I do not have interns in the past year
- ☐ Free/reduced price housing
- ☐ Free/reduced price on your goods/produce
- ☐ Free/reduced price meals
- ☐ Other _____

40. Have you received any specialized training regarding agriculture? Mark all that apply.

- ☐ National or Regional farmer/grower conferences
- ☐ Growing Growers Apprenticeship Program
- ☐ Growing Growers Workshops
- ☐ Master Gardener training
- ☐ National or Regional farmer/grower institutes (such as Permaculture Institute)
- ☐ Other, please specify

_____

_____

41. This questionnaire is targeting growers and farmers in urban areas specifically. Do you think you have different informational needs than your rural counterparts? Please explain.

_____

_____

_____

42. Is there anything else you would like to share with us regarding your farming enterprise?

_____

_____

_____

_____

Please continue onto Section E

Section E

Please provide us with some information about yourself.

43. What is your gender?
Please mark one.

- ☐ Female
- ☐ Male

44. What is your age?

	years old

45. What is your ethnicity?

- ☐ Hispanic or Latino
- ☐ Not Hispanic or Latino

46. What is your race?
Please mark all that apply.

- ☐ American Indian or Alaska Native
- ☐ Asian
- ☐ Black or African American
- ☐ Native Hawaiian or Other Pacific Islander
- ☐ White
- ☐ Other _____
- ☐ Prefer not to answer

47. Is English your native language

- ☐ Yes
- ☐ No

If no, what is your native language? _____

48. What is your current marital status?
Please mark one.

- ☐ Married
- ☐ Divorced or separated
- ☐ Widowed
- ☐ Single
- ☐ Other _____

49. What is the highest level of education completed?
Please mark one.

- ☐ Not completed high school
- ☐ High school diploma or GED
- ☐ Associates degree Major: _____ Minor: _____
- ☐ BS or BA degree Major: _____ Minor: _____
- ☐ Master's degree Topic: _____
- ☐ PhD, MD Topic: _____

50. Did you grow up in a farming family?

- ☐ Yes
- ☐ No

Thank you for participating in this survey process!
We greatly appreciate your thoughts and opinions!

Appendix B – Information Needs for Urban Farmers

This is a compiled list of responses that were written in on the farmer/grower survey when participants were asked to list 1-2 examples of the types of information you need within these six topic areas.

production	processing	distribution	marketing	financial	equipment
non bias, workshops	cookbooks, pamphlets	farmers market catalog (who, where, when)	we sell and buy grain, best buy on grains, newspaper	help, need a grant, starting a creamery and need funds to move forward	need list of used equipment for cheese farm
I need to take a picture of a pest or weed and get immediate information about what the pest is and how to manage the pest.				I need information about how to keep records. I have been trained on what records are needed. There have to be better practice than taking a picture of a white board.	As a small independent, single worker farmer I find some information is for multi-worker farms.
when to plant		how much to plant for each share		what to charge a share	what will make things easier
feed production, small grains, field peas		no local food distribution model			
cover crop options, integrated pest management					used equipment
Fruit trees, ridding Johnson grass non-chemically				why go big?	
better soil usage and care, building soils and proper pH and content			how to connect with people and how to more effectively market at a farmers market		greenhouse usage and how to make them
fertilization schedule, weed/pest management	food preservation	location/pricing/rules			production/quality improvement, labor input reduction
available pasture and its cost	Consumers and retailers like restaurants. Most farmers sell	other innovative distribution mechanisms	competitive prices offered to restaurants by distributors	cost analysis of New Zealand and Australian Lamb	More details on hydroponic forage costs

	commodities to organized markets like auctions, or to firms within the value chain				
on-site training, labor					websites
how to super for comb honey production				taxes	extracting equipment, queen rearing supplies
organic insect control					
raising bees for pollination and honey, varieties for Kansas weather	any exemptions given to small producers/farms, How easy it is to get a certified kitchen (?)	feedback good and bad on the new distribution companies. The only thing you hear is let us help you. Not other information.	Not getting into a farmers market and not only using one market for your product	too many people are looking for a free ride. The want to use someone else's money and not take some risk. Government money does not come without strings.	information on drip irrigations
It would be helpful for JCCC to have post grad programs in all areas of farming practices. The sustainable Ag program was extremely helpful. Sometimes a recheck of all that we have learned, without having to take exams would be very helpful.					
email, internet	more education for processing	international sales	more information on niche markets	none	location of parts from businesses no longer in production
rain catchment pest control	proper veggie washing and bagging once harvested	proper veggie washing	n/a	n/a	n/a
Specialty Crop Produce workshop, high tunnel workshop, online presentations		farmers market funding	farmers market, farmers expo	workshops	
soil sampling, varieties to grow everything high tunnels seed/plant sources	certified kitchen info	retail sales, wholesale, GAP standards/performance	farmers market info	everything	small tools workshops, mechanical/power equipment
organic production methods	practical, low-cost options for improving food safety		ways to reach new customers and convince them to support local farmers		
same type of publication for	?	n/a	n/a	n/a	?

fruits					
soil fertility maintenances, fine tune production method					machinery selections and maintenance
planting time, disease				n/a	n/a
companion planting, soil preparations			how to	make money, grants	tractors, parts needed
no till, permaculture, cover crops	GAP, equipment	how, what, when, amounts,			
natural pest control, organic growing techniques					
n/a	n/a	food hub		I need information on how to apply for grants	
crop scheduling	GAP, food safety issues	institutional requirements	value added ideas	basic business plans	small scale farm mechanization
more demos on biodynamic growing		list of buyers of local grown produce		grants, USDA funding	more shows and seminars of equipment for small scale farmers
genetics, carcass size, parasite control (best way), forage - newer information and studies	getting processing within driving distance, more and better of them to keep competition fair	distance to processor prohibitive, need delivery man	find right price of desirable products, what is a fair price for everyone involved?	ain't got it, don't buy it philosophy	no need
planning		N/A	N/A	N/A	N/A
disease resistance, date for planting, garden problems plus corrective measures	N/A	N/A		N/A	N/A
soil fertility, insect control					
Cover crops, high tunnel production	packaging		computer, list of consumers/businesses using local produce	grants, spreadsheets	water source, equipment rental (co-op)
official name of products (harder to find seed without it), water	photos with names of species of goods. Pamphlets, brochures of how to get irrigation systems to farm				

source needed, need more efficient processes within budget					
hilling					
No-till with sweet potatoes, succession planting tips, best medium for transplants	storage options	CSA's, farmers market		tax incentives	Walk-in coolers, where to buy
tips and tricks fo different crops, production plan	how do you process a chicken, how do you sell pesto at market	what is legal?	social media, what is my market?, how do you make them care?	record keeping, taxes	how operate things, how to build things
tractor safety, production marketing	general info		general info, interaction with other farms	info on SARE, State funding	general info, interactions with other farmers
no till, other farmers	more classes with practical application	connecting to food hubs and farm to institutions	other marketing opportunities and time management		irrigation with belter water pressure, hugelkulture
underground watering systems, new fertilizers, soil improvement					websites, other gardeners, books
crop rotation, honey bee farming	natural enzymes and fermentation			expansion funding, job creation funding	
organic fertilizer, chemical free pest control	n/a	n/a	n/a	n/a	n/a

Appendix C – Barriers and Aids for Urban Farmers

This is a compiled list of responses from the farmer/grower survey. These are responses to the two questions *What are three barriers to obtaining the information you need about your farming/growing business* and *Given the existing methods of getting information you use, what would make it easier for you to get more information?*

Barriers for urban farmers	**What would make it easier to get more information**
Question 13	**Question 14**
time, dial up	soil and crop meeting, conservation training, agronomist
takes hours on internet, trying to find proper books that are actually helpful, more classes in my area - have to travel 2 or 3 hours and spend night.	I would be willing to teach several classes on information I have found to help other people wanting to start a CSA
widely distributed information (many websites), no local hands on help someone to talk to, Kansas is geared to big Ag, not me.	local hands on help, education for small farms
slow internet speeds, usually do not have problems	internet and our farm agent, faster internet in farm areas
city house	
location/cost of workshop, book info is about wrong growing region, adapting knowledge/facts to our location	If workshops were not always on the Kansas side. If workshops were less expensive.
time, gathering info on computers, regulations on farmers markets and distribution	easier data basing of sites and information
none	we get all we need by asking for it or using web sites
cost for competitive pricing studies, time to track it down and use it	an organized, online clearinghouse that would enable finding the best sources quickly
time, time, time	time
beekeeping is a specialized	friends and neighbors
English ability	still no problem, find my interesting
people not providing complete answers, time, money not borrowed	when people post information other opinions should be sought.
practicing farmers are pretty tight about sharing information due to the competitiveness to growing and selling their product, finding the best sources of seed, fertilizers etc at the most reasonable prices	A resource list of venders for seed, equipment and farmers willing to share information as well as people that repair tunnels after their built and their fees would be helpful. Farm equipment is expensive, if there were several rental places around the state charging reasonable rates to rent equipment with late fee penalties in would be great.
expensive feed, not a lot of farmers raise same livestock, lack of info and land-grant universities	published studies by university

language, time	translated information (into Burmese or Karen)
There is not much available out there	I see more information offered by various state and university in the state of Missouri but I have not seen any in the state of Kansas
all information is easily accessible online	all information could be together on one single website
time, location, fees	web
knowing which questions to ask, time	better memory
time for research, time for application of what I have learned, time to attend workshops and conference	more time!
I hate using the computer	The Extension office had more and better publication on vegetable and fruits
isolation	
I lack the free time necessary to research, limited hours to dedicate	
where to go, classes in the winter, ____ help after class	word of mouth farmer to farmer some meeting and classes
Outlets such as farmers markets – not enough customers too many markets. I believe the information is out there.	
no barriers I learn how to farm early and I have practiced what I know	n/a
time	
none	nothing at this time
Time – have other full time job	local website regarding organic principles
internet accessibility	a laptop with wifi
Lack of internet access, time to do research, cost of attending seminar	more seminar located in metro area
not knowing enough resources	
not really native to our area, very expensive equipment if distilling for oil and need more land, most people don't know if its benefits	time and money
lots of programs offered by local ed programs, # of programs offered locally transportation, time of year programs are offered (spring and summer)	books (I'm always reading) local library's with more up-to-date publications on small scale farming, with the latest tech info and business practices
hooking up with, educating public, time	availability of information, info about small-midsized production, all info in one spot
no computer	
none	none
knowing what questions to ask	not known
lack of local advanced knowledge personnel	move closer to a large fruit or vegetable growing region
time to research, networking, information not consolidated	another winter conference, central information center
n/a	I believe with internet access it is pretty easy to get needed information
too much information spread out, varying opinions on growing, not knowing what needs to be known	a reliable condensed source of information for organic vegetable growers
other farmers are busy, feeling like you are asking stupid questions, time	being able to call a mentor

Lack of state of Kansas support of small farmers. K-State is GREAT! And I appreciate that asset but the state of KS itself doesn't seem interested in anything but big cattle or grain production	The vehicles for info are satisfactory
time, money, insufficient internet knowledge computer	e-mail, phone calls - conference workshops reminders, fax
marketing assistance	
other job, time, financial process (grant writing)	need (cheat sheet) to show information on different things are located
lack of other business using traditional methods, lack of support/network	alliance/network that meets semi-annually to share/present lessons learned
time, lack of info for this region, access to a computer	internet at home

Appendix D – Extension Interviews Script

Introduction: During this interview, I will be asking you questions about your job responsibilities and experiences working as an Extension educator in an urban environment. Questions will pertain to your general job responsibilities, your programming emphasis on urban agriculture, and your awareness of urban agriculture in your county. Please be as open and honest with your responses as possible. This interview will be taped and transcribed. However, your responses will be kept anonymous throughout the research process. They will also remain anonymous if this research gets published. Do you have any questions for me before we get started?

Broad Overview

Could you explain your job responsibilities?

Can you explain to me how your Extension institution structures your program topic areas? (teams, educator per county, action plans, etc.)

How does that structure affect your programming at the county level?

Personally, what is your signature program?

What do you think your biggest contribution has been in terms of programming or education materials based on your job responsibilities?

How are the majority of your educational materials distributed? (Online? Newsletters? Workshops?)

Do you write (organize for) these on a regular basis?

Do you prioritize your programming efforts?

YES – Can you describe your prioritized efforts?

What factors do you use to decide these priorities? (interests, requests, opportunity)

NO – Why do you not prioritize them?

Now that you've shared a bit about your programming priorities, could you describe your prioritized audiences for those programs?

What time of year are most of your programs offered? What time of the week?

In addition to your own time, how much paid or voluntary support do you receive for your programming or educational materials? How much in kind support?

Urban Agriculture Emphasis

How would you define urban agriculture?

Using your definition, thinking back over the past 5 years, have you done any programming or released any educational materials concerning urban agriculture?

YES – Would you describe for me those programs that you were involved in?

Why did you decide to do those programs?

Did you collaborate with other Extension offices or organizations on these projects?

Can you describe the relationship you had with urban farmers during these programs? (educator, collaborator, etc.)

NO – Can you tell me more about why you didn't have any programming in this area? (interest, financial barriers, time constraints)

Now thinking about the next 5 years, do you see yourself doing any programming in urban agriculture beyond those already described?

YES – Can you describe the programs you think you might do with urban ag?

What topics of urban agriculture would you be focusing on? (growing, marketing, technology, financing)

Do you think you will be collaborating with other Extension offices organizations on these projects?

YES – Who would that be?

What types of projects would you collaborate on?

NO – Can you tell me more about why you wouldn't plan to collaborate? (hard to coordinate, differences in opinion)

NO – Can you tell me more about why you don't think you will be doing programming for urban ag? (financial barriers, lack of interest, lack of time, someone else involved)

Now I'm going to slightly modify the definition that we're using for urban agriculture. The following definition is the one I'd like us to use from this point forward. For this definition, urban agriculture is considered**: the growing, processing, and distributing of food and other products through intensive plant cultivation and animal husbandry in and around cities**. Thinking back over the past 5 years once again, have you done any programming concerning urban agriculture? (**Would you say anything differently?**)

YES – Can you describe those programs that you were involved in?

Why did you decide to do those programs?

Did you collaborate with other Extension offices or organizations on these projects?

Can you describe the relationship you had with urban farmers during these programs? (educator, collaborator, etc.)

NO – Can you tell me more about why you didn't have any programming in this area? (interest, financial barriers, time constraints)

Now thinking about the next 5 years, do you see yourself doing any programming in urban agriculture? (Would you say anything differently?)

YES – Can you describe the programs you think you might do with urban ag?

What topics of urban agriculture would you be focusing on? (growing, marketing, technology, financing)

Do you think you will be collaborating with other Extension offices organizations on these projects?

YES – Who would that be?

What types of projects would you collaborate on?

NO – Can you tell me more about why you wouldn't plan to collaborate? (hard to coordinate, differences in opinion)

NO – Can you tell me more about why you don't think you will be doing programming for urban ag? (financial barriers, lack of interest, lack of time, someone else involved)

Awareness

Thinking back to the last definition of urban agriculture, can you describe the urban agriculture activities that people are doing in your county?

Can you describe other urban agriculture training or programming going on in your county besides your own?

Do you get calls or requests for information from people about urban agriculture?

YES – What kind of information are they requesting? (What are some specific topics?)

Do you feel you are able to supply the information they are looking for?

NO – Why do you think that is?

Rank the following six factors in order from most important as #1 to least important as #6 in regards to information desired by urban farmers:

_____ food production

_____ food processing

_____ technology (new production equipment, upgrades – not computer related)

_____ marketing

_____ financial resources

_____ distribution

What role do you think that Extension can best play in their relationship with urban farmers to ensure farmer success? (educator, facilitator, collaborator)

Do you participate in any state or regional urban agriculture programs? (Kansas Rural Center, bi-local initiative, KAW River Valley)

Case Study Demographics Survey

1. Gender: M or F

2. Age? _____

3. What is the highest level of education you have completed? (Choose one)
   (a) less than high school
   (b) high school graduate or equivalent
   (c) some college or Associates degree
   (d) Bachelor's degree
   (e) Master's degree or above

4. What is your current annual income level (Check one):
   _____ Under 25,000
   _____ 25,000 to 50,000
   _____ 50,000 to 100,000
   _____ 100,000 or above

5. Title of current position? _____

6. Time in current position? _____

7. How many hours do you work in a typical week, including night and weekend meetings?
   _____

8. What is your estimated budget for programming and educational materials? (Choose one)
   _____ $0-$1000
   _____ $1001-$2000
   _____ $2001-$3000
   _____ $ 3001-$4000
   _____ $4001-$5000
   _____ $5001+

9. Time working in Extension? _____

10. Most recent previous position? _____

11. Did you grow up in a rural, urban, or suburban area?
    _____

12. Write three adjectives that describe your opinion of urban agriculture:

    _____ _____ _____

Appendix E – Extension Interview Coding Tree

This is the coding tree that was constructed for this study. In total there are 10 main nodes: Barriers and Challenges, Benefits, Collaboration, Conceptualization and Rhetoric, Extension as an Institution, Reaching Minorities, Distribution of Information, Main Topic Areas, Workplace and Structure, and Priorities. There are 256 subsequent subnodes. Each subnode is a further specificity of the node it branches out of. The sources refer to the number of people out of 17 that mentioned the node while the references refer to the total amount of times a node was coded in the interviews.

Node Name	Sources	References
Barriers and Challenges	0	0
consumers	1	1
Extension	14	61
Audience	8	12
gaining trust and respect	5	6
reaching audience	5	6
Lack of Resources	10	21
funding	3	3
lack of awareness	1	3
lack of staff or specialization	4	6
lack of support or interest	1	1
time	5	8
Structure	9	21
bureaucracy	1	1
Cultivate KC	2	2
limitations of job	2	2
sticking to priorities	2	3
traditional structure	4	13
best kept secret	1	3
systems approach	1	1
understanding impact	1	1
Unknown Factors	5	6
new context for teaching	1	1
no information out there for audience needs	2	3
urban ag is ambiguous	2	2
Minorities	3	3
Urban farmers	10	32
Distribution Issues	2	2
distribution	1	1
finding market niche	1	1
Knowledge	5	10
connecting to resources	1	1

growing at scale	3	3
no growing history	1	2
not knowing what they're getting into	1	1
urban ag as an experiment	2	3
Resources	9	19
Money	5	8
funding	2	2
land prices	1	4
making a profit	2	2
need second job	2	2
soil quality	1	1
time	2	2
urbanization and suburbanization	3	4
water	3	4
Benefits	0	0
Community	6	7
Farmer	4	5
Nutrition and health	6	7
Revitalization	1	1
Collaboration	2	2
challenges	1	2
collaboration with campus	3	3
collaboration with community	6	9
collaboration with other Extension	14	24
collaboration with outside organizations	14	25
Future collaboration	15	23
Reasons for collaboration	13	23
Conceptualization and rhetoric	0	0
How urban agriculture is talked about	0	0
Attributes	3	3
hands-on	1	1
holistic	2	2
Audience	5	8
cult-like	1	1
diversity	1	1
Inexperience	2	2
pertaining to homeowners	1	1
youth interest	3	3
Food Culture	12	29
awareness and appreciation for food	8	20
urban ag for food	6	9
Future	15	48
ambiguous definition	1	1
evolution of urban ag	9	12
growing interest in urban ag	14	29
urban ag as an opportunity	4	6
Hobby vs. Business	8	13
affordability	4	6

affordability	4	6
hobby	2	2
niche markets and business ventures	4	5
Innovative	3	3
non-traditional	1	1
sustainable production	2	2
Location	4	6
areas becoming more urban	2	2
urban ag is urban	2	4
proactive and reactive	7	8
Rationale for doing things	0	0
Accountability	4	6
be an example	1	1
push from city	1	1
standard results	1	1
work restraints	1	3
geared towards audience	3	3
creating connections	1	1
helping low income families	2	6
overcoming sterotypes	1	1
Interest level	3	4
gaining interest first	1	1
lots of interest around subject	3	3
Need level	8	13
high need	7	10
lack of need	2	3
Something New	2	4
entrepreneurial approach	1	1
new opportunities	1	3
Urban agriculture definition	17	19
urban and rural farmers	7	15
Distribution of Information	4	7
Interpersonal Resources	1	3
fairs, festivals, and booths	4	7
one-on-one meetings	14	30
workshops or classes	8	16
distribution	2	2
equipment	2	2
financial	1	1
food safety	1	1
fruits and veggies	6	16
health	1	1
livestock	3	4
local foods planning	1	1
processing	2	3
Media resources	14	60
digital	13	31
print	12	25

radio	2	3
Programs	9	24
Beans and Greens	1	3
Beginning Farmer Program	1	1
Community Based Food Systems	1	1
Cooking Camp	1	1
Corner Store Initiative	1	1
Cultivate Kansas City	5	8
refugee programs	4	5
Dining with Diabetes	1	2
Eating from the Garden	2	5
Family Nutrition Program	2	13
Farm Tours	5	8
Farmers Market Association	1	1
Food Corps	1	4
Get Growing Kansas City	2	3
Greater Kansas City Group Policy Coalition	1	1
Grow Your Farm	2	3
Growing Growers	7	24
Home Horticulture	1	2
Integrated Pest Management	1	3
Kansas Healthy Yards and Communities	1	1
Master Food Volunteers	3	14
Master Gardener	5	9
Metro Food Systems Team	1	1
Missouri Grown	1	1
Serve Safe	2	9
Slice of Agriculture	1	2
St. Joe fruit and veggie conference	2	2
Starting a Food Business	1	3
Strong People	1	4
Touch a Truck	1	2
Urban Ag in Kansas City	8	11
Urban Research Farm	1	1
Vinyard Tailgates	1	1
Walk Kansas	1	2
Reaching out to the community	7	10
School programs	5	11
Seasonality of programs	4	4
Time of Week	17	21
Time of Year	17	19
Training	2	3
Volunteers	9	29
Extension	2	2
Problems with Extension	10	17
Relationships with Extension	0	0
Collaborator	4	6
Educator	9	13

Facilitator	11	24
Involved relationship	5	9
Not personal	2	2
Several roles at once	4	5
Skill builders	2	3
Sounding Board	4	4
Role of Extension	16	123
Changing focus	9	22
create connections	9	24
food awareness and appreciation	6	8
helping people	10	25
involvement in urban ag	9	16
Problem solving and researched based	11	20
Serving needs	17	126
Main categories of information	2	3
Distribution	10	25
Equipment and technology	8	15
Financial	7	22
Marketing	8	17
Nutrition	4	15
Policy	3	11
Processing	6	6
Food Preservation	11	26
Food Safety	10	21
Harvest and Post-Harvest Handling	6	11
Production	7	11
animals	5	21
connection to limited food access	1	3
small acreage	1	3
vegetables and fruits	7	17
basic plant production	9	18
grafting	2	4
pest management	5	11
soils and soil quality	6	10
water and water quality	5	8
Specific Practices	7	14
Urban Planning	1	2
Priorities	5	13
Audiences	4	9
consumers	3	4
elderly	2	3
families	1	1
growers	8	23
homeowners	3	5
minorities and those with limited resources	10	23
workplace	1	1
youth	5	5
Programs	2	3

action plans	2	2
ag or hort production	9	18
business development	1	1
community health	1	5
consumer education	4	4
decided by needs or a committee	9	16
food access	3	4
food preparation and preservation	2	3
food safety	2	2
livestock production	1	1
living on a budget	1	1
national impact first	1	2
not prioritized	2	3
statewide programs prioritized first	2	2
Ranking of topics	17	17
Reaching Minorities	9	24
Class	3	6
Food justice	3	9
Gaining trust and respect	3	4
Race	5	13
Workplace and structure	3	6
Extension councils and program development committees	11	17
Flexible structure	10	23
Funding for Extension	3	3
fund generating programs	4	6
funding decides priorities	4	5
getting grants	9	13
government and state funding	7	10
Job Responsibilities	16	25
non-profit structure	1	4
professional development	2	2
Regional vs County structure	9	11
Reporting systems	6	11
silos of Extension	7	8
specialized	4	5
state specialists set structure of programs	1	3
Support	3	3
donations and financial support	12	14
paid staff	10	18
support from organizations	7	7
volunteers	16	26
Working as a team	10	21