

Community Assistantship Program

...a program of the Center for Urban and Regional Affairs (CURA)

Toward a Food Hub in North-Central Minnesota: Reframing the Conversation, Examining a Hub's Regional Economic Effects

Prepared in partnership with
Region Five Development Commission

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2012

CAP Report # 175

*This report is available on the CURA website:
<http://www.cura.umn.edu/publications/search>*

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CAP is a cross-college, cross-campus University of Minnesota initiative coordinated by the Center for Urban and Regional Affairs (CURA). Funds for CAP were generously provided by the McKnight foundation and the Blandin foundation.

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Executive Summary

The report investigates the economic development potential of new local food infrastructure for a five-county region in North-Central Minnesota. This highly rural region is older and poorer relative to the state average, with over one-third of residents living in a food desert. Solutions are needed that both increase the accessibility of healthy produce and generate regional economic growth. The region is at a tipping point of a more robust local food system, but additional infrastructure is needed. How can local actors best expand local food infrastructure, and what would the economic impact of this new infrastructure be?

This research occurs within the context of growing national demand for local food that surged to \$7 billion in 2011. Though most small farms rely on direct-to-consumer marketing channels (i.e. road-side stands, farmers markets,, etc.), most local food sales overall occur through intermediated channels such as sales to local retail, restaurants, institutions, and regional distribution outlets. Despite this rapid growth, two structural impediments to the growth of local foods include challenges faced by “Agriculture in the Middle” as well as a lack of necessary infrastructure.

Innovative infrastructure models broadly known as food hubs are emerging to meet these challenges. The USDA’s Agricultural Marketing Service defines a food hub as, “A business or organization that actively manages the aggregation, distribution, and marketing of source-identified food products primarily from local and regional producers to strengthen their ability to satisfy wholesale, retail, and institutional demand.”¹ USDA has identified over 150 food hubs around the country. On average hubs employ 12 people (7 FT, 5 PT) and generate \$1 million in annual sales. These food hubs are situated within emerging supply chains that are more aptly described as “value chains.” Value chains emphasize a commitment to long-term relationships, coordination (rather than vertical integration or interchangeability) amongst growers and buyers, and often times a commitment to social & environmental ends in addition to economic profitability.

This North-Central MN region is used as a case study to examine the regional economic effects of a proposed local food hub. The responses from two recent local food surveys suggest that between 289 and 868 acres in the region are available for the hub, or a total of nearly 900,000 lbs. of produce. This could generate \$2.2-\$6.5 million in local food sales, which could in turn create a \$6-\$16 million multiplier effect. In addition to the direct hub employment, an additional 45-145 on-farm and off-farm jobs could be created. These estimates exclude large farms in the region and are thus conservative. Other key results are growers’ interest in processing facilities and a hub’s that focuses on connecting to new buyers.

The report ends with recommendations for how local food advocates can strategically move forward the creation of a food hub in the region. These include shifting the conversation to food hubs, focusing on coordination, planning for a decentralized hub, and identifying a legal structure & core partners.

¹ USDA AMS, “Regional Food Hub Resource Guide,” 10.

Introduction

This report is the result of seven months of research support assisting the Region Five Development Commission (R5DC), the Initiative Foundation, and local food advocates to strategically grow North-Central Minnesota's local food system. Primarily this included an investigation of the economic opportunities for developing the local food system through a food hub as well as the regional economic effect of such development. This report is intended to equip local food advocates in the region with useful research for pursuing resources and with recommendations for how best to strategically work together moving forward.

Section I provides context on the region, research on the national growth of local food systems, and more specifically the emerging literature on food hubs. Section II provides the results of two of R5DC Local foods surveys, one from 2008 and one implemented for this project in 2012, as well as a synthesis of these two surveys' results. Section II also articulates an estimate a hub's supply of local food in the region and several estimates of the regional economic effects of a local food hub. Section III provides recommendations for R5DC, the Initiative Foundation, and local food advocates for how to strategically move forward their efforts to grow the region's local food system.

Methodology

A mixed methodology was utilized for this research and surveys, interviews, and literature reviews. The primary source of data on the region's local food system comes from two local foods surveys conducted by R5DC. The first, conducted in late 2008, is slightly dated but received a very high response rate (n=142). The second survey was developed specifically for this research and was modeled off a successful survey and feasibility study conducted to assess the viability of a local food hub in Dane County, Wisconsin. This survey was more acutely designed to assist in quantifying the economic effects of a local food hub in the region, farmer interest in participating in a Hub, etc. While its strengths included greater depth and clarity, its weakness is that it received a smaller response rate (n=31). The same distribution lists were utilized for both surveys and given the topical similarity the results of these two surveys are occasionally examined together. While the extrapolation of the more recent survey's results onto the other is a methodologically careful endeavor, it also allows us to make reasonable inferences about the region's local food system on a larger scale.

The interviews were conducted with key local actors in the region's food system including economic development specialists, farmers, and elected officials. Interviews were also conducted with University specialists, U of MN extension employees, and food hub operators around the country. The literature examined includes both published academic articles as well as a set of highly useful recent USDA publications on local foods, value chains, and food hubs.

Section I: The Region, Local Foods, and Food Hubs

The Region

The Region Five Development Commission oversees Cass, Crow Wing, Morrison, Todd, and Wadena County. This rural and small-town area of North-Central Minnesota includes population centers such as Brainerd, Little Falls, and Long Prairie as well as 63 other incorporated Cities. While this research was conducted for the development of a local food system that does not precisely respect county borders, the five counties overseen by R5DC are briefly reviewed to ground the region's local food work in basic socio-economic characteristics of this North-Central region of Minnesota. The table below details basic information about the five-county area.

| County | Population | Poverty (%) | Child Poverty (%) | Seniors +65 (%) | Median Household Income |
|------------|------------|-------------|-------------------|-----------------|-------------------------|
| Cass | 28,390 | 14% | 24% | 21.80% | \$42,455 |
| Crow Wing | 62,763 | 11.50% | 18.40% | 19% | \$44,659 |
| Morrison | 33,229 | 13.10% | 15.90% | 16.30% | \$47,085 |
| Todd | 24,836 | 14.90% | 21% | 17.50% | \$42,927 |
| Wadena | 13,749 | 16.80% | 23.20% | 21.50% | \$34,686 |
| MN Average | 5,344,861 | 10.60% | 15% | 13.10% | \$57,243 |

Table 1: Five-County Demographic Information²

The table shows that all five counties have higher rates of poverty and child poverty than the state average. The area also has a higher percentage of seniors and lower average incomes compared to the state average. In sum, the average resident in these five counties is likely to be older and lower-income than the average Minnesotan.

The second table below details the region's food deserts. Food deserts are generally defined as low-income areas with low access to fresh produce. The USDA has developed a Food Desert Locator that maps all food deserts in the country. Often thought of as a problem in poor urban areas, food deserts are quite prevalent throughout rural America.

² All data is public information and available online through the U.S. Census Bureau and the USDA.

| County | County Population | Number of Food Deserts ³ | Total Population Living in a Food Desert | % Population Living in a Food Desert ⁴ |
|--------------|-------------------|-------------------------------------|--|---|
| Cass | 28,390 | 1 | 3,862 | 13.60% |
| Crow Wing | 62,763 | 5 | 17,433 | 27.80% |
| Morrison | 33,229 | 3 | 10,048 | 30.20% |
| Todd | 24,836 | 5 | 15,505 | 62.40% |
| Wadena | 13,749 | 2 | 8,334 | 60.60% |
| Total | 162,976 | 16 | 55,182 | 33.90% |

Table 2: Five-County Food Desert Statistics

The table shows that over 55,000 of the five-county region’s residents, which is over one-third of the total population, lives in a food desert. While research is continually emerging on the relationship between healthy food access, consumer behavior, and health outcomes, research suggests that lack of healthy food access poses significant challenges for healthy eating patterns and increases risk for obesity, diabetes, and other diet-related disease.⁵ This table suggests that the region is in need of solutions that will simultaneously increase the accessibility of fresh, local foods as well as be a source of incomes for residents in the region. The topic of this research is to investigate whether strengthening local foods systems, which is commonly seen as both a contributor to economic development and a strategy for improving health, is an economically viable strategy in the region.

National Emergence of Local Food Systems

Local food is a growing and increasingly important market. Local food sales through all marketing channels in the U.S. were estimated to be nearly \$5 billion in 2009 and were projected to reach \$7 billion in 2011.⁶ Consumers increasingly value and seek

³ The USDA Food Desert Locator was used to identify all the food deserts in a County. The Locator’s food desert definition is, “A low-income census tract where a substantial number or share of residents has low access to a supermarket or large grocery store.” The Food Desert locator is available online at <http://www.ers.usda.gov/data-products/food-desert-locator.aspx>.

⁴ Ratios were created using the aggregate number of residents in food desert census tracts and Census data for total county population.

⁵ S. Treuhaft, A. Karpyn, Policy Link & The Food Trust, “The Grocery Gap: Who Has Access to Healthy Food and Why it Matters,” accessed at <http://www.policylink.org/atf/cf/{97C6D565-BB43-406D-A6D5-ECA3BBF35AF0}/FINALGroceryGap.pdf>.

⁶ Low, Sarah A., and S Vogel USDA, Economic Research Service, “Direct and Intermediated Marketing of Local Foods in the United States” (November, 2011).

out local foods, with upwards of 85% of consumers citing the presence of local food as an important factor in their purchasing decision.⁷

The reasoning behind consumer demand for local food is varied and complex. Some believe buying locally and in season will save money whereas others willingly pay higher prices for local food. Their motivations include the perception that local food is personally beneficial because it is fresher, better tasting, and healthier. Others believe that buying local food is preferable because it supports local producers, the local economy, and is less harmful for the environment. Consumers are also frequent to cite the value of direct or indirect interaction with producers, and increased social connectivity through farmers markets, buying clubs, etc.⁸

Federal, state, and local governments are also increasingly promoting local food. Federal initiatives include USDA's Know Your Farmer, Know Your Food and the Farmers Market Promotion Program. In Minnesota, the Statewide Health Improvement Program (SHIP) has targeted over 25 Farm to School initiatives. Government reasoning for support of local food includes improving health through improved nutrition and local food's potential for rural economic development.

Consumers' and government's beliefs that local food is good for producers and the local economy are justified. A recent report through the USDA's Economic Research Service found that, "Producers receive a greater share of retail prices in local food supply chains than they do in mainstream chains, and producer net revenue per unit in local chains ranges from about equal to more than seven times the price received in mainstream chains." Though more revenue per unit is retained by the farmer in local supply chains, a significant issue is that the costs incurred to bring their product to market can cost producers between 13-62% of the retail price.⁹

Marketing Channels for Local Food: How Local Food Gets to Your Plate

Better understanding the emerging local food infrastructure requires a basic understanding of the various channels through which local food is marketed and distributed. These various channels are usually grouped into either direct-to-consumer or intermediated marketing channels.

Direct-to-consumer channels include farmers markets, roadside stands, CSA's, buying clubs, and more. The prevalence of these direct-to-consumer channels is growing rapidly. For example, the number of farmers markets in the US tripled between 1994

⁷ National Grocers Association's, 2011 Consumer Report, accessed at www.supermarketguru.com/public/pdf/Consumer-Panel-Survey-2011.pdf

⁸ USDA Economic Research Service (ERS), "Comparing the Structure, Size, and Performance of Local and Mainstream Supply Chains" (June, 2010), iv-v.

⁹ USDA ERS, "Comparing the Structure, Size, and Performance of Local and Mainstream Supply Chains," 1.

and 2009.¹⁰ Similarly, the number of Community Supported Agriculture (CSA) programs increased from roughly 400 in 2001 to over 1500 in 2009. Small farms, which account for 81% of all farms reporting local sales, are more likely to rely solely on these direct-to-consumer channels. Direct Marketing of all types was worth \$1.2 billion in 2007, and grew over 100% in the decade prior.¹¹

Despite robust direct-to-consumer channels, USDA writes, “For local foods production to continue to grow, marketing channels and supply chain infrastructure must deepen.” Thus *intermediated* channels (i.e. farmers’ sales to local retail, restaurant, and regional distribution outlets) are increasingly important to take local foods to scale. Farms that sell local food through exclusively intermediated chains reported \$2.7 billion in local food sales in 2008, over three times higher than the total local sales through farms using exclusively direct marketing channels. USDA reports that medium farms are more likely to use a mix of direct and intermediated marketing, and large farms are more likely to rely solely on intermediated channels.¹²

Within intermediated channels, institutional purchases for restaurants, schools, and hospitals are growing particularly fast. In Minnesota alone, the number of schools participating in the Farm to School program increased from 10 schools in 2006 to 123 schools in 2010.¹³ Multiple initiatives are working to incorporate more local food into colleges & universities. Farm-to-hospital and even farm-to-childcare programs are in development.¹⁴ These intermediated channels that connect local growers to businesses and institutions are critical to scaling up local foods. Expanding farmers’ access to buyers through these channels, however, presents challenges.

Challenges for Local Food: Ag in the Middle & Lack of Infrastructure

If local and regional food systems are to be more than an addendum to the conventional food system, a number of structural barriers must be addressed. Two of these challenges include the broader challenges faced by mid-size farms, also known as “Agriculture in the Middle,” and insufficient local food system infrastructure.

The first challenge is related to the broader structural issues faced by mid-size farms that have been deemed “agriculture in the middle.” These mid-size farms, which generally have between \$50,000 and \$250,000 in gross annual income, have

¹⁰ USDA Agricultural Marketing Service, “Farmers Market Search” (2009), accessed at <http://apps.ams.usda.gov/FarmersMarkets/>.

¹¹ Diamond, A., and R. Soto, USDA AMS, “Facts on Direct to Consumer Marketing: Incorporating Data from the 2007 Censuss of Agriculture” (2009).

¹² Low & Vogel, USDA ERS, “Direct and Intermediated Marketing of Local Foods in the United States” (November, 2011).

¹³ Institute for Agriculture and Trade Policy, “Farm to School in Minnesota” (March 2011).

¹⁴ Berkenkamp, J, L. Mader, Institute for Agriculture and Trade Policy, “Farm to Childcare: Opportunities and Challenges for Connecting Young Children with Local Foods and Farmers” (June 2012).

significant potential to scale up local foods. At the same time these farms face challenges that put their economic viability in danger.

More specifically, mid-size farms are caught between insufficient direct marketing channels and wholesale supply chains that are often out of reach. While smaller farms have been able to capitalize on growing consumer demand for local food through expansion of direct marketing channels, these types of direct channels (i.e. CSA's, farmers markets, etc.) are not capable of efficiently dispensing the full volume of mid-size farms' output. These farms are also likely to specialize in one or several crops and to be located far enough away from population centers to make direct marketing a significant challenge. Thus, on the one hand these mid-size farms are unable to rely on the expansion of direct sales to consumers. On the other hand, midsize farms are often unable to compete with large farms in wholesale markets due to the variety of economic advantages large farms have (i.e. economies of scale, improved terms of trade, farm management & machinery, etc.). AMS aptly sums up this conundrum in which mid-size farmers are, "Thus caught short, having difficulty capitalizing on two simultaneous, if contradictory, developments in contemporary American agriculture- the growth of small-scale, niche, local production alongside the continued industrialization of agriculture into ever larger production units."¹⁵

A related challenge for local foods is the lack of appropriate infrastructure for robust local food systems. A report from Community Involved in Sustaining Agriculture (CISA) titled "Scaling Up Local Foods" describes how, "As our food system has shifted away from local and regional production and trade towards global sourcing, the infrastructure required to connect local farms with local markets has eroded."¹⁶ The recently released Food Hub Resource Guide notes that early on in the Know Your Farmer, Know Your Food task force's investigation they found that, "One of the recurring challenges faced by producers is the lack of distribution infrastructure and services that, if made available, would allow them to take greater advantage of the growing demand for locally and regionally grown food in larger volume markets (such as grocery stores, restaurants, schools, hospitals, and universities)."¹⁷ AMS aptly sums up this conundrum as, "Farmers are willing to grow produce for local buyers, and food buyers want local food, but there is no practical way to connect local demand with local supply."¹⁸ CISA's report argues that failing to address the lack of local food infrastructure will restrict supply from keeping up with demand for local food, and will cause communities to miss out on numerous economic benefits.

¹⁵ USDA Agricultural Marketing Service, "Moving Food Along the Value Chain: Innovations in Regional Food Distribution" (March 2012), 3.

¹⁶ Community Involved in Sustaining Agriculture (CISA), "Scaling Up Local Food: Investing in Farm & Food Systems Infrastructure in the Pioneer Valley, accessed at www.buylocalfood.org/page.php?id=61.

¹⁷ USDA Agricultural Marketing Service (AMS), "Regional Food Hub Resource Guide" (April, 2012), 1.

¹⁸ USDA AMS, "Moving Food Along the Value Chain, 4.

In order to both create the necessary infrastructure and to circumvent the structural issues facing mid-size farms, new operations are arising which, “bypass both undifferentiated commodity markets and direct to consumer market channels,” and focus on, “the creation of new collaborative supply chains and the marketing of differentiated products.”¹⁹ The creation of these new supply chains and the operations that move local food products through the chain are a critical step in overcoming the structural barriers to more robust local food systems.

Value Chains & Food Hubs: The Emerging Local Food System Infrastructure

To meet the growing demand for local food in wholesale, retail, and institutional markets, innovative models for the aggregation, processing, marketing, and distribution of local foods have emerged. These diverse yet related models are broadly called food hubs. In short, food hubs are a key emerging component of the local food infrastructure.

USDA’s recently released “Regional Food Hub Resource Guide” defines a food hub as, “A business or organization that actively manages the aggregation, distribution, and marketing of source-identified food products primarily from local and regional producers to strengthen their ability to satisfy wholesale, retail, and institutional demand.” By doing so, food hubs serve as, “Key mechanisms for creating large, consistent, reliable supplies of mostly locally or regionally produced foods.”²⁰

Several aspects of food hubs differentiate them from conventional aggregation and distribution operations in existing supply chains. First, food hubs situate their work in a particular type of supply chain that is more accurately described as a “value chain.” A recent report from the Agricultural Marketing Service (AMS) titled “Moving Food Along the Value Chain” characterizes value chains as, “Emergent supply chains emphasizing vertical coordination rather than integration throughout the supply chain.”²¹ USDA’s Food Hub Resource Guide characterize value chains as,

“Collaborative business networks comprising food producers, processors, distributors, marketers, and buyers who jointly plan and coordinate their activities to achieve common financial goals while advancing an agreed-upon set of social or environmental values.”

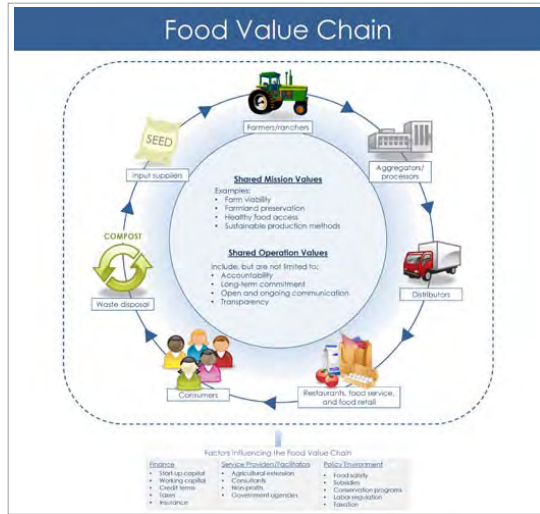
According to USDA, “Food hubs are often at the heart of value chains.”²² Below is a figure designed by AMS regarding food value chains’ common components and values

¹⁹ USDA AMS, “Moving Food Along the Value Chain, 3.

²⁰ USDA AMS, “Regional Food Hub Resource Guide,” 10.

²¹ USDA AMS, “Regional Food Hub Resource Guide,” 3.

²² USDA AMS, “Regional Food Hub Resource Guide,” 12.



Source: Designed by the USDA's Agricultural Marketing Service and the Wallace Center at Winrock International for Food Value Chains: Lessons Learned from Research and Practice

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Figure 1: An Illustration of Food Value Chains

Another aspect of food hubs highly related to value chains is that they consider, “Producers as valued business partners instead of interchangeable parts,” and they are, “Committed to buying from small to mid-size local producers whenever possible.” Other defining characteristics of food hubs include working closely with producers via technical assistance to ensure they meet buyer requirements, using product differentiation strategies, and aiming to be financially viable while also having positive economic, social, and environmental impacts in their communities.²⁴

USDA recently partnered with the National Good Food Network, the Wallace Center at Winrock International, and several other groups to advance research and support for food hubs through the National Food Hub Collaboration (NFHC). In 2011, the NFHC conducted an online survey to assess the scope and scale of food hubs operations around the country. The survey was completed by 72 food hubs from around the country, reflecting fairly good geographic representation. The survey found that an average food hub employs seven full-time and five part-time employees. The survey also found that an average food hub has nearly \$1 million in sales annually. The median number of suppliers to a food hub is 40, most of whom are small and mid-sized producers.

Other important findings are that food hubs identify themselves as socially driven business enterprises and are actively involved in their communities through working with both producers and consumers. Also significant is that, “Over 40 percent of food hubs are working in food deserts to increase access to fresh, healthy, local food products in communities underserved by full-service food retail outlets.”

²³ USDA AMS, “Regional Food Hub Resource Guide,” 12.

²⁴ USDA AMS, “Regional Food Hub Resource Guide,” 4.

The financial viability of food hubs is being closely monitored. Whether these hubs can meet their economic, social, and environmental goals while maintaining financial viability will be the test of whether these new value chain models are scalable. Ten of twenty hubs that were interviewed more in depth identified themselves as currently economically viable, with most others stating they expect to be viable in 1-3 years. The coming years may be needed to answer these questions, as over 60% of food hubs are less than five years old.²⁵

Though a recent innovation in local food infrastructure, food hubs have cropped up around the country. The Regional Food Hub Resource Guide includes a map of 168 food hubs identified at the time of writing the report. A current list of food hubs can be located at www.ams.usda.gov/foodhubs. For further information, research, and resources to support food hubs the NFHC is a particularly useful resource.

²⁵ USDA AMS, "Regional Food Hub Resource Guide," 74-75.

Section II. Results from Two R5DC Local Food Surveys, Potential Hub Supply of Local Foods, & a Hub's Regional Economic Effects

Introduction

Included in this section are the results of a 2008 Local Foods survey conducted by R5DC as well as a more recent 2012 local foods survey created for the purposes of this research project. The results of both surveys are examined together because of the topical similarity, but also because each survey provides a specific type of insight into the region's local food system. While the 2012 survey had a fine-tuned focus on the potential impact of a regional food hub, its response rate was somewhat limited (n=31). In contrast, the 2008 local food survey was a broader inquiry into the region's local food system but had a much higher response rate (n=142). By examining the results together and extrapolating the results of one onto the broader base of the other, some reasonable inferences are made regarding the region's supply of local food, grower interest in a local food hub, and the regional economic effect of scaling up local foods. Below is an analysis of each survey's results, with occasional figures included. For full survey results see Appendices A and B.

2008 Local Foods Survey Analysis

This general inquiry into the region's local food system received 142 responses, 124 of which report growing food products for local sales. The 17 who did not sell food locally all reported the desire to expand to local markets. The largest category of respondents was vegetable growers (49%), followed by fruit growers (37%), as well as meat producers (34%). There were also roughly a quarter of respondents who produce eggs, flowers/plants, and processed items. Few dairy producers are represented in the survey (only 4%).

The survey results are in line with the USDA's research on direct marketing channels in that a high percentage of respondents report less than \$5,000 in local food sales per year and, accordingly, the most utilized distribution channels were direct-to-consumer (i.e. on farm sales, CSA, and farmers markets). The next most common channels were direct marketing to restaurants, grocery stores, and co-ops. Farmers utilizing intermediated channels (such as selling to wholesale to distributors) were much less common.

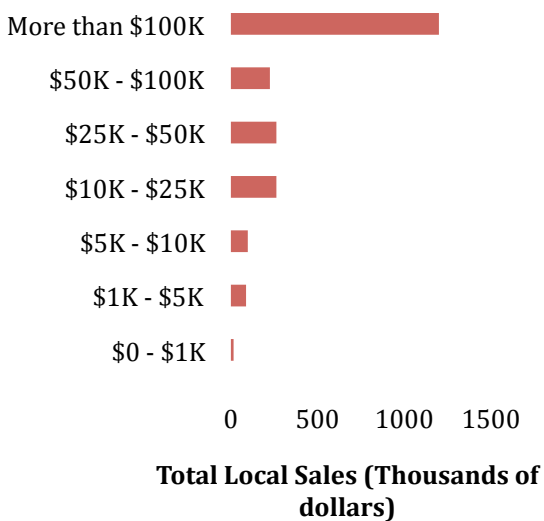
While there are a diminishing number of respondents as local food sale income brackets increase, the total amount of local food sales is mostly attributed to the large and medium sized farms. The three figures below demonstrate this nuanced point.

Number of Farms Who Sell Local Foods of Varying Annual Sales Ranges

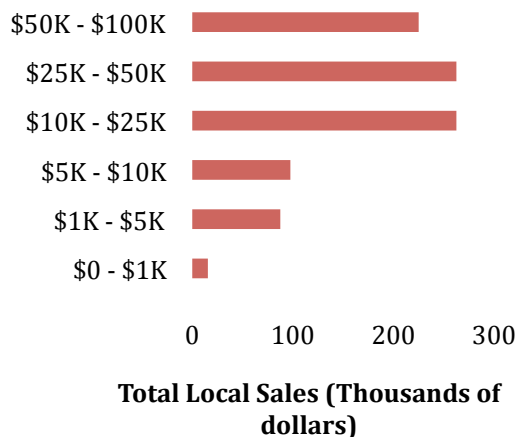


Varying Quantities of Annual Local Food Sales

Total Local Sales from Farms of Varying Local Revenue Brackets



Total Local Sales from Farms of Varying Local Revenue Brackets (Excluding Farms With Over \$100K in Local Sales)



Figures 2-4: Varying Levels of Farms' Local Food Sales

By taking the mid-point of each local food sales bracket and aggregating the number of producers in each bracket, the estimated total local food sales of these respondents is 2.15 million dollars.²⁶ Excluding the large producers who report over \$100,000 in local sales annually, local food sales are just under one million. Considering that the USDA projected a 40% increase in local sales between 2007 and 2011, it is reasonable to assume there has been some degree of growth locally since the survey was

²⁶ For the \$100,000 bracket, an average of \$150,000 in local food sales was used per producer. This very well may be more or less than their actual local food sales.

conducted. The region’s local food sales (based solely on the responses of 124 producers) may be upward of three million dollars, with small and medium size farms representing well over two-thirds of the total.

Regarding expanding their local food sales, 58% of producers want to expand their sales to individual consumers, 39% want to expand their sales to businesses, and 25% to institutions. Reasonable explanations may be that the majority of farms already heavily rely on direct sales, and that direct sales to consumers require the least infrastructure, compliance, and retains the highest percentage of food sales relative to other markets. There was relatively low interest (15-30%) in most strategies given that might help increase local sales. By far the most common response (50%) was access to a list of businesses interested in buying local. A related response was that respondents cited connecting to buyers as the single greatest barrier to expanding sales (46%) with advertising and marketing as the second most common challenge (30%).

2012 Local Food Hub Survey Analysis

The 2012 R5DC local food hub survey received 31 responses. Over 70% of respondents are produce growers. Very few are brand new farmers, with 50% concentrated with between 6 and 20 years of experience.

Grower interest in selling to a Hub is strong. Over two-thirds (70%) of growers expressed interest in selling to a Local Food Hub (given a fair price and accessible location). Two-thirds (66%) are also interested in utilizing any processing facilities that would be located at a Local Food Hub to do value-added activities.

A crucial question to examining the potential economic impact of a Local Food Hub was how much land farmers would be able to divert or put into production to grow for the hub. Including all respondents, a total of between 286 and 854 acres could be devoted to the Hub, or between 11 and 37 acres per farmer. Excluding farmers who made a low-end or high-end estimate of over 50 acres, the total acreage that could be devoted to the Hub is between 86 and 258 acres. This works out to between 3.58 acres and 11.75 acres per grower. The two tables below display these figures.

| | Low-end estimate: | High-end estimate: |
|--------------------------|-------------------|--------------------|
| Total acres | 286 | 854 |
| Average acres per farmer | 11 | 37 |

| | Low-end estimate: | High-end estimate: |
|--------------------------|-------------------|--------------------|
| Total acres | 86 | 258 |
| Average Acres per farmer | 3.58 | 11.75 |

*Excluding any farmer who responded with a low or high estimate over 50 acres

Tables 3 & 4: Estimates of Acreage Available for a Local Food Hub

A response consistent with the 2008 survey is that growers expressed the most interest (67%) in connecting to new local buyers out of all other additional services a local food hub could offer. The additional service with the next highest interest was processing and value-added activities (50%) followed by equal interest in business skill development and cooking, food, and nutrition (46%). The two most common responses to what would make growers more likely to sell to a hub were if a hub could pick up produce from their farm (57%) and if facilities were available for processing and value-added activities (43%). A general theme that emerged from throughout the survey is strong grower interest in processing and value-added.

Finally, just under two-thirds (62%) of growers would be willing to participate in pre-season planning with the Hub and 75% wish to be contacted about R5DC’s efforts to strengthen the local food system.

Estimated Supply of Local Foods for a Food Hub

Several food hub feasibility studies, the USDA, and other reports have found the demand for local food to consistently outpace the supply. As such, any future hub operation’s scale should be sensitive to the hub’s potential supply of local food.²⁷ By examining the results of the two surveys in relation to one another, reasonable estimates of the region’s local food supply can be made.

While numerous growers in both surveys produce meat, flowers/plants, dairy, and processed items, the following estimate is only for the region’s supply of fruit and vegetables. According the 2008 survey, 84 out of 132 respondents grow produce. If the grower profile that emerged from the 2012 survey is applied to these 84 growers, an estimated 962 to 2871 acres could be made available to the hub. Excluding large farms (those with high or low estimates above 50 acres), between 289 and 870 acres could be made available to the hub. These figures for the larger grower population are displayed below.

| | Low-end estimate: | High-end estimate: |
|--------------------------|-------------------|--------------------|
| Total acres | 962 | 2871 |
| Average acres per farmer | 11 | 37 |

| | Low-end estimate: | High-end estimate: |
|--------------------------|-------------------|--------------------|
| Total acres | 288.96 | 868.392 |
| Average Acres per farmer | 3.58 | 11.75 |

*Excluding any farmer who responded with a low or high estimate over 50 acres

Tables 5 & 6: Extrapolated Estimates of Acreage Available for a Hub

²⁷ Dane County Planning & Development Department, “Southern Wisconsin Food Hub: Feasibility Study” (September, 2011).

Specific questions were also asked about the amount of local products growers could make available to sell to a Hub in 2013 given a reasonable price and access. While questions were asked about fruit, meat, and other products, the chart and estimates below are only for vegetables. The following graph represents the aggregate amount of vegetables all growers could sell through a regional food hub.

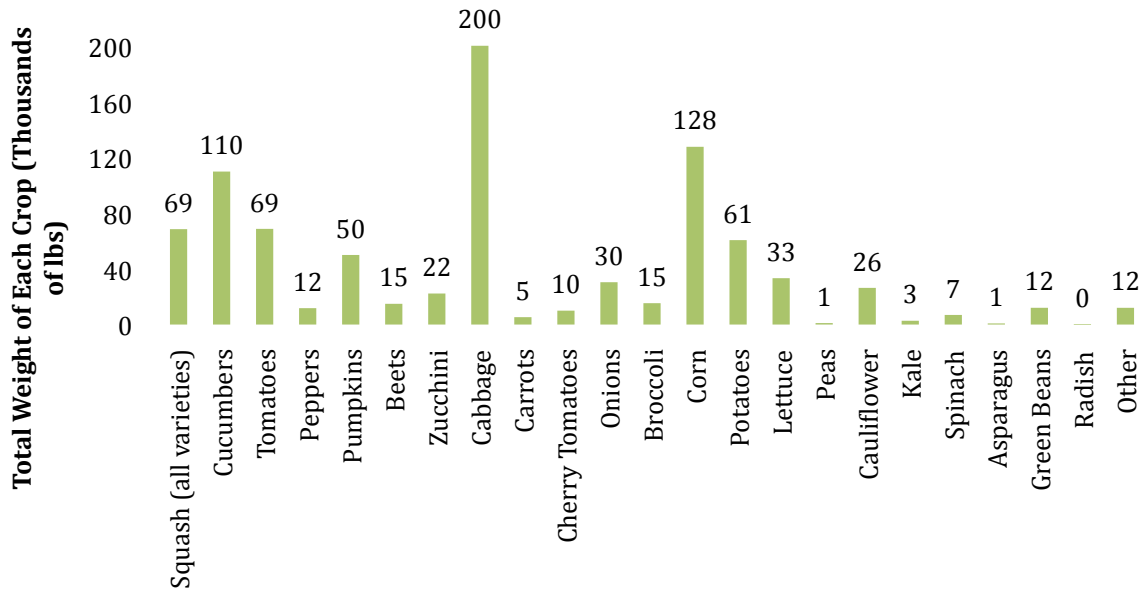


Figure 5: Aggregate Weight of Vegetables (in lbs) Growers Could Sell to a Hub in 2013

In the aggregate, these amounts total to 891,000 lbs. of vegetables per year. Raw data also exists for fruits, meats, and other products. At even a cursory glance, producers mentioned they could sell hundreds of thousands of pounds of fruits and over 30,000 lbs of beef through a food hub. Other products included everything from pork, chickens, ducks, herbs, flowers, and processed goods.

A Food Hub's Regional Economic Effects

The dynamics of what farmers would plant and the specific revenue they would generate if a regional food hub were present is exceptionally difficult to predict. However, The National Agricultural Statistics Service provides a general estimate that the average acre of fresh market crops is valued at \$5000-\$10000, as opposed to \$950 for commodity crops.²⁸ Using this estimate, if all the acres producers said they could make available to a hub were put into production, including large farms it could generate anywhere from \$7.2-\$21.5 million in local food sales. Excluding large farms, \$2.2-\$6.5 million in local food sales could be generated. Recall that these estimates are solely for produce growers.

²⁸ National Agricultural Statistics Service. 2010 State Agricultural Overview: Wisconsin. Census, Washington, D.C.: USDA, 2010.

With respect to job growth, first assume that a hub in the region would directly employ the equivalent of an average food hub. According to the NFHC, the average food hub employs seven people full-time and five people part-time. Outside of this direct employment, according to a recent UW-Madison study, 2.2 jobs are created for every \$100,000 in local food sales.²⁹ Using this figure, at capacity the hub could create between an additional 45 and 145 jobs in the regional economy. This estimate is created using the lower acreage figure that excludes large farms. Regarding regional economic growth, using a 2.6 multiplier (which is commonly used for food dollars spent locally), local food sales through a hub could result in \$5.7 to \$16.9 million generated elsewhere in the local economy.³⁰

These figures, of course, assume that the full regional capacity expressed in the 2012 survey and extrapolated to the 2008 survey will be captured by a local food hub, which is likely not the case. However, many growers in the region assuredly did not respond to the survey, which suggests the regional supply of local foods is much greater. Thus, capturing 50% of the local food supply available for a hub may have similar effects. Even capturing 25% of the supply available for a hub could generate \$1.1-\$3.2 in local food sales, create 20-70 jobs (in addition to the direct employment of the hub), and have a regional multiplier effect of another \$2.86-\$8.3 million.

The table below summarizes these various economic development indicators, providing low and high estimates for scenarios that both include and exclude large farms. Figures in bolded red reflect the more conservative, but also more reasonable, estimates.

| Economic Development Indicator | Including Large Farms | Excluding Large Farms |
|---------------------------------------|--|------------------------------|
| Acreage Available for a Food Hub | 962-2871 acres | 289-868 acres |
| Potential Sales to a Food Hub | \$7.2-\$21.5 million | \$2.2-\$6.5 million |
| Direct Jobs Created | 7 full-time, 5 part-time (average Hub employment) | |
| Jobs Created in Local Economy | 158.2-473 | 45-145 jobs |
| Regional Multiplier Effect | \$18.7-\$47.3 million | \$5.7-\$16.9 million |

²⁹ Institutional Food Market Coalition. 2010 Program Report. Annual Report, Madison: Dane County Department of Planning and Development, 2010.

³⁰ Used to produce estimates in the Southern Wisconsin Food Hub Feasibility Study, attributed to Meter, Ken, "Local Food as Economic Development," Crossroads Resource Center, (October 2008), accessed at <http://www.crcworks.org/lfcd.pdf>.

Section III: Recommendations for R5DC, Initiative Foundation, and Local Food Advocates

Recommendation 1: Shift the local conversation to food hubs

The language of food hubs is consistent with the national conversation on building local food infrastructure. Framing the work in terms of a food hub is also broad enough to include the varying interests of local farmers, funders, buyers, and advocates. Being consistent with the national conversation is important because it reflects to policymakers and funders that the sophistication of local efforts are in step with cutting-edge work happening around the country to strengthen local food systems. Within the region, talking in terms of a food hub gives a specific name to a range of diverse but inter-related local food activities including aggregation, distribution, and processing. In sum, shifting the conversation to food hubs will ground this diverse local food system work in common language and goals.

Within the core team, at least cursory examination of the literature and resources surrounding food hubs is highly recommended (i.e. reading the USDA's Regional Food Hub Resource Guide). It's also recommended that the language and models associated with food hubs (i.e. value chains) are thoroughly incorporated into any future hub's promotion, recruitment, activities, and operations.

Recommendation 2: First Focus on Coordination, Not Infrastructure

R5DC and its partners should heed lessons learned around the country that the initial focus in developing a food hub should be producer and buyer coordination as opposed to infrastructure development. While infrastructure investment is, of course, a significant concern, these infrastructure concerns tend to overshadow the core work of a hub: The creation and management of local food value chains. USDA's Food Hub Resource Guide plainly states, "At the core of food hubs is a business management team that actively coordinates supply chain logistics." AMS echoes the same sentiment: "At the core of any successful distribution model serving smaller scale producers is the ability to effectively coordinate production and aggregate products in a way that can satisfy a buyer's volume requirements, quality standards, and need for consistent and timely deliveries."³¹

Two anecdotes solidify this recommendation. The first is from local producer and an informal manager of nascent local food hub activities, Arlene Jones of The Farm at St. Mathias. In an interview Arlene stated the key need is a coordinator who can build and manage relationships with producers and buyers in the medium to long term. While she acknowledged the need to have physical Hub space, Jones said, "Give me a building. Great. But what will I do with it without coordination?"³²

³¹ USDA AMS, "Moving Food Along the Value Chain, 90.

³² Interview with Arlene Jones on April 5, 2012.

The second anecdote is the story of Wayward Seed Farms food hub efforts. In an interview with Adam Welley, Wayward Seed farmer and co-founder, Welley recounted Wayward Seed's experience working with the Wallace Center to start a food hub in Central Ohio. The Wallace Center initially funded Wayward Seed to work up an analysis of the cost and effects of developing hub infrastructure in the region. After much work on the ground, Wayward Seed concluded (much to the frustration of their funder) that more active coordination was needed before focusing on infrastructure. Wayward Seed was able to coordinate a core group of growers and buyer to commit to soft contracts in which buyers committed to a rough volume of purchases and growers committed to growing certain amounts of six core crops. Wayward Seed was eventually able to retrofit an old dairy processing facility for a hub, the capital for which they were only able to raise after their coordination efforts.³³

Recommendation 3: Embrace the Idea of Rural Food Hubs as Networks

In a highly rural area, a legitimate concern is whether a Hub is economically viable in an area with more diffuse business and consumer demand. Distance to a Hub is of particular concern for growers who will need to transport their product to the hub. A conversation with one grower in the region said that transporting produce beyond 50 miles was an uneconomical use of time, resources, and money.

In keeping with Recommendation 2, the focus on coordination versus infrastructure further opens possibilities to structure a Hub as an entity with two, three, or more infrastructure points. The AMS report on local food value chains notes that, "informal producer networks are well suited to meet the constantly shifting demands of diversified, niche food markets."³⁴ R5DC is strongly recommended to approach the work of a Hub as physically located in two if not more places. This will allow the hub to reach a wider range of both growers and buyers.

Recommendation 4: Identify Lead Partners and a Legal Structure

The lead partners on a hub will largely determine the most suitable legal structure. The legal structure, in turn, has implications for how a food hub raises funding & capital, invests in infrastructure, and so on. The Regional Food Hub Resource Guide details how food hubs operate under numerous legal structures including nonprofit organizations, privately held food hubs (as an LLC or other corporate structure), cooperatives, or publicly held food hubs.

Each legal structure has its own benefits and drawbacks. Nonprofits, for example, have greater access to grant programs, federal & state assistance, etc. However, nonprofits have less access to loans, revolving lines of credit, and other forms of

³³ Phone interview with Adam Welley, March 10, 2012.

³⁴ USDA AMS, "Moving Food Along the Value Chain, 90.

private investment.³⁵ Nonprofit food hubs also tend to over-invest in infrastructure. Private food hubs, on the other hand, tend to grow slower but more carefully and wisely invest in infrastructure. Cooperatives are able to leverage the capital of many members, but at the same time require even higher degrees of cooperation and coordination.

If an individual grower or a group of growers will take the lead on forming a Hub, a private model that starts small and focuses on economic profitability is recommended. If R5DC or the Initiative Foundation will take the lead role, a nonprofit model that focuses more on coordination than on generating a profit may be more appropriate.

³⁵ USDA AMS, “Regional Food Hub Resource Guide,” 7.

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Appendix A: Region Five Development Commission 2008 Local Foods Survey Results

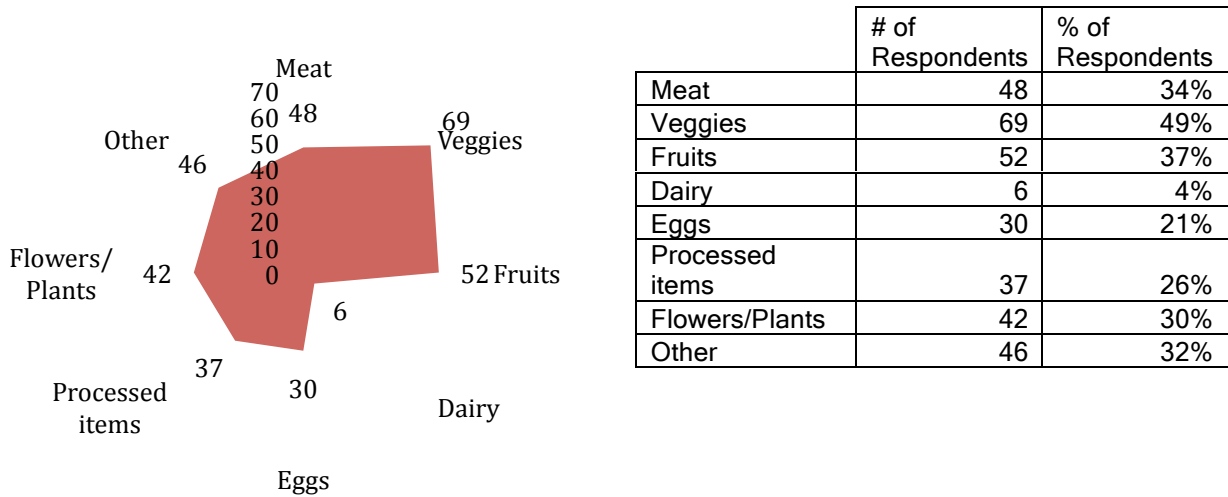
Number of Respondents: 142

Number who sell food products locally: 124

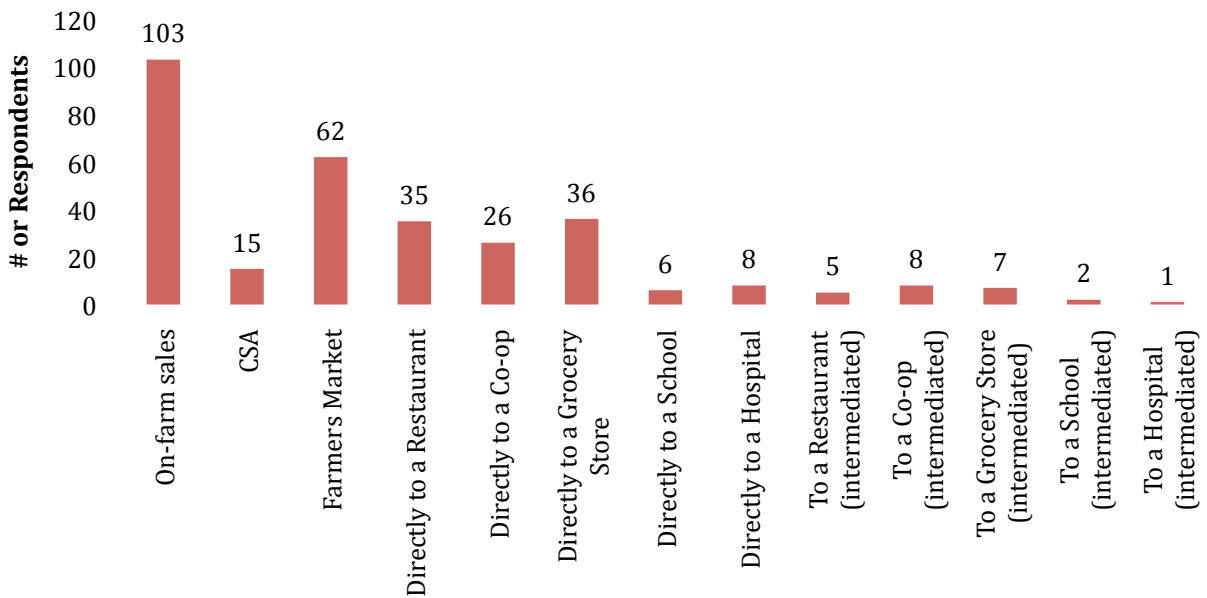
Number who don't sell food products locally: 17

Number who don't sell locally but want to expand to local markets: 17 (100%)

Q1: What do you produce?

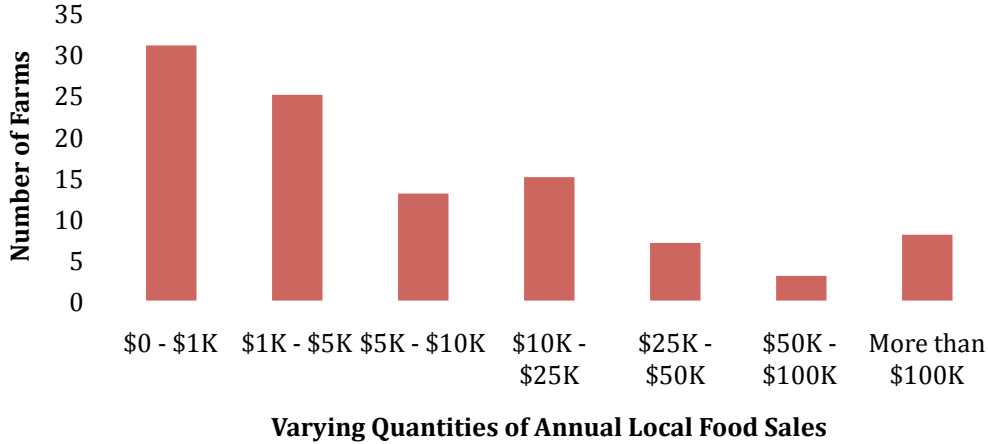


Q2: How do you distribute your products to local buyers?

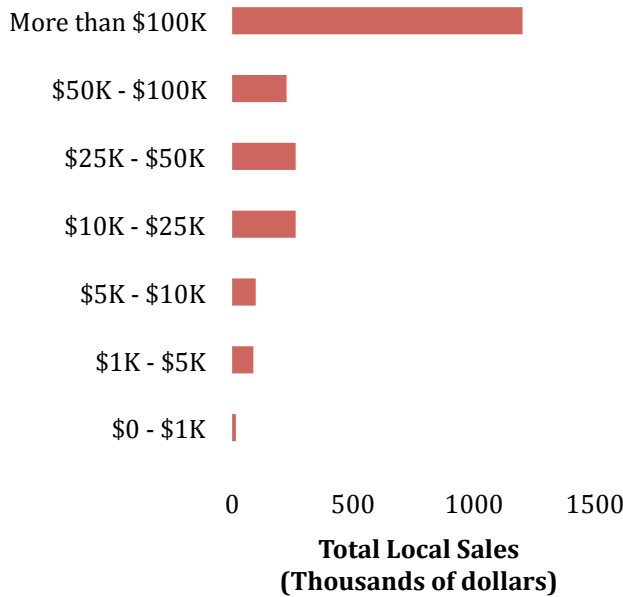


Q3: What was your estimated total dollar income from local sales in 2008?

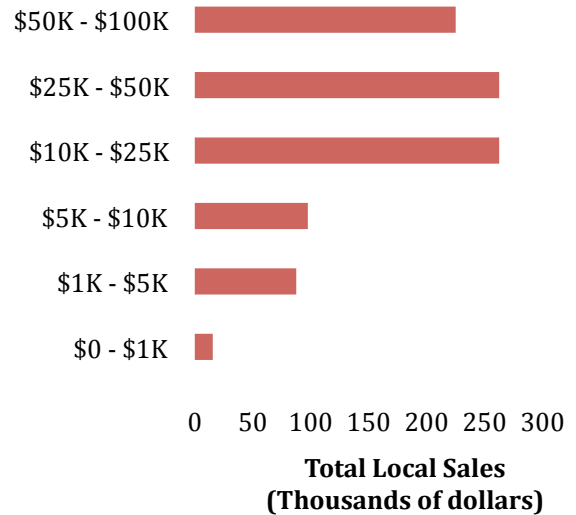
Number of Farms Who Sell Local Foods of Varying Annual Sales Ranges



Total Local Sales from Farms by Varying Local Revenue Brackets

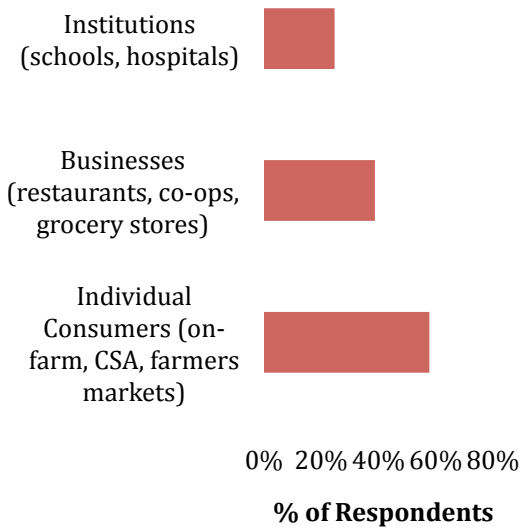


Total Local Sales from Farms by Varying Local Revenue Brackets (Excluding Farms With Over \$100K in Local Sales)



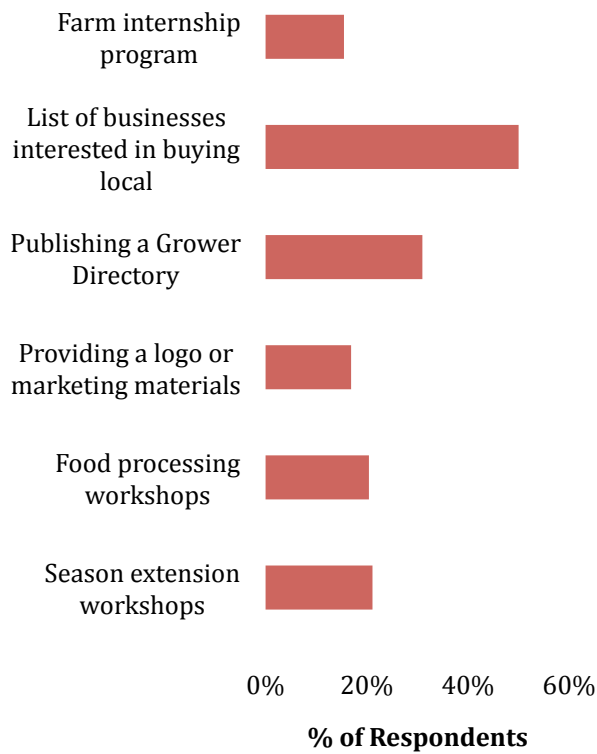
| Local Food Sales Ranges | \$0 - \$1K | \$1K - \$5K | \$5K - \$10K | \$10K - \$25K | \$25K - \$50K | \$50K - \$100K | More than \$100K | Total |
|---|------------|-------------|--------------|---------------|---------------|----------------|------------------|--------|
| Total Local Food Sales (Thousands of \$) | 15.5 | 87.5 | 97.5 | 262.5 | 262.5 | 225 | 1200 | 2150.5 |

Q4: In what areas would you like to expand your market?



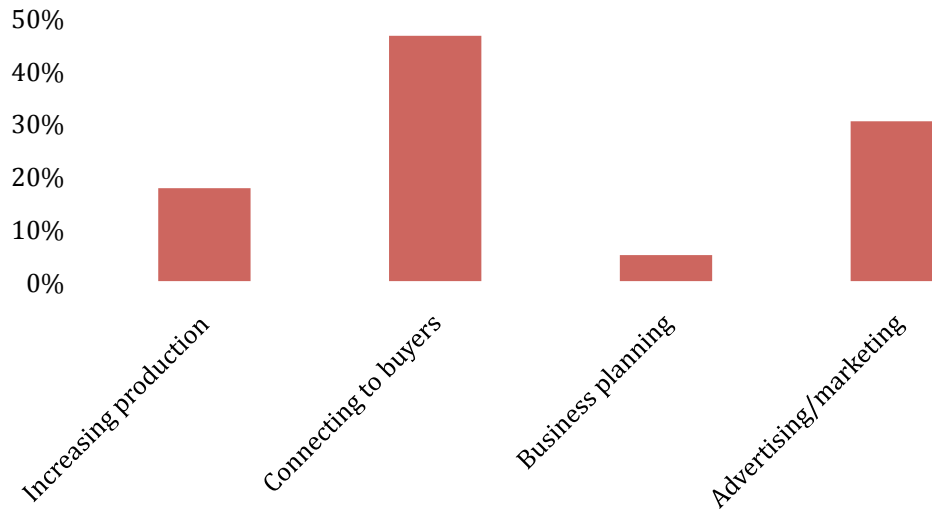
| | Number of Respondents | Percent of Respondents |
|--|-----------------------|------------------------|
| Individual Consumers (on-farm, CSA, farmers markets) | 82 | 58% |
| Businesses (restaurants, co-ops, grocery stores) | 55 | 39% |
| Institutions (schools, hospitals) | 35 | 25% |

Q5: Would any of the following activities be helpful in increasing local sales?



| | Number of Respondents | % of Respondents |
|---|-----------------------|------------------|
| Season extension workshops | 30 | 21% |
| Food processing workshops | 29 | 20% |
| Providing a logo or marketing materials | 24 | 17% |
| Publishing a Grower Directory | 44 | 31% |
| List of businesses interested in buying local | 71 | 50% |
| Farm internship program | 22 | 15% |

Q6: What are your greatest difficulties in expanding sales/markets?

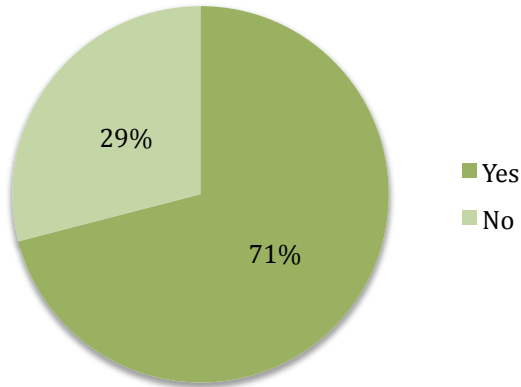


| | Number of Respondents | % of Respondents |
|-----------------------|-----------------------|------------------|
| Increasing production | 25 | 18% |
| Connecting to buyers | 66 | 46% |
| Business planning | 7 | 5% |
| Advertising/marketing | 43 | 30% |

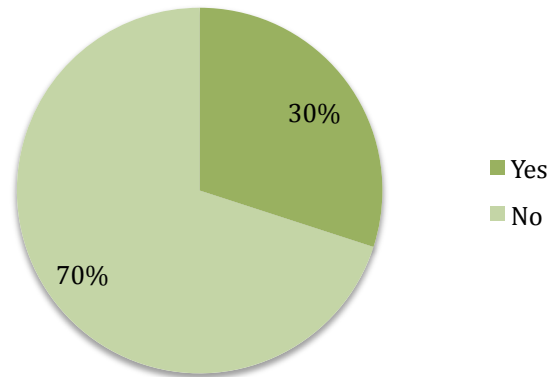
Appendix B: Region Five Development Commission 2012 Local Food Hub Survey Results

Number of Respondents= 31

Q1: Do you currently grow and sell fresh produce?



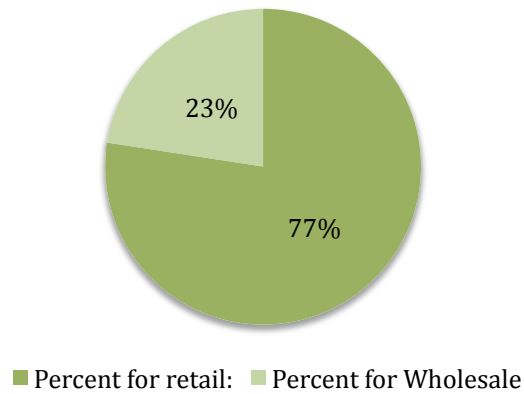
Q2: If you don't currently do so, are you interested in diversifying your farm to grow produce?



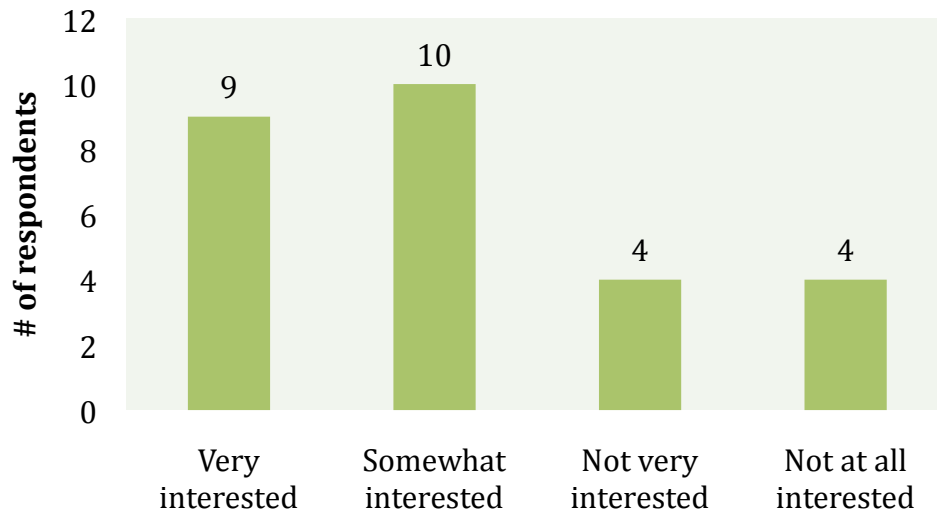
Q3: How long have you been growing fresh produce?



Q4: What percentage of your produce do you currently sell for retail versus wholesale?

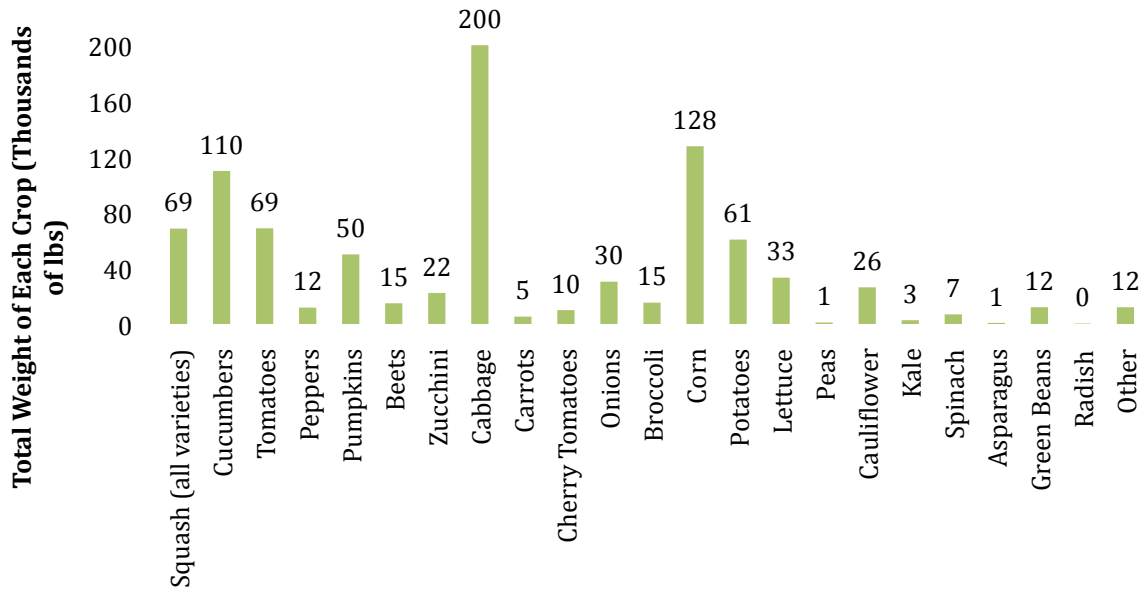


Q5: If a local Food Hub were reasonably accessible and offered a fair price, how would you describe your level of interest in selling your produce through a Local Food Hub?



| | # of Respondents | % of Respondents |
|-----------------------|------------------|------------------|
| Very interested | 9 | 33% |
| Somewhat interested | 10 | 37% |
| Not very interested | 4 | 15% |
| Not at all interested | 4 | 15% |

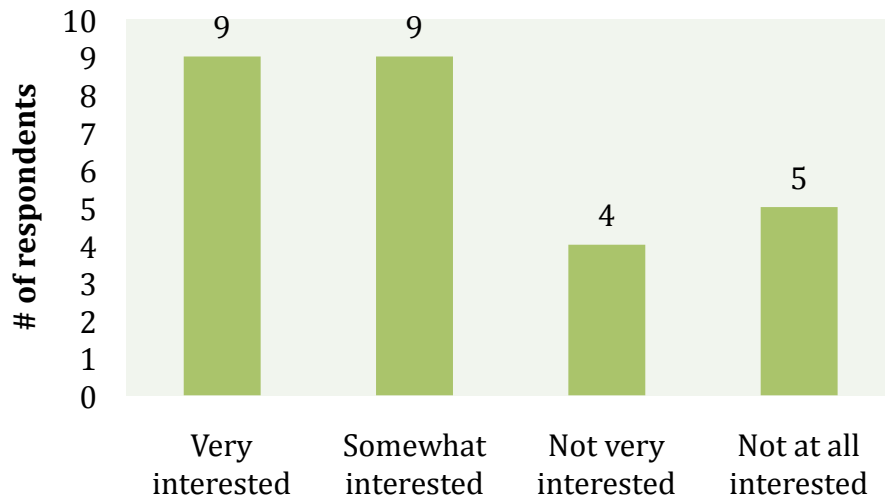
Q6: What amount of the following vegetables could you make available to sell through a Local Food Hub in 2013?



Aggregate weight of vegetables that could be sold to a food hub in 2013 from these 31 respondents: 891,534 lbs

***Note:** Raw, unanalyzed data also exists for fruit, meat, and other products. Charts are not presented here because this data is somewhat more difficult to aggregate into simple, common units of measurement.

Q7: If the Local Food Hub offered facilities to do processing or value-added activities, how interested would you be in using these facilities?



| | # of Respondents | % of Respondents |
|-----------------------|------------------|------------------|
| Very interested | 9 | 33% |
| Somewhat interested | 9 | 33% |
| Not very interested | 4 | 15% |
| Not at all interested | 5 | 19% |

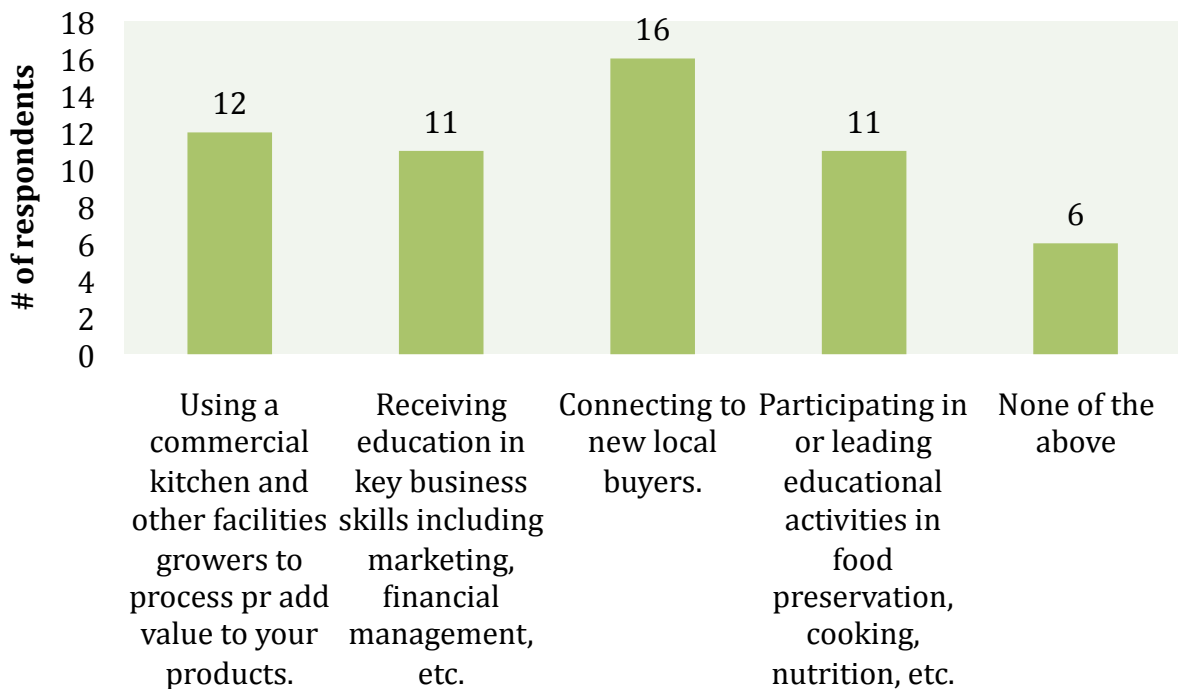
Q8: Assuming a fair price, using your above quantity estimates how many acres could you devote to growing food for a Local Food Hub in 2013? Please provide a low-end estimate and a high-end estimate.

| | Low-end estimate: | High-end estimate: |
|--------------------------|-------------------|--------------------|
| Total acres | 286 | 854 |
| Average acres per farmer | 11 | 37 |

| | Low-end estimate: | High-end estimate: |
|--------------------------|-------------------|--------------------|
| Total acres | 86 | 258 |
| Average Acres per farmer | 3.58 | 11.75 |

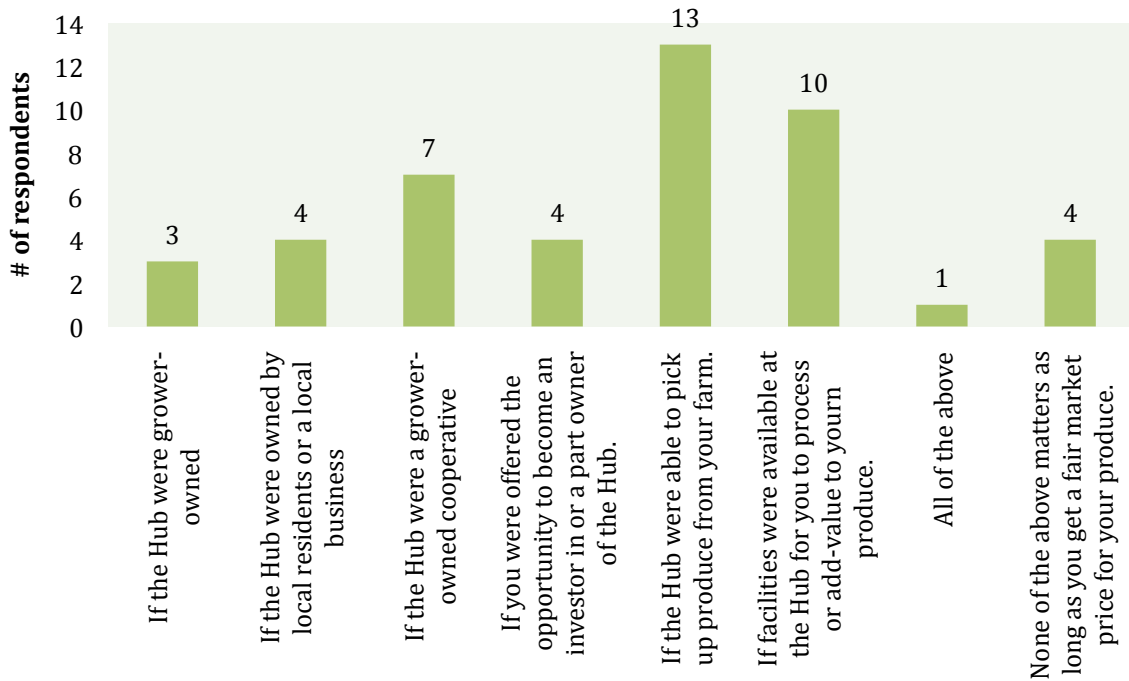
*Excluding any farmer who responded with a low or high estimate over 50 acres

Q9: A Local Food Hub could also offer a variety of other services to help local growers improve their business, increase sales, and strengthen the local food system. Which of the following additional Hub activities would you be most interested in? Choose all that apply.



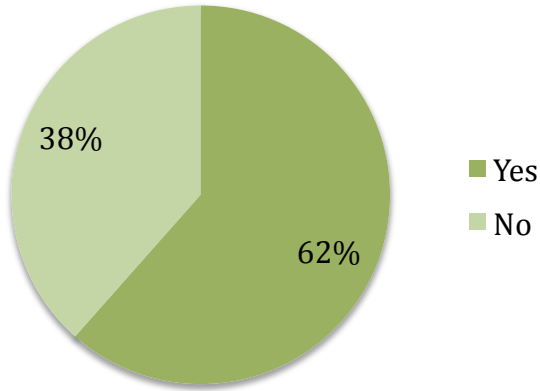
| | # of Respondents | % of Respondents |
|---|------------------|------------------|
| Commercial kitchen and facilities for value-added | 12 | 50% |
| Business skill education | 11 | 46% |
| Connecting to new local buyers. | 16 | 67% |
| Food and nutrition education | 11 | 46% |
| None of the above | 6 | 25% |

Q10: What would make you more likely to participate in selling produce through a local food Hub?

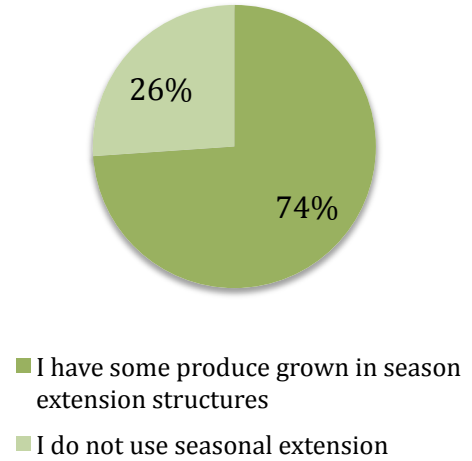


| | # of Respondents | % of Respondents |
|---|------------------|------------------|
| If Hub were grower-owned | 3 | 13% |
| If Hub were owned by local residents/businesses | 4 | 17% |
| If Hub were a grower-owned cooperative | 7 | 30% |
| If you were offered the opportunity to become an investor in or a part owner of the Hub. | 4 | 17% |
| If the Hub were able to pick up produce from your farm. | 13 | 57% |
| If facilities were available at the Hub for you to process or add-value to yourn produce. | 10 | 43% |
| All of the above | 1 | 4% |
| Nothing matters as long as you get a fair market price for your produce. | 4 | 17% |

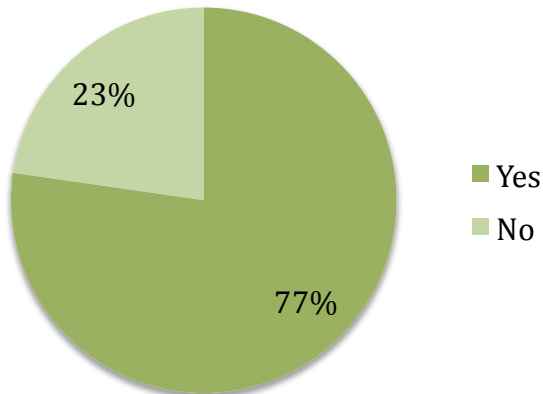
Q11: Would you be willing to participate in preseason crop planning with a Local Food Hub and other growers?



Q12: Which of the following best describes you with respect to season extension:



Q13: If demand were identified, would you invest in season extension?



Q14: Can we contact you about...R5DC's work to strengthen the local food system?

