

Defining business education and supporting wholesale marketing for beginning specialty crop farmers

by

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Abstract

Despite their contribution to the production of fresh fruits and vegetables for local consumers, beginning and small-scale specialty crop growers face significant challenges to maintain their economic sustainability, including maintaining a sufficient level of income. In 2017, approximately 60% of all Kansas and Missouri specialty crop operations had a gross revenue of less than \$10,000, and a recent study suggested that curricula related to business skills for beginning specialty crop growers in the region are lacking. The overall goal of this thesis was to address these challenges by: (i) identifying farm business skills that are fundamental for successful and beginning specialty crop growers and (ii) providing resources that growers can use to scale-up their marketing efforts. There is little information currently available on what kind of education and/or training beginning specialty crop farmers need to possess the business skills that can make their operation profitable. A study was conducted using synchronous and asynchronous methods to define and prioritize the business skills that specialty crop growers in Kansas and Missouri view as necessary to be profitable. Online survey (n=106) results suggested that farmers place high emphasis on all standard business education curricula, however, perception of resources surrounding these skills were mostly neutral to unsatisfied. Responses differed among farmers, indicating years of experience, employment and ownership can impact the perception of skill importance and satisfaction of resources. A series of asynchronous and synchronous online focus groups (n=24) revealed themes on business skills, obstacles to profitability, resources, and desired courses surrounding business education. These findings can help provide educators a better idea of what small-scale specialty crop farmers need for business education. Based on our results, curricula developed from this data should promote farmer business literacy and ultimately improve farm business viability. One of the primary areas that

was an identified area of need was related to marketing for beginning farmers. A manual was developed to help beginning specialty crop growers increase gross revenue, “Demystifying the Wholesale Market”, to outline marketing opportunities and/or best management practices for beginning farmers that are looking to enter the wholesale market in the Kansas City region. As American agriculture continues to evolve with changing market demands and resource availability, the economic sustainability of small-scale growers is critical to a thriving local food system.

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Chapter 1 - Literature Review

State of Agriculture

Over the last century, U.S. agriculture has undergone a dramatic structural change. Since the industrial revolution, the agricultural system has evolved to favor large-scale farms that scale up and invest in the latest technology and equipment. This has resulted in a huge disparity between the economic prosperity of small- and large-scale farms. USDA statistics show that the number of farms and the value of production are highly concentrated at opposite ends of the size scale (USDA 2018). With the trend of consolidation, the number of farms decreases while the average farm size increases.

Number of Farms and Average Farm Size – United States: 2011-2018

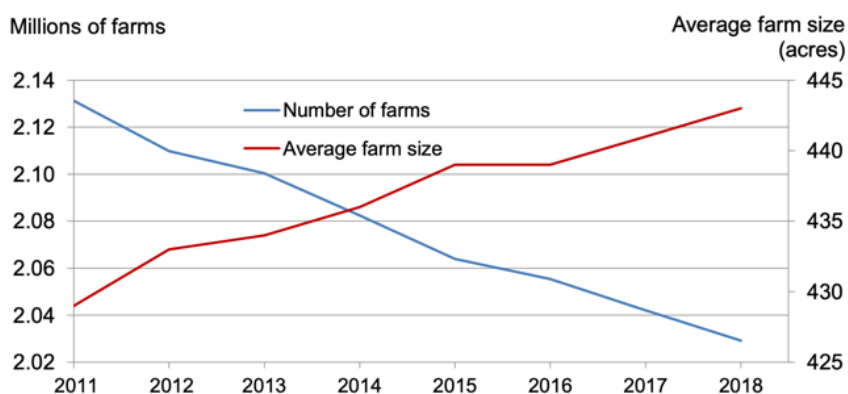


Figure 1.1: Number of farms and average farm size (USDA National Agricultural Statistics Service, Farms and Land in Farms 2018 Summary, April 2019)

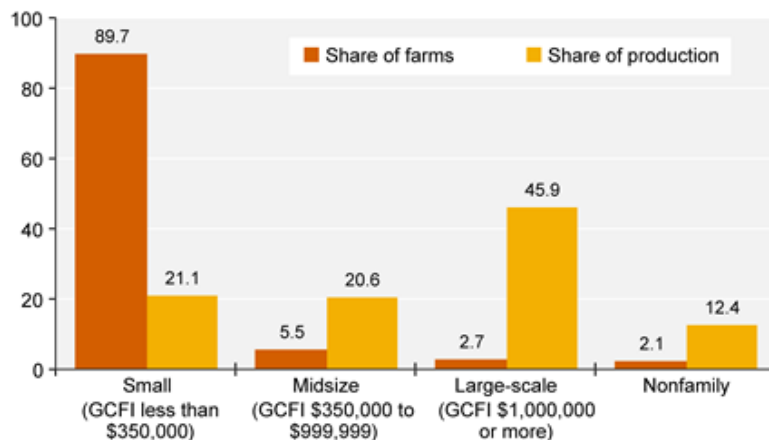
Data shows that as farms have scaled up, the number of farm workers have dropped. From 1950 to 1990, there was a 74% reduction in the number of self-employed and family farmworkers and a 51% reduction in hired farmworkers (USDA 2020). As the workforce reduces, the age of farmers and agricultural workers rises. In 2017, census data revealed that the average age of farmers was 57.5 years old while 34% of farmers were over the age of 65 and only 37% under 55 (USDA 2017). This is significantly different when compared to the national workforce, as nationally only 7% of employed persons are of the age 65 years or older. (U.S. Bureau of Labor Statistics 2021).

Small Farms

Research shows that this structural change in the agricultural system has made a significant impact on the livelihood of small farms. It is difficult to define a small farmer because of the wide variety in operational characteristics and the constant structural changes in production agriculture (Gebremedhin and Christy, 1996). According to the USDA, a small commercial farm is defined as “any operation that produces and sells at least \$1,000 in agricultural products and with a gross cash farm income (GCFI) under \$250,000 per year” (USDA 2020). Approximately 90% of U.S. farms are classified as small and about 51% of these farms generate a GCFI of less than \$10,000 (USDA 2019). Farming typically does not make a positive contribution to household income until GCFI reaches \$50,000 (Hoppe 2010). While small family farms make up the majority in number of farms, midsize and large-scale farms account for the majority of production and revenue. There are a number of challenges that small farmers face and one of the most prominent issues is maintaining a sufficient level of income (Hoppe 2010; Gebremedhin 1996). Farms that have the lowest levels of income are most vulnerable to financial hardships and exhibit high turnover rates (Foote 2016).

Farms and their value of production by ERS farm type, 2018

Percent of U.S. farms or production



Note: GCFI refers to annual gross cash farm income before expenses; ERS refers to Economic Research Service. Nonfamily farms are those where the principal operator and their relatives do not own a majority of the business.

Figure 1.2: Farms and their value of production by ERS type (USDA, Economic Research Service and National Agricultural Statistics Service, Agricultural Resource Management Survey, 2019)

While most medium and large farms sell almost exclusively through intermediated channels, small- scale producers dominate the growth in local food systems' direct to consumer marketing channels (Low and Vogel, 2011). Often, small farmers find it difficult to gain access to centralized systems and are restricted in marketing alternatives (Gebremedhin and Christy 1996). This could be due to the fact that many small farms are unable to scale up to sell to new markets because of the intensive costs of capital, land, retailer certification requirements and marketing costs (Foote 2016). This led to a demand for more produce aggregators so that small farms can generate enough volume to sell to distributors and institutions (Foote 2016).

Why Small Farms Matter

There are numerous reports that show the various ways small scale producers contribute to society. Local economies benefit from a higher number of local food producers because they spend a higher percentage of total expenditure in the local economy (Jablonski et al., 2016). Small, local businesses can improve local job and economic community growth by creating jobs and recirculating money locally (Robinson and LaMore 2010).

Research also shows that smaller and diversified cropping systems reduce agriculture's environmental footprint by reducing emissions caused by transportation and reliance on resource-intensive inputs when selling locally (Vandermeer, 2011; Kremen et al., 2012). Smaller farms tend to have higher yields than large farms and for each hectare increase in farm size, yields can decrease by 5% (Ricciardi et al. 2021). There is research that shows small farms have greater crop diversity as farmers plant a higher diversity of crops to meet nutritional needs, mitigate drought risk and diversify markets (Ricciardi et al. 2021). Small farms have higher non-crop biodiversity than larger farms due to smaller fields providing habitat (Ricciardi et al. 2021).

There is also an emerging trend in the U.S. that has brought hope to small farms. Consumers have greatly increased their consumption of local and organic foods (Nie and Zepeda 2011). From 1994 to 2010, the number of farmers' markets tripled (USDA 2010). Consumers cite a desire for local and organic foods based on lifestyle values and this has resulted in a growing importance for access to organic and local foods (Nie and Zepeda 2011).

Additionally, consumption of fruits and vegetables can also improve diet quality and prevent chronic disease (Wiese et al. 2020). Currently, the average U.S. adult only consumes 2

out of 5 of their daily recommended servings of fruits and vegetables and it has been shown that funding for specialty crops can improve access to these important foods (Wiese et al. 2020). Local food systems' direct to consumer marketing channels are dominated by smaller scale producers so support for these small farms can improve consumer access to local fruits and vegetables (Low & Vogel, 2011).

Government Policies & Support Programs

Reports show that the federal government has responded to the need for economic improvement among small farms with progressing effort. The USDA is the most common federal agency that administers support to small farms through research and extension, subsidies and services support. It has several of its own agencies that support farmers and increased purchases of agricultural commodities. Some of the most relevant agencies include the Agricultural Marketing Service which operates information programs to make commodity markets more efficient, the Farm Service Agency which provides farm loans through various programs, and the Risk Management Agency which provides support for premiums in crop insurance programs (Hoppe et al. 2010). Small farms also receive a large share of conservation program payments by the USDA Natural Resources Conservation Service through land retirement or working land programs in order to encourage conservation practices on production land (Hoppe et al. 2010).

These programs are initiated from research of large commodity farm operations or markets and to some, they are not effective because the distribution of benefits is skewed towards large farms (Gebremedhin and Christy 1996). They also potentially pose adverse long-term effects on the farm sector's economy because they encourage excessive output and substitution of capital for farm labor (Gebremedhin 1996). Although these programs contribute to increasing sizes of large farms, they ultimately decrease the number of farms by inadvertently distributing most of the funding towards large farms that generate the highest volume of commodities (Hoppe et al. 2010). Despite the increase of federal government spending, large-scale producer programs don't prioritize the decreasing number of small farms or improve farm incomes (Gebremedhin and Christy 1996).

Another problem that small farmers face is that they are usually disqualified from farm credit loans because of their disadvantaged economic condition and the traditional lending practices of the financial institutions (Gebremedhin and Christy 1996). Some financial lenders

are uncomfortable with the inherent risks of farming and the small loans they offer typically have significantly more interest (Foote 2016). There is also a particularly limited availability of crop insurance protection programs among specialty crop operators to manage production risks (Morgan et al. 2017). Without an adequate source of credit or insurance, small farmers cannot invest in the land or technology they need in order to scale up.

In response to this dilemma, the USDA Farm Service Agency has created microloans to support farm viability by making more capital available. There is also the Beginning Farmer and Rancher Individual Development Account (IDA) program, which matches dollars that farmers put into accounts to be used for investments in farms. There have also been improvements for specialty crop insurance programs, yet few operators can qualify for these programs due to limited coverage (Morgan et al., 2017).

Specialty Crop Farmers

Of the 2.1 million farms in the U.S., only 12% produce specialty crops (USDA-NASS 2019). Specialty crops are defined as “fruits and vegetables, tree nuts, dried fruits, horticulture, and nursery crops including floriculture” (USDA-NASS 2019). Recent census data shows that 91% of all specialty crops are orchards, berries and vegetables and these crops make up 86% of all specialty crop market value (USDA-NASS 2017). As of 2017, all specialty crop farms only make up 1.7% of U.S. cropland, however, due to their high value, specialty crops generated about \$87.6 billion in market value of products sold in 2017, which accounted for 23% of the Market value of agricultural products sold (USDA-NASS 2019). Historically, specialty crops once made up 20% of all U.S. farms and 6% of U.S cropland in 1969 (USDA 1969).

Today, the demographics of specialty crop farmers tend to be more diverse than commodity crop producers that specialize in grains, soy and oilseed. About 39% of operators are women compared to 95% for commodity farms and they are younger than the national average with a larger proportion of beginning farmers entering specialty crop production with 38% of farms having new producers than commodity production who have 22% (USDA-NASS 2019; USDA-NASS 2017). Most specialty crop producers have off farm jobs in addition to their own farming operations to supplement household income. Only 48% of specialty crop operators indicated their primary occupation as farming, and only 7% indicated that 100% of their household income was generated from their specialty crop production (USDA-NASS 2019). This

contrasts to commodity crop producers who 66% farm indicated that their primary occupation was farming (USDA-NASS 2007).

The vast majority of U.S. specialty crop production is grown in specific regions in California, Florida, Washington, Idaho and Arizona due to economic advantages in growing conditions, labor availability, processing facilities and operating capital (Biermacher et al. 2007). However, despite the large-scale farms in these regions, most specialty crop operations in the U.S. are smaller in scale. USDA data shows that almost 50% of all specialty crop farms operate on less than 25 acres, yet these smaller operations only make up 6% of the market value of all specialty crop products (USDA-NASS 2017). Similar to commodity crop producers which include grains, soy and oilseed crops, the number of farms and the value of production are concentrated at opposite ends of the size scale. Almost half (49%) of all vegetable farms had sales and government payments of less than \$10,000 in 2017 and over 80% of all vegetable farms made less than \$100,000 (USDA-NASS 2017). Commodity crop producers, however, make up over half (53%) of mid-size farms who make a GCFI between \$350,000 and \$999,999 (USDA-NASS 2017). Growing produce is not the biggest challenge for vegetable growers but rather earning a reasonable living (Hendrickson 2005). Similar to vegetable farms, almost half (46%) of all fruit, tree nuts and berry operations had sales and government payments of less than \$10,000 in 2017 (USDA-NASS 2017).

Small- scale specialty crop producers (SSCPs) struggle to maintain sufficient levels of income and are most vulnerable to financial hardships. For these producers, locating information on growing specialty crops is much easier than finding information on the business and financial management of these crops (Hendrickson 2005). Growers need to acquire management skills and the ability to use economic analysis tools in order to determine the scale and level of mechanization that is most profitable for them (Hendrickson 2005).

It should be noted that specialty crop producers can provide many benefits besides solely providing products to buyers. These types of crops can improve access to and consumption of fruits and vegetables to consumers which can ultimately improve their diet quality and provide health benefits like lowering risks of obesity, cardiovascular disease and certain cancers (Wiese et al. 2020). Consumer demand for high quality, locally grown produce has been steadily increasing (Biermacher 2007). Specialty crop producers can fill these demands to meet consumer needs and contribute to the local economy.

Challenges of Specialty Crop Farmers

Although specialty crops are more profitable per-acre than most commodity crops, research shows that they do have their own challenges and production-related risks. They are generally more sensitive to climatic stressors and require more production management compared to traditional commodity crops in order to meet consumer emphasis on product quality (Kistner et al. 2017). They also require more manual labor than other types of farming operations. About 43% hire additional farm labor and harvest labor can make up 30-80% of annual operating costs (Morgan et al. 2017).

There are also market risks due to volatile market prices and variability in market demand. The majority of specialty crop producers sell to direct-to-consumer markets such as community supported agriculture or farmers markets. These markets present financial risks with unpredictable sales and 80% of producers receive \$5,000 or less per season at farmers' markets (Morgan et al. 2017; Ragland and Tropp 2009).

More research needs to be done in order to help SSCPs determine the best way to use their resources and run a successful farm operation (Biermacher 2007). With the inherent complexity of farming and unique individuality of small farm businesses, it can be difficult to attribute certain financial skills and characteristics across all farm operations.

Commodity crop producers can receive certain financial support from the government to help manage expenses. However, federal price and income support programs do not directly cover fruit and tree nuts or vegetable production which are commonly grown in specialty crop production (USDA 2020). Federal price and income support programs do not directly cover fruit and tree nuts or vegetable production and when U.S. farmers received over \$300 billion in subsidies from 1995 and 2016, less than 1 percent of those subsidies went towards specialty crops (Perelman 2018). In 2017, specialty crops only accounted for 17% of the federal crop insurance portfolio despite making up about 30-40% of total crop value (Wiese et al. 2020). These various risks could contribute to the fact that the number of fresh and processed fruit and vegetable U.S. exports totaled \$8.5 billion in 2015 while U.S. imports exceeded \$20 billion (Morgan et al. 2017).

Similar to small farms, federal support for specialty crop operations is limited in comparison to their larger, commodity counterparts. In 2018, the Specialty Crop Farm Bill Alliance (SCFBA) worked to promote support for specialty crops in the U.S. Farm Bill. The

SCFBA promoted continued funding for USDA Specialty Crop Block Grants, increased funding for the USDA Specialty Crop Research Initiative and increased funding for nutrition assistance programs and grants (Wiese et al., 2020). Today, farmers can benefit from nutrition assistance programs like the Supplemental Nutrition Assistance Program (SNAP) and Double Up Food Bucks because they match funds for every SNAP dollar spent at farmers markets to increase revenue for producers (Wiese et al. 2020). Additional funds for research programs that are specifically for specialty crop operations are still needed in order to improve access and affordability for consumers (Wiese et al. 2020).

Beginning Farmers

The USDA defines beginning farmers as producers with 10 years or less of experience (USDA-NASS 2019). Beginning farmers make up about 27% of all U.S. producers and they occupy about 21% of all U.S. land (USDA-NASS 2019). For the last two decades, the share of farms operated by beginning farmers has been in a steady decline, while the average age of U.S. farmers increases. In 2017 beginning farms accounted for 27% of all U.S. farms which is down from about 38% in 1982 (USDA-NASS 2019). The United States Department of Labor's *Occupational Outlook Handbook* estimates that between 2019 and 2029, there will be a -8% change in employment of farmworkers, farmers and ranchers which is in contrast to the 4% employment increase projected for all other industries (United States Department of Labor, 2020).

Demographically, beginning farmers are younger, more diverse in gender and are more educated (USDA-NASS 2019; Mishra et al. 2009). The average age of a beginning farmer is 46 years old and a quarter of beginning farmers are younger than 35 years old (USDA-NASS 2019). In contrast, the national average age of farmers is 57 years and a third of all farmers are 65 years and older (USDA-NASS 2019). Approximately 41% of beginning farmers are female which is more than the percentage of females with established producers (USDA-NASS 2019). Beginning farms make substantially less household income than established farms. Almost $\frac{3}{4}$ of beginning farmers report a primary occupation other than farming and 82% make less than \$50,000 in sales and government payments per year (USDA-NASS 2019). Additionally, 22% of small farms have a GCFI of less than \$1,000 in sales and government payments per year (USDA-NASS 2019).

Beginning farmers are twice as likely to be tenants and have half the farm size as experienced operators (Mishra et al. 2009). They are more likely to specialize in specialty crops

and less likely oilseed and grain production (USDA-NASS 2017). In regard to markets, beginning farmers are more likely to diversify and use a variety of marketing channels such as local and direct to consumer markets (Thilmany McFadden and Sureshwaran, 2011). However, there is little evidence confirming the profitability of these channels (Jablonski et al. 2017).

Challenges of Beginning Farmers

With all the challenges that specialty crop farmers face, research shows that those first starting their businesses are in the direst of circumstances. Beginning farmers have higher interest payments, half the farm assets, half the farm size and 5.5 times less average net farm income than experienced farmers (Mishra et al. 2009). This could be due to young and beginning farmers facing many barriers when starting a farm. These barriers include high startup costs and lack of available land (Ahearn & Newton 2009). The high cost of farmland and equipment makes it extremely difficult for beginning farmers to invest in starting their own business operations (Gebremedhin and Christy 1996). Once they can start their own farm, their operations typically have less sales, higher expense to sales ratios and receive less in government payments than experienced operations (USDA NASS 2014).

A recent survey by the National Young Farmers Coalition reported that over 50% of new farmers felt that earning a sufficient income to maintain a standard of living was a primary challenge (Ackoff et al. 2017). They also reported that 26% of respondents referenced a lack of farm profitability as the top reasons for why farmers quit (Ackoff et al. 2017).

All these challenges farmers face contribute to extreme financial stress. In 2017, the USDA Agricultural Resource Management Survey showed that farms with young operators below the age 40 and beginning operators with 10 years or less of farming experience were substantially smaller in scale. The shares of young-operator farms (3.2%) and beginning-operator farms (1.5%) in extreme financial stress were larger than the shares of all U.S. farms (1.1%). They suggested that young or beginning farmers are more vulnerable to financial stress because they are more likely to borrow and have a higher debt-to-asset ratio. If farm sales decreased by 20%, the share of all beginning farms in financial stress would increase to 2.4%.

Table 1.1: Percent change in gross farm cash income (GCFI) from 2017 level (USDA, Economic Research Service and USDA, National Agricultural Statistics Service, Agricultural Resource Management Survey, 2017)

	Percent change in GCFI from 2017 level		
	No change	10 percent decline	20 percent decline
All farms	1.1	1.3	1.6
Operator age and experience			
Young (below age 40)	3.2	4.4	5.4
Beginning (10 years or less)	1.5	1.9	2.4
Young and beginning	2.8	4.0	5.3
Note: "Extreme financial stress" is defined as having a term debt coverage ratio (TDCR) less than one and a debt-to-asset ratio greater than 55 percent. GCFI = gross farm cash income. A "beginning farm" is one in which all farm operators have 10 years or less farming experience on any operation. A "young farm" is one in which the principal operator is below age 40. Source: USDA, Economic Research Service and USDA, National Agricultural Statistics Service, 2017 Agricultural Resource Management Survey.			

Kansas & Missouri Small Scale Specialty Crop Producers and Beginning Farmers

Numerous reports rank the Midwestern U.S. among the world's most important corn and soybean production regions and most cropland is dedicated to those crops. Although only 0.6% of the cropland in the Midwest is dedicated to specialty crops, in 2012 they accounted for almost \$2 billion of the total farm gate value (Kistner et al., 2018; USDA-NASS 2015).

Missouri and Kansas are two Midwest states that have seen a significant decline in farm viability. Similar to national trends of farm consolidation, from 2007 to 2017 Missouri experienced an 11.6% decline in the number of farms and Kansas a 10.6% decline while simultaneously, there was an increase in average farm size (USDA 2017). The vast majority of these states' farm operations make very little in revenue. In Missouri, almost 80% of producers were in the economic class of earning less than \$50,000/year while in Kansas, almost 65% of producers made less than \$50,000/year (USDA 2017).

Another characteristic similar to national trends is the number of beginning farmers. In Missouri, about 25% of farm operators were beginning farmers, with 24% in Kansas (USDA 2017). The vast majority of these beginning operations fall under the economic class of earning less than \$50,000 a year, with 74% in Kansas and 85% in Missouri (USDA 2017). These numbers reveal that there are many Midwest farmers struggling to maintain a viable income.

In both these states, there are very few specialty crop operations. In Kansas, there are 1,232 specialty crop farms and in Missouri there are 3,503 which respectively make up just 0.5% and 1.4% of all U.S. specialty crop farms (USDA 2017). A recent survey from the Kansas Department of Agriculture showed that over 80% of the surveyed Kansas specialty crop producers farmed less than 10 acres and made less than \$50,000 a year as seen in Table 1-2 (KDA 2017). On par with national statistics, over 60% of specialty crop producers grossed an annual on-farm income of less than \$10,000 (KDA 2017). A survey from the University of Missouri revealed that 82% of the surveyed Missouri specialty crop producers made less than \$50,000 a year in gross sales and had a median acreage of 3.0 acres as seen in Table 2 (MU 2017). Similar to Kansas, about 57% of specialty crop producers grossed an annual on-farm income of less than \$10,000 (MU 2017).

Table 1.2: Surveyed specialty crop producer income in Kansas and Missouri (University of Missouri Academic Resource Center. Missouri Specialty Crop Survey, 2017. Kansas Department of Agriculture. Economic Impact Survey of Specialty Crops, 2017)

Missouri Specialty Crop Producers		Kansas Specialty Crop Producers	
Three-Year Annual Gross Sales		Three-Year Average Income	
Annual Gross Sales	% of Respondents	Income	% of Respondents
Less than \$1,000	23.0%	Less than \$1,000	30.32%
\$1,000 - \$9,999	33.9%	\$1,000 - \$9,999	30.97%
\$10,000 - \$49,999	25.6%	\$10,000 - \$49,999	24.52%
\$50,000 - \$74,999	3.7%	\$50,000 - \$74,999	2.58%
\$75,000 - \$99,999	3.9%	\$75,000 - \$99,999	3.23%
\$100,000 - \$249,999	3.9%	\$100,000 - \$249,999	3.23%
\$250,000 - \$499,999	2.3%	\$250,000 - \$499,999	4.52%
\$500,000 - \$999,999	1.4%		
\$1,000,000 or more	2.3%		

Financial Viability

The term viable can be interpreted in many ways. In this study, farm financial viability is defined as the ability for “a farm household to generate a net income sufficient to meet financial

obligations of: providing for member livelihood, covering cash operating expenses and capital replacement costs, and maintaining line of farm credit and preventing foreclosure of business by meeting principal payments on debt as scheduled” (Salant et al. 1986). A viable farm can generate enough net return or profit to cover family living expenses and over the long term, make debt payments and replace assets (Salant et al. 1986).

Viability can be influenced in many different ways. Research shows some factors that can positively influence viability include growing higher value crops to generate greater revenue, accessing niche marketing channels and reducing input costs (Foote 2016). Johnson and Morehart reported that viable farm businesses were by-products of proper business planning which can help determine operational feasibility so farmers can focus on factors necessary for future success (2006).

Farmers who are no longer farming or plan to quit most often do so due to lack of financial viability (Salant et al. 1986). This could be due to factors like low net worth, high debt-to-asset ratios and small income flow (Salant et al. 1986). One study involving SSCPs found earning a sufficient net cash income was complicated by labor demands and expenses, equipment maintenance fees and unpredictability in climate and weather (Hendrickson 2005). Operators in the least viable households had significantly fewer years of education compared to the most viable households (Salant et al. 1986).

Considering different ways farm viability can be influenced, it is necessary to gain a better understanding of identifying and defining these characteristics. This would be advantageous for farmers so they could make changes in their operations in order to increase profits and help promote farm viability.

Farm Success

There are many ways a farm can be characterized as successful. Farmers may perceive success as farm profitability, farm size or farmers’ value for intrinsic objectives (Duffy and Nanhon 2002). In this study, the term success is used within the scope of financial or economic success (Rantamaki-Lahtinen 2009). Economic success is determined by financial indicators such as turnover, profitability or return on investment (Reichel and Haber 2005) and managerial ability (Sonka et al. 1989).

Research has also highlighted certain characteristics of successful operations. Duffy and Nanhon found that factors such as farm efficiency in production, land tenure and management

factors are often cited in literature as determinants of farm success (2002). A successful farm could have characteristics that enable it to manage risk and be resilient in market demands and operating costs (Yeboah 2010). Business growth can also be an important part of success and is measured through financial indicators such as sales, growth and capital. These growing operations exhibit better cash-flow and higher profitability (Wiklund 1998). For small farms, research has shown improved success can be influenced by a greater consumer demand for local food, market diversification, access to smaller land easements, production of high value crops and participation in diversified enterprises such as value-added products (Shepherd 2014). Small farm operators who can manage debt and risks, conduct proper planning, utilize outside services and choose the right markets perceive themselves more successfully (Shepherd 2014). One study found SSCPs were more financially successful when they increased work efficiency and utilized techniques to keep expenses low (Hendrickson 2005).

It should be noted that business success is multidimensional as it might perform well in one dimension but is unsuccessful in another. Some researchers suggest all variables in a business can measure economic success (Rantamaki-Lahtinen 2009).

Farm Profitability

Farm profitability is one of the most important tasks of every farm and it is defined as “generating enough money to pay employees and bills, repay loans and provide the farmer with enough earnings to make a living” (Pinto and Torres 2017). Farm size measured in terms of gross sales and profit index can serve as a proxy for farm profitability (Duffy and Nanhon 2002).

Calculating farm profitability can help farmers ensure financial sustainability and a common equation used is: $Net\ profits = revenue - costs$ { $Revenue = price \times quantity$, $Costs = variable\ costs + fixed\ costs$ (Pinto and Torres 2017). When calculating lack of farm profitability, operators would examine farm production values, costs, management and marketing strategies (Stiles et al. 2007).

Various research studies have identified certain characteristics that influence profitability. Mishra found that factors that help increase income include controlling costs such as cash operating and fixed expenses, increasing soil productivity, buying basic crop insurance, and increasing risk management (Mishra et al 2005). Duffy and Nanhon concluded profitability can be positively correlated with a farmer’s education, crop yields, efficiency and revenue (2002). Govindasamy et al determined that profitability is influenced by farm and operator

characteristics such as farm size, labor, and proximity to metropolitan areas (1999). According to the University of Minnesota's Center for Farm Financial Management, specific factors that can affect farm profitability include net farm income, rate of return on farm assets, operating profit margin, and earnings. For specialty crop operations, profitability depends on management of ecological capital, diverse and specialized marketing opportunities and price premiums from buyers (Yeboah et al. 2010). For small farms, access to financial capital, land and affordable health care contribute to profitability (Shepherd 2014). One study on small scale specialty crop producers suggested operators should strive for a net cash to gross sales ratio of at least 40-50% (Hendrickson 2005).

While profitability is a crucial characteristic of a successful farm operation, viability determines the farm's ability to continue operating as a viable farm can generate enough net return or profit to cover family living expenses, pay debts and replace assets (Pinto and Torres 2017; Salant et al. 1986).

Business Education

The contribution of human capital, defined as education, prior experience and skills, is one of the most prominent factors in determining venture success (Reichel and Haber 2005). Research shows significantly positive relationships between education and business performance (Cooper and Gimeno-Gascon 1992). Education is also positively related to profitability and farmers with a higher education are more likely to be successful in their farming operations (Castle et al., 1987).

Standard entrepreneurship educational curricula consists of accounting, management, law, finance, marketing, decision making, economics and other key concepts needed such as developing a business plan (Hood and Young 1993; Wang et al. 2010). Walker and Ainsworth found that business organization, sales, human resources, budgeting, standard costing and tax decisions were important components of business education (2001). Additionally, multidisciplinary knowledge, knowledge of global issues and communication skills are important to learn (Gill and Lashine 2003).

The main pillars to creating and establishing a successful business not only include acquiring knowledge and skills, but also entrepreneurial mindsets and attributes (Liang 2018). Some of the most important skills to learn are managing risk, innovation and proactive tendencies (Covin and Slevin 1989). The agricultural sector faces a variety of risks that requires

pro-active management and innovation in order to be a viable operation (Mehlhorn et al. 2015). Business education should prepare students for career success and facilitate their capacity for learning and foster students' personal fulfillment and contribution to society (Block and Stumpf 1992). Ultimately, students should learn how to apply their acquired knowledge into functional skills for the real world.

The role of business education is more important than ever to build a workforce and management capable of coping with the emerging challenges of today's economy (Gill and Lashine 2003). Education programs must balance the skills needed for graduates to enter their career with a thorough understanding of the business environment (Weber 2011).

Agricultural Business Education

Research shows that there is a need for beginning and SSCP farmers to have access to business education so that they can possess the skills to manage financial stress and keep their businesses viable. Agricultural business education can be a resource for farmers to acquire the skills they need to run successful operations. The National Council for Agricultural Education defines agricultural education as, "a systematic program of instruction available to students desiring to learn about the science, business, and technology of plant and animal production and/or about the environmental and natural resources systems" (2012). One definition of agricultural business education from a university is "teaches students the operating techniques and business skills used in the modern food system and ...builds student knowledge and skills needed to manage small and medium sized business in agriculture and allied industries" (Colorado State University 2018).

According to human capital theory, education is hypothesized to have a positive effect on farmer financial performance (Foote 2016). USDA census data shows that higher education can be advantageous to farmers with running a more successful farm operation (Hoppe 2010). Higher levels of farmer education also correlate with the farm's success and a farmer's ability to receive the same or better wages from farming as from other jobs (Lins et al. 1987). On the opposite spectrum, farm operators in the least viable households have significantly fewer years of education compared to the most viable households (Salant et al. 1986).

One study showed that farmers earning the highest incomes had higher levels of college education and this could be attributed to their education providing them skills to navigate complex accounting and farm management decisions (Foote 2016). Other research shows that

understanding risk is a starting point to help producers make good management choices in a situation where adversity and loss are possibilities (Harwood et al. 1999). This is especially important for small-scale producers who need to understand the risks involved with various market outlets.

Lastly, learning how to write business plans can have a largely positive impact on a farm's success. Mishra, Wilson and Williams (2009) found that being able to write a business plan can help beginning farmers get loans and grants from lending agencies. They also suggested that beginning farmers who have business plans are typically more dedicated and possess better management and planning skills which can help increase financial performance (Mishra et al. 2009).

Existing Agricultural Business Education

According to the College Board, a national not-for-profit organization that provides resources for higher education access, there are approximately 195 college programs that offer some form of agriculture business education, usually tailored to large scale commodity production. There are no college level business education programs that exist specifically for SSCPs. A recent study found that 52 agricultural colleges in the United States taught courses in both agricultural business and entrepreneurship but recommends that they should adapt principles of agricultural entrepreneurship that emphasize opportunity assessment, risk management, value chain innovation, business planning and agriculture technology commercialization (Mehlhorn et al. 2015).

There are some college programs with an emphasis in sustainable agriculture which may involve specialty crops. The Sustainable Agriculture Research and Education (SARE) program states that sustainable agriculture should contribute to crop diversity which includes specialty crops as well as profit over the long term to be financially viable (SARE 2014). According to the USDA National Agricultural Library, there are 383 education and training programs with an emphasis in sustainable agriculture (USDA NAL 2020).

There are formal online educational programs that require paid subscriptions or fees such as The Farmer's Office, The Market Gardener's Masterclass, Groundswell Center's Grow Your Farm Business Course, and Small Farm Nation Academy. Studies show online education can provide convenience with accessibility for individuals who are busy and can't alter their schedules to accommodate in person programs (Li et al. 2008).

There are many types of farm training programs and apprenticeships throughout the country, and they exist on both individual farms and in the form of formal programs. Apprenticeships offer experiential education and mentorship that classrooms can't offer (Gilmore 2019). Most apprenticeship programs offer some form of business education curriculum, but the depth of education varies with some programs having more specific training than others. For example, the Building Farmers in the West farmer training program at Colorado State University has a Principles of Business Planning and Management track that teaches farmers the tools to enhance their business management, production and marketing skills (Jablonski et al. 2017).

There are also free online resources and written publications available on websites like Sustainable Agriculture Research and Education (SARE), National Sustainable Agriculture Information Service (ATTRA) or the Cornell Small Farms Program that SSCPs can access and apply the information to their own operations. SARE has numerous publications such as *Farmers' Guide to Business Structures* and *Building a Sustainable Business*. The Cornell Small Farms Program has numerous free publications such as the *Guide to Marketing Channel Assessment: How to Sell Through Wholesale and Direct Marketing Channels*.

Agricultural Business Education in Kansas and Missouri

In the Midwest, there are various resources available to beginning farmers and SSCPs. There are other forms of education and training programs beyond high school opportunities such as the National FFA organization. In Kansas and Missouri, formal training and apprenticeship programs include Growing Growers ICT, Growing Growers Kansas City, The SAVE Farm program, the Beginning Farmer Wholesale Project mentorship program or Juniper Gardens Training Farm but there are also numerous farm internships where individuals can learn informally and independently under a farmer mentor. Collegiate programs in these states include Johnson County Community College's Sustainable Agriculture certificate program, University of Missouri's B.S. in Agriculture with Emphasis in Sustainable Agriculture, Highland Community College's Viticulture certificate program, Seward County Community College agriculture program and Lincoln University's M.S. in Sustainable Agriculture, Kansas State University's Urban Food Systems program.

Finally, there are numerous extension, local and nonprofit programs for Missouri and Kansas farmers. Kansas State University, Lincoln University and University of Missouri have

extension programs that offer consultation and online resources such as workshops and publications related to various topics like growing crops or improving food safety. Local organizations such as Cultivate Kansas City, Kansas Rural Center or the West Central Missouri Community Action Agency provide similar resources.

Gaps in Agricultural Business Education

Despite the current resources that are available to farmers, numerous reports show that there is a need for improved agricultural business education for beginning small scale farmers and SSCPs. The development of beginning farmer training programs is one of the most important and yet poorly understood areas of agriculture and the boundaries of what constitutes meaningful education must be expanded (Niewolny and Lillard 2010). Research recommends that educational programs focus on the specific needs of their audience in order to increase the effectiveness of their outreach program (Bailey et al. 2014). Extension educators need to develop educational programs that reflect expressed and unrecognized needs of farmers (Carter & Batte 1993). Adults value education that directly helps their situation once they understand how the curriculum directly impacts them (Knowles 1984). Education needs to be tailored to fit the needs and demands of their farmer audience.

Educators should focus on providing programs to beginning farmers to address farm business (Trede and Whitaker 1998) and then involve young farmers in the planning process to better identify their educational needs (Dollisso and Martin 1999). Future research and educational efforts need to support young farmers and provide them with the skills needed to be successful (Bailey et al. 2014).

Existing resources available to farmers can be difficult to find or navigate for many new farmers looking for help with their farm businesses. Additionally, small farmers may be slow to adopt new skills because they lack the knowledge to access it or have limited quantities of resources (Gebremedhin and Christy 1996). Educational barriers for in-person resources such as formal training programs include time and distance for farmer participation as well as the information not being practical, relevant or current (Bailey et al. 2014).

In the last few decades, land-grant university extension programs have steadily become less organizationally, educationally, and financially stable (Chalker-Scott and Tinnemore 2009). Benefits of extension's decentralized structure allow it to focus on local interests and issues while using informal educational delivery systems (Chalker-Scott and Tinnemore 2009).

However, for the last few decades, extension's relevance to its community has been questioned. It's lack of a centralized basic educational structure prevents it from having a standardized core curriculum and too much emphasis has been put on teaching techniques rather than the content of materials (Chalker-Scott and Tinnemore 2009). This can impact the quality of resources available to farmers which could explain why many beginning small scale specialty crop farmers feel they don't have adequate resources with farm business curriculum.

There have been several studies across the U.S. evaluating the content of formal agricultural education programs. A recent comparison of 26 agricultural apprenticeship programs found that goals of the program included education, creating new farmers and removing beginning farmer barriers to entry (Fisher 2017). These programs varied in practices with 96% utilizing hands-on training, 85% using field workshops and 65% using classroom components. Only 12% incorporated individual business advising. The research found a disparity in business advising methods, which led to students facing barriers post-graduation that they did not feel comfortable facing with their acquired skillset. Although most of the apprenticeship programs taught some form of business management, only three offered any connection to land/capital opportunities to apprentices who had graduated their program (Fischer 2017).

Recent focus group research found young and beginning farmers identified agricultural business management skills, financial skills and legal knowledge as the most important educational needs (Bailey et al. 2014). More specifically, accounting, record keeping skills, managing expenses, incomes, taxes and decision making were emphasized (Bailey et al. 2014).

Other studies have found that young, highly educated farmers placed educational priorities on marketing, production record- keeping and production management programs (Martin 1988). Nelson and Trede found the most important topics for young and beginning farmers to know included financial management, record, budgets. farm markets, marketing strategies, pricing, whole farm planning, decision making and strategic planning (2004). Small-scale Ohio farmers reported farm tax management, marketing farm products, farm insurance needs and record keeping as top areas of farm management education (Uko & Miller 1987).

A recent survey conducted among stakeholders who worked with beginning farmers ranked business plan development, market planning, financial management and analysis, recordkeeping/accounting practices and direct market food safety as the top five most important topics in curriculum (Jablonski et al. 2017). Interviews with recent program participants of this

established farm training program, Building Farmers in the West, stated that after completing educational courses, they increased the number of farm enterprises, decreased the number of varieties grown, invested in infrastructure, extended the length of their production season and expanded the variety of market outlets (Jablonski et al. 2017). Survey data also suggested beginning farmer programs recommend limiting varietal diversification and enterprise diversification, integrate season extension production and marketing techniques and integrate information on how an operation's location can impact best practices for marketing and business planning decisions (Jablonski et al. 2017).

Need for Business Education in Kansas and Missouri

A review of the literature does not find a study that directly assesses business education for SSCPs in Kansas or Missouri. However, a recent study evaluated training methods in an urban and peri-urban apprenticeship program based out of Kansas City and found the need for business education among beginning farmers (Gilmore 2019). Researchers interviewed past and current apprentices about the program and when participants were questioned on what the biggest barrier to starting an agribusiness is, 94% of responses included capital, land acquisition and/or financing, and 36% of participants indicated that management-related barriers kept them from starting their own farms (Gilmore 2019). The study suggested curriculum on alternatives to purchasing land and exploring the idea of landless agribusiness or agribusiness on land participants already own, which could reduce the chance of land acquisition becoming a barrier to entry into the industry (Gilmore 2019). The report by Gilmore showed that there is a clear need for training materials to be developed in the Kansas and Missouri region that cover the processes of starting and managing a business. Beginning farmers should also be connected with opportunities for managerial application of business management principles. Yet, most apprenticeships are not equipped to connect apprentices to resources and business management opportunities that promote entry into commercial food production (Gilmore 2019). This data also supports previous research on Kansas City metro extension programs that found extension resources on financial information had the fewest number of extension educators involved in this kind of programming (Tanner et al. 2014). In the study, only 4 out of 15 educators discussed having programs that address farm-related finances.

There is a substantial amount of research that attributes certain characteristics key to farm business success such as knowledge of market outlets, the importance of management strategies,

engaging in value added farming, writing a business plan and increasing the number of decision makers (Gebremedhin and Christy 1996; Mishra et al., 2009). However, there is little research on what kind of business education SSCPs need to learn in order to stay financially successful. There is also little research into what successful SSCPs cite themselves as necessary skills for operating a profitable business, nor what skills or resources unsuccessful small farm owners wish to acquire to become successful.

Background into Research Methods

Survey Research

One way to obtain farmer feedback and opinions is through surveys. This form of data collection is extremely common, and they help researchers obtain information in order to learn more about something unknown. Typical survey methods include in-person, telephone, paper or through the web (Dillman et al. 2014). Surveys allow for researchers to be more efficient by using a sample of respondents in a way that enables them to generalize to the entire population (Dillman et al. 2014).

Electronic surveys are the fastest growing form of surveying across the U.S., and they can generate information quickly and at a low cost (Dillman et al. 2014). Technological advancements within the last 15 years have changed the way research is conducted by increasing ways to communicate with people (Dillman et al. 2014). With more farmers using the internet than ever, the potential to reach farmers electronically is better than ever. According to 2017 USDA census data, 79% of vegetable farmers and 81% of fruit, tree nut and berry farmers have access to the internet (USDA-NASS 2017). In 2019, 82% of Kansas farmers and 70% of Missouri farmers reported internet access (USDA-NASS 2019).

Focus Group Research

Another way to obtain research from farmers is by conducting focus groups. Focus groups are defined as a “carefully planned series of discussions designed to obtain perceptions on a defined area of interest in a permissive, nonthreatening environment” (Krueger 2014). Interactions between participants can stimulate active conversation about a phenomenon that is being researched (Dooley 2007). Focus groups can be conducted in person or via online formats.

Online focus groups (OFGs) have been utilized in research for the last three decades and the technologies to carry out the methods have changed dramatically (Stewart and Shamdasani

2017). As platforms that share information on the Internet became more advanced, the methods to conduct OFGs have grown and become better adapted for research. Studies have shown OFGs to have certain advantages over face-to-face groups because they can produce similar data and findings while allowing for geographically distanced participants to join at a convenient location and time of their choice (Zwaanswijk and Dulmen 2014). They also allow for more anonymity in online discussion which could result in more honest and thoughtful answers (Zwaanswijk and Dulmen 2014).

Two main approaches for conducting online focus groups include synchronous and asynchronous groups. Asynchronous OFGs are focus groups that are conducted over a period of time that allows participants to read comments and contribute comments at a time of their choosing (Murray 1997; Stewart and Shamdasani 2017). This often takes place through discussion boards where moderators prompt questions and participants contribute responses at regular intervals. There are many different platforms where this can take place and they can occur on sites like Google Groups, educational settings like Blackboard or even through social media such as Facebook Messenger. Synchronous OFGs are most similar to face-to-face focus groups and they incorporate real-time discussions led by one or more moderators with up to 8 participants (Stewart and Shamdasani 2017). While bandwidth and internet connection can influence the effectiveness of the OFG, the technological advancements have allowed for greater accessibility to a variety of software like Skype, Zoom or Adobe Connect.

Researchers have compared the effectiveness in obtaining reliable data from both asynchronous and synchronous OFGs. Zwaanswijk and Dulmen found that perceived advantages of synchronous face to face focus groups include that it is easier to have a discussion with the whole group and that they provide more opportunities for clarification and nuance while asynchronous OFG's had advantages that included being able to participate at a convenient time and place, it was easier to stay focused on the original discussion topic and that there were fewer social distractions compared to face-to-face interactions. Graffinga and Bosio published a study where they compared the various methods of OFGs that included face-to-face, forum (asynchronous), chat (synchronous) and a combination of forum and chat (2006). Their findings showed that the forum and chat discussion methods were the most balanced methods in terms of advantages and disadvantages. The combination allowed for detailed discussion in the forum while also getting a broad and encompassing discussion in the synchronous chat (Graffinga and

Bosio 2006). For these reasons, this study incorporates both synchronous and asynchronous focus group methods.

Objectives of Thesis

1. Conduct a needs assessment based on grower feedback to inform business education curricula for beginning small-scale specialty crop producers.
2. Identify and contrast the business skills, resources and obstacles that different types of small-scale specialty crop farmers require to be successful.
3. Provide resources that outline marketing opportunities and/or best management practices for beginning farmers that are looking to scale up and enter the wholesale market.

Chapter 2 - Grower Experience Affects Business Education Needs for a Profitable Specialty Crop Farm Operation in Kansas and Missouri

Introduction

Abstract

Financial vulnerability among small-scale specialty crop farms is rising. In 2017, approximately 60% of all Kansas and Missouri specialty crop operations had a gross revenue of less than \$10,000. Despite their contribution to fresh fruits and vegetables for local consumers, beginning and small-scale growers face significant challenges to maintain their economic sustainability, including maintaining a sufficient level of income. There is little information currently available on what kind of education and/or skills beginning farmers need in order to possess the business skills that can make their operation profitable. The primary objectives of the study were to: (i) conduct a needs assessment based on grower feedback to inform business education curricula for beginning small-scale specialty crop producers; (ii) compare the business skills, resources and obstacles that different types of small-scale specialty crop farmers (former, beginning, experienced, owner, employee, full-time and part-time farmers) view as necessary to be successful and (iii) assess the viability of online focus groups for qualitative research in agriculture. A study was conducted using a mixed-methods design to define and prioritize the business skills that these growers in Kansas and Missouri view as necessary to be profitable. Electronic survey (n=106) results suggested that farmers place high emphasis on all standard business education curricula, however, perception of resources surrounding these skills were mostly neutral to unsatisfied. Responses differed among the types of farmers, indicating years of experience, status and ownership can impact the perception of skill importance and satisfaction of resources. A series of asynchronous and synchronous online focus groups (n=24) revealed themes on business skills, obstacles to profitability, resources and desired courses surrounding business education. These findings can help provide educators a better idea of what Kansas and Missouri small-scale specialty crop farmers need for business education. Based on our results, curricula developed from this data would promote farmer business literacy and ultimately improve farm business viability. As American agriculture continues to evolve with market

demands and resource availability, the economic sustainability of small-scale growers is critical to a thriving local food system.

Background

There is an abundance of research on the notable changes in American agriculture over the last century. More recently, U.S. consumers have dramatically increased their consumption of local and organic foods (Nie and Zepeda 2011). From 1994 to 2010, the number of farmers' markets in the US tripled (USDA 2010), sparked by consumer desire for local and organic foods (Nie and Zepeda 2011). Consumers cite a desire for consuming local and organic foods based on lifestyle values, and this has resulted in a growing importance of consumer access to organic and local foods (Nie and Zepeda 2011).

This trend can also promote awareness of how local and organic food production can positively impact the environment and the local economy (Nie and Zepeda 2011). Studies show that an increase in local food consumption can consequently lead to a community's increased economic prosperity. Local economies benefit from a higher number of local food producers because they spend a higher percentage of total expenditure in the local economy (Jablonski et al., 2016). Small, local businesses can also improve local job and economic community growth by creating jobs and recirculating money locally (Robinson and LaMore 2010). In Greater Kansas City, consumers spent almost \$2.5 billion on fruits and vegetables in 2013 and the estimated demand for local produce was estimated at almost \$177 million in 2015 (SCALE Inc., 2014; BNIM et al., 2014). From an environmental perspective, smaller and diversified cropping systems reduce agriculture's environmental footprint by reducing emissions caused by transportation and reliance on resource-intensive inputs when selling locally (Vandermeer, 2011; Kremen et al., 2012).

Although the demand for more localized specialty crop production exists, an ongoing longer-term trend has been the decline in the number of farmers and farm workers. With increased mechanization, there was a 74% reduction in the number of self-employed and family farmworkers from 1950 to 1990 and the number of hired farmworkers reduced by 51% (USDA 2020). With the reduction in workforce, the age of farmers and agricultural workers has risen significantly. In 2017, census data revealed that the average age of farmers was 57.5 years old while 34% of farmers were over the age of 65 and only 37% were under the age of 55 (USDA

2017). In contrast, in the total national workforce, only 7% of employed persons are 65 years or older. (U.S. Bureau of Labor Statistics 2021).

This decreased workforce coincides with the continual decline in the number of farms and family-owned operations across the country. USDA statistics show that the number of farms and the value of production are highly concentrated at opposite ends of the size scale (USDA 2018). This has resulted in a gaping disparity between small- and large-scale farms. The USDA definition of a small farm is any operation with a gross cash farm income (GCFI) under \$250,000 (USDA 2019). Over 91% of all U.S. farms are classified as small and yet they only make up about a quarter of the value of production. Despite the small farm definition that caps income at \$250,000, 60 percent of all small farms generate a GCFI of less than \$10,000 (USDA 2019). These farms are incredibly vulnerable to financial hardships as they exhibit high turnover rates and a difficulty maintaining a sufficient level of income.

Similar trends are occurring with specialty crop farmers. The USDA defines specialty crops as “Fruits and vegetables, tree nuts, dried fruits, horticulture, and nursery crops (including floriculture)” and only 12% of all U.S. farms currently raise specialty crops (USDA 2019). Historically, specialty crops once made up 20% of all U.S. farms in 1969 (USDA 1969). In 2019, farms that are 1000 acres and larger only make up 6% of all specialty crop farms and yet they hold 53% of all market share value of specialty crop products sold (USDA 2019). Conversely, farms that are less than 100 acres make up 74% of all specialty crop operations and only make up 15% of all market value (USDA 2019). This discrepancy in cropland combined with a market share value concentration by large scale operations has resulted in a struggle for small scale specialty crop farms to remain profitable.

Today, only 7% of specialty crop producers make 100% of their household income from farming. Federal price and income support programs do not directly support fruit and tree nuts or vegetable production and when all U.S. farmers received over \$300 billion in subsidies from 1995 and 2016, less than 1 percent of those subsidies went towards specialty crops (Perelman 2018). With the lack in government support and decreasing share in market value of agricultural products sold, the greatest challenge for produce farmers is earning a reasonable living (Hendrickson 2005). Specialty crops typically require more intensive management than row crops due to the importance of product quality, quantity and very high labor requirements. And despite these factors, they are potentially more profitable for farmers based on crop value.

Kansas and Missouri are historically two of the largest agricultural producers in the country. Kansas exported over \$3.8 billion in agricultural products in 2019 and Missouri exported over \$2.3 billion with leading exports including meat, soy, grain, and dairy products (KDA 2020, MDA 2021). Although only 0.6% of the cropland in the Midwest is dedicated to specialty crops, in 2012 they accounted for almost \$2 billion of the total farm gate value (Kistner et al., 2018; USDA-NASS 2015). Recent census data from Kansas revealed over 80% of the surveyed specialty crop producers farmed less than 10 acres and made less than \$50,000 a year while 60% of all producers made less than \$10,000 a year (KDA 2017). Similarly, 57% of surveyed specialty crop producers in Missouri grossed an annual on-farm income of less than \$10,000 (MU 2017). A recent research study found that 80% of surveyed Kansas City Metro farmers stated farming was not their primary income for while 52% said that less than 10% of their annual income was from their farming operation (Tanner et al. 2014). The surveyed farmers also stated that 47% used funds from another job to support the farm (Tanner et al. 2014). Similar to national trends, specialty crop operations in Kansas and Missouri do not provide dependable income.

With the growing demand for specialty crops and the simultaneous declining number of specialty crop farms, it is more important than ever to enable the growth of beginning farmers. The USDA defines a beginning farmer as a producer who has less than 10 years of experience (USDA-NASS 2014). As a group, beginning farmers are typically more likely to grow specialty crops as opposed to commodity crops such as grains and soybeans (USDA 2019). Beginning farmers have higher interest payments, half the farm assets, half the farm size and 5.5 times less average net farm income than experienced farmers (Mishra et al. 2009). For the last two decades, the share of farms operated by beginning farmers has been in a steady decline. In 2017, beginning farms accounted for 27 percent of U.S. farms which is down from about 38 percent in 1982.

Like so many small farmers across the nation, brand new farmers often face many challenges. These barriers include high startup costs and lack of available land (Ahearn & Newton 2009). A recent survey by the National Young Farmers Coalition reported over 50% of new farmers felt that earning a sufficient income to maintain a standard of living was a primary challenge (Ackoff et al. 2017). They also reported that 26% of respondents referenced a lack of farm profitability as the top reasons for why farmers quit (Ackoff et al. 2017).

It is imperative that the various challenges currently presented to small scale specialty crop farmers are addressed in order to ensure these benefits to society are continued and to help improve the nation's small farm viability and profitability. One potential solution is through business education. Higher levels of farmer education also correlate with the farm's success and a farmer's ability to receive the same or better wages from farming as from other jobs (Lins et al. 1987). Business education has been shown to be positively related to profitability and farmers with a higher level of education are more likely to be successful in their farming operations (Castle et al., 1987).

There are about 160 college programs that offer agriculture business education, but they are often centered on large-scale commodity agriculture. There are also many types of formal farm training programs and apprenticeships throughout the country that are geared toward small-scale specialty crop production in addition to the various, nonprofit, extension and other online resources.

Despite the current resources that are available to farmers, there is a need for improved agricultural business education for beginning and small-scale specialty crop producers. A recent study evaluated training methods in a Kansas City apprenticeship program and found a need for business education among beginning specialty crop farmers (Gilmore 2019). Researchers interviewed past and current apprentices about the program and 94% of respondents stated that capital, land acquisition and/or financing were the biggest barriers to starting an agribusiness and 36% indicated that management-related barriers kept them from starting their own farms (Gilmore 2019). This study suggested curriculum on alternatives to purchasing land and exploring the idea of landless agribusiness or agribusiness on land participants already own, which could reduce the chance of land acquisition becoming a barrier to entry into the industry (Gilmore 2019). Gilmore (2019) also revealed a need for training materials to be developed in the Kansas and Missouri region that cover the processes of starting and managing a business. Beginning farmers also needed to be connected with opportunities for managerial application of business management principles. The research showed that many apprenticeships are not equipped to connect apprentices to resources and business management opportunities that promote entry into commercial food production (Gilmore 2019). This also supports research on Kansas City metro extension programs that found extension resources on financial information had the fewest number of extension educators involved in this kind of programming (Tanner et al.

2014). In the study, only 4 out of 15 educators discussed having programs that address farm-related finances.

The development of beginning farmer training and programs is one of the most important and yet poorly understood areas of agriculture, and the boundaries of what constitutes meaningful education must be expanded (Niewolny and Lillard 2010). Research recommends that educational programs must focus on the specific needs of their audience in order to increase the effectiveness of their outreach program and that adults learn most effectively when they identify their own educational needs (Bailey et al. 2014; Knowles 1984). Agricultural educators must provide small-scale specialty crop producers with access to educational material that they view as important and valuable to their farm business. It is then that these farmers can have the tools they need to thrive in U.S. agriculture.

The purpose of this study was to identify business skills that small-scale specialty crop producers viewed as most important in order to improve educational resources available to such farmers in Kansas and Missouri. More specifically, the primary objectives of the study were to: (i) conduct a needs assessment (based on grower feedback) to inform business education curricula for beginning small-scale specialty crop producers; (ii) compare the business skills, resources and obstacles that various small-scale specialty crop farmers view as necessary to be successful and (iii) assess the viability of online focus groups for qualitative research in agriculture. A mixed methods research design was utilized for quantitative and qualitative data collection. Due to circumstances surrounding the COVID-19 pandemic, online focus groups were conducted rather than in-person discussions, which provided a unique opportunity to explore the use of a virtual platform for this purpose.

Definition of Terms

The following terms are defined to provide structure to the content of the study:

1. Gross Cash Farm Income (GCFI)

“annual income before expenses and includes commodity cash receipts, farm-related income, and Government farm program payments” (USDA 2020)

2. Small Scale Farm

“any operation that produces and sells at least \$1,000 in agricultural products and with a gross cash farm income (GCFI) under \$250,000 per year” (USDA 2020)

3. Specialty Crops

“fruits and vegetables, tree nuts, dried fruits, horticulture, and nursery crops including floriculture” (USDA-NASS 2019)

4. Beginning Farmers

Any “producers with less than 10 years of experience” (USDA-NASS 2014).

5. Experienced Farmers

Any producer with 10 years or more of experience.

6. Former Farmer (FF)

A farmer who went through a formal farm training program and is either no longer farming or not farming as a business.

7. Financial Viability

The ability for “a farm household to generate a net income sufficient to meet financial obligations of: providing for member livelihood, covering cash operating expenses and capital replacement costs, and maintaining line of farm credit and preventing foreclosure of business by meeting principal payments on debt as scheduled” (Salant et al. 1986)

8. Farm Profitability

“generating enough money to pay employees and bills, repay loans and provide the farmer with enough earnings to make a living” (Pinto and Torres 2017)

9. Farm Success

“success within the scope of financial or economic success” (Rantamaki-Lahtinen 2009)

10. Commodity Crop

Grains and oilseed crops

Methods

Study Design

A mixed methods research design of quantitative and qualitative data collection was used in this project. The study was adapted to be conducted exclusively online so that participants did not need to meet in person due to circumstances surrounding COVID-19. An online survey was conducted among individuals who identified as small-scale specialty crop farmers in Kansas and Missouri. Multiple choice and Likert scale questions collected quantitative data that helped assess farmer perception of business skills. Qualitative data was obtained through a series of four focus groups that conducted among 24 previous and current small-scale specialty crop farmers who met a specific set of criteria. This study incorporated synchronous and asynchronous online focus group approaches to utilize the best qualities of each format. Each group participated in a series of asynchronous discussion board posts and a synchronous 90-minute video conference meeting.

Key organizations were utilized to recruit growers within the specialty crop farming community that included Growing Growers Kansas City (<http://www.growinggrowers.org/>), K-State Extension (<https://www.ksre.k-state.edu/>), University of Missouri Extension (<https://extension.missouri.edu/>), Kansas Specialty Crop Growers Association (<https://www.kscga.org/>), the Kansas City Young Farmers Coalition (<https://www.youngfarmers.org/chapter/kansas-city-young-farmers-coalition/>) and other community farming-based organizations. The Kansas State University Committee on Research involving Human Subjects determined this project was exempt from review.

Survey

The web-based survey instrument was conducted electronically through Qualtrics in the fall of 2020. Advertisements for the survey were posted on key partner organization social media outlets and emailed to the Growing Growers listserv. A drawing for gift cards and prizes was utilized to incentivize participation.

Participants included any Kansas or Missouri farmer who self-classified as a small-scale specialty crop grower with any level of experience and were age 18 years or older. USDA census data reports 1,232 specialty crop growers in Kansas and 3,503 in Missouri (USDA-NASS 2019). To achieve a 95% confidence level with a 10% margin of error, 94 responses were needed (Roscoe 1975). Of the 106 total responses collected from both survey and focus group

participants, 91 responses were used in the final data analysis, including demographic information, because respondents who had no farming experience were removed from the final analysis. Since the focus group participants took the same survey, their answers were aggregated into the final total and responses were cross-referenced to ensure there was no data duplication. The total number of responses for the Likert scale questions differed from the demographic section due to nonresponse.

The survey was performed using an online software program (Qualtrics XM; Qualtrics, Provo, UT) to collect information directly from specialty crop farmers that could identify and prioritize business and finance skills that they valued in business education. The survey consisted of 8 questions that included multiple choice, Likert scale questions and an optional fill in the blank question. The demographics section asked respondents to choose the answer that was most applicable to them out of a series of choices. Questions included gender, zip code, farming status, experience and highest level of education and business education.

A three-point Likert scale was used in order to measure attitude and perception in a scientifically validated manner. Research shows three-point scales can be sufficient to meet criteria of test-retest reliability, concurrent validity and predictive validity (Jacoby et al. 1971). Although increasing the number of scale points reduces rounding error, it also increases nonresponse bias and respondent fatigue so that if the researcher is interested in averages across the sample, three scale points are adequate (Lehman et al. 1972). Survey respondents were asked to rank how important various components of business education are to small scale specialty crop farmers and how satisfied they are with the availability of resources related to these components. A three-point Likert scale was used for the farmers to self-rank their perceptions of business skills and resources. For ranking the importance of skills, the scale included: (1) unimportant; (2) neutral and (3) important. For ranking the satisfaction of resources, the scale included: (1) unsatisfied; (2) neutral and (3) satisfied. Questions were developed by incorporating the most common core subjects of standard business education curriculum as reported in the literature review. Once the questions were written, they were cross-checked by researchers to ensure that they were easy to understand and properly worded. These measures helped address internal threats to rigor. Additionally, there was an optional “Other” answer if the participants wanted to add a skill that wasn’t listed on the survey.

Focus Group

All focus groups were conducted online allowing for researchers to recruit participants from the region. A combination of critical case sampling and snowball sampling methods were utilized to recruit 24 farmers. Farmer demographics needed to align with the research study's objectives and be most characteristic of "financially successful/viable" farmers or "financially unviable" farmers, which included "former farmers" that were defined as individuals who went through formal farm training and are no longer farming or not farming as a business.

The recruitment process began in the fall of 2020 via email using contacts from the Growing Growers KC contact list, Johnson County Community College's Sustainable Agriculture Program list and Kansas Specialty Crop Growers Association member list. The project provided a monetary incentive (\$50 per hour for five hours) to compensate focus group participants for their time. A total of 26 out of 34 farmers contacted from critical case and snowball sampling methods responded to the recruitment letters, for a response rate of 76%. Two farmers ended up having scheduling conflicts resulting in a final sample size of 24. A total of four online focus groups were conducted during December 2020 and January 2021. All participants signed informed consent forms before the focus groups began. Due to the sensitive discussion topics of business and finance, participants were assured that all data collected was stored anonymously and confidentially.

Each group had a homogenous sample size of 6 participants as this is one of the most frequently used sizes among focus groups (Morgan 1997). The groups were heterogenous in farmer background, experience and inclusion criteria to allow for within-group comparisons. Inclusion criteria are shown in Table 2.1. Individuals were randomly assigned to groups as much as possible given each participant's scheduling constraints.

Table 2.1: Inclusion criteria for focus groups

Inclusion Criteria
Subjects must meet at least 2 of the following criteria in order to be enrolled in the focus group:
1. Runs a specialty crop operation that is financially viable* in KS or MO
2. Completed a formal training program or apprenticeship program in KS or MO
3. Has advanced knowledge in farm business (ex. obtained a college degree in agricultural economics or conducts business workshops)

4. Has an in-depth understanding of the needs of beginning farmers (ex. agricultural educator, farm training programmer, etc.) 5. Completed a farm training program and didn't pursue farming/quit farming due to the inability to be financially viable* 6. Beginning farmer (10 years or less of experience) running a specialty crop operation
Exclusion Criteria Subjects will be excluded under the following criteria: 1. Younger than 18 years old 2. Refusal to give informed consent 3. Insufficient internet access to participate in discussion boards & video call
<i>*See definition of farm financial viability in Introduction</i>

The focus groups consisted of a multi-day asynchronous forum combined with a synchronous 90-minute video call. The video call was conducted after a 2-day buffer following the initial forum discussion as seen in Figure 2.1. A final day of asynchronous forum discussion followed after the video call. During the asynchronous discussions, participants were assigned random usernames to maintain anonymity. All focus group participants took the same online survey that was administered in the quantitative portion of the project to obtain demographic information prior to starting the study.

To ensure validity of the synchronous video call, a professional moderator was hired to provide guidance of the discussion without introducing bias. The depth, as well as the breadth of information obtained helped researchers to generalize the results. To ensure reliability of the data collection, researchers compared responses of each group to the other three parallel focus groups. To ensure validity of the study's results, researchers worked to establish credibility among the farmers through prolonged engagement to build reputable relationships. For transferability, methods helped to provide for substantial descriptions from farmer perceptions on business skills and for dependability, an inquiry audit with a researcher outside of agriculture was used. Lastly, to achieve confirmability, triangulation was used by comparing the responses of participants with differing views.

2-day
buffer

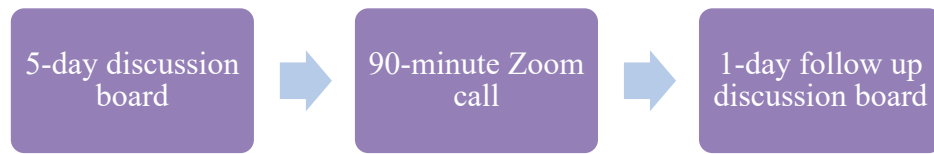


Figure 2.1: Overall structure of focus group

The asynchronous discussion started with an online forum for five days. Participants were expected to commit 30 minutes per day and utilized Focusgroupit (<https://focusgroupit.com/>) to post their written comments at a convenient time for them (asynchronous computer mediated communication). This platform was chosen due to the ability for participants to respond to the moderators/researcher's topics in the order of posting. Participants could choose anonymous usernames so only researchers/moderators knew the participant's identity. Moderators were allowed to control postings, make comments to the topic posted and make comments on participant's responses. Focusgroupit also had a feature that prevented a user's ability to see other responses until they submitted a post of their own. This was used to prevent conformity or possible bias and ensure the participant's thought was their own genuine thought.

Moderators posted a new question every day during the first five days and the final day of the study as seen in Table 2.2. These questions helped to gradually build a relationship with the researchers as well as guide the discussion. The participants were required to respond to the question of the day as well as comment on at least two other responses of other participants.

Table 2.2: Daily discussion questions during asynchronous focus groups

Day 1	Tell us a little about your farming experience. What does the term business skills training mean to you?
Day 2	How did you learn your business skills?
Day 3	What do you view as the most important business skills for a successful farming enterprise? Please rank your top 5, with 1 being most important and so on.
Day 4	What business skills do/did you most often use on the farm?
Day 5	What are some major obstacles related to business that can make it difficult for a farming operation to be profitable?
Final Day	What have you learned from this study? Do you plan on changing any aspects of your farm business?

Researchers allowed for a 2-day window for any participants to contribute to the discussion boards if they had not already done so before moving to the video call. After this buffer window, participants remained in their respective focus groups and joined an online video call via Zoom (synchronous face to face) for 60-90 minutes. Discussion was led by a trained professional moderator from the Kansas State University Office of Educational Innovation and Evaluation (OEIE). Each group was moderated by the same moderator from the OEIE and immediately after each focus group session, a researcher wrote brief discussion summaries and extensive descriptive notes from video recordings. The moderating style was semi-structured in order to guide the participants with as much freedom as possible. Discussion topics were created to continue important themes from the asynchronous discussion posts and collect further information in real time.

Data analysis

To fulfill the research objectives of the study, it was important to compare responses to the survey based on the respondent's self-reported demographic characteristics. In order to do this, specific categories of farmers were developed for analysis: (i) beginning and experienced farmers; (ii) full-time farmers and part-time farmers and (iii) farm owners and farm employees. Survey responses from an additional group of "former farmers" were examined via qualitative analysis only due to the low sample size. Different types of analysis were performed on the qualitative and quantitative data. Qualitative focus group transcript data were coded and

analyzed for thematic patterns using grounded theory to develop theories based on data collected. Quantitative survey data were analyzed using non-parametric statistics to obtain frequencies of demographics and Likert rankings. The overall mixed methods layout can be seen in Figure 2.2.

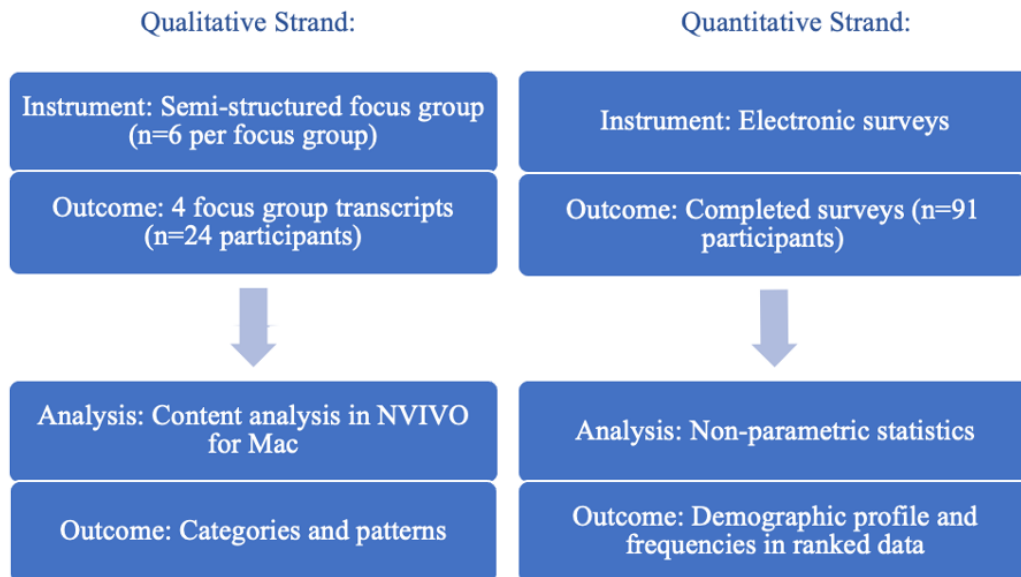


Figure 2.2: Mixed methods included the use of qualitative and quantitative data to determine specific outcomes

Data obtained from the surveys were analyzed using non-parametric statistics to obtain frequencies of ordinal and nominal variables from the sample group. The non-parametric equivalent of an Independent-Samples T Test (aka Mann–Whitney Test) were performed on the rankings of business skill importance and satisfaction of resources data among the different types of farmers. This method was used to see if the rankings of skills and resources varied across the different categories of farmers (beginning vs. experienced, owner vs. employee and full-time vs. part-time). This was accompanied by the Mann–Whitney–Wilcoxon Test to determine which means were significantly different from others. All quantitative data was analyzed through the IBM SPSS Statistics and Microsoft Excel Analysis ToolPak (SPSS Version 27, 2020; Excel Version 16.43 2020). There was an option for respondents to specify a skill that was not on the survey using an open-ended response. These answers were analyzed qualitatively by coding responses and categorizing themes through NVivo for Mac (NVivo for Mac Release 1.4 2021).

To ensure validity of the quantitative survey, early to late respondents were compared to avoid nonresponse bias as a threat to internal validity. In an effort to improve the statistical

conclusion of the survey, data collection was prolonged to increase the sample size and improve statistical power.

Verbatim notes from asynchronous focus groups were available in text format as the synchronous focus groups were video recorded, and audio was transcribed verbatim by an online transcription program. All data were imported into the software program NVivo for Mac and analyzed using content analysis (NVivo for Mac Release 1.4 2021). Transcripts were first read through to become familiar with the content and subject matter. Open coding was then used to link portions of text within each focus group question with themes of business skills and courses. Next, these codes were categorized by grouping and classifying in order to identify patterns relevant to the research objectives which also resulted in frequencies of reoccurring categories. To ensure validity of the data, consensus coding with interrater reliability helped to produce a more valid description of the data. To address the confirmability of the study, transcripts of participants were compared with one another to ensure the prevailing themes fit a pattern.

Statistical analysis of coding frequency was performed by using a chi-square goodness-of-fit test among the three farming groups which included experienced farmers, beginning farmers and former farmers. This method was used to determine whether the frequency of mentioned skills differed among the various types of farmers recruited to the study. The test was run using unequal proportions due to the unequal sample size among the farmer groups which could cause the categories to not have equal expected frequencies. This data was analyzed through IBM SPSS Statistics (SPSS Version 27, 2020). Similar social science research studies that have utilized this test to compare frequencies among coding which include Jobes et al. in a psychology study and Pariyakoil et al. in a medical study (Jobes et al. 2004; Pariyakoil et al. 2015).

An outside researcher with an academic background in agricultural economics was utilized to examine data collection methods, analysis, and results. They followed the same qualitative analysis protocol and coded the data in order to conduct inter-rater reliability by computing the Kappa coefficient. Data analysis through NVivo revealed an average Kappa value of 0.812 with 79.6% of codes having a Kappa value over 0.81 (NVivo for Mac Release 1.4 2021). According to the most comprehensive and widely cited interpretation by Landis and Koch, a Kappa value over 0.81 can be interpreted as almost perfect agreement (Landis and Koch 1977).

Results

The survey was composed of demographic- related multiple-choice questions and a Likert scale question where respondents indicated perceived importance of skills and satisfaction of resources. Focus group respondents also provided lengthy discussions of topics surrounding business education including skills, obstacles, desired courses and resources. Themes identified in the study are based on the study objectives to define and prioritize business skills and examine the perceived needs of growers.

Farmer Demographics

A total of 106 responses to the electronic survey were collected for demographic information which includes the focus group participants, however, only 91 responses were used for analysis in the study, including respondent demographic information because respondents who had no farming experience were removed from the final analysis. A map with the participant geographic locations is seen below in Figure 2.3 and demonstrates that the majority of participants were from Kansas (67% of survey respondents and focus group participants) and are located within 50 miles of Kansas City (69% survey, 88% focus group).

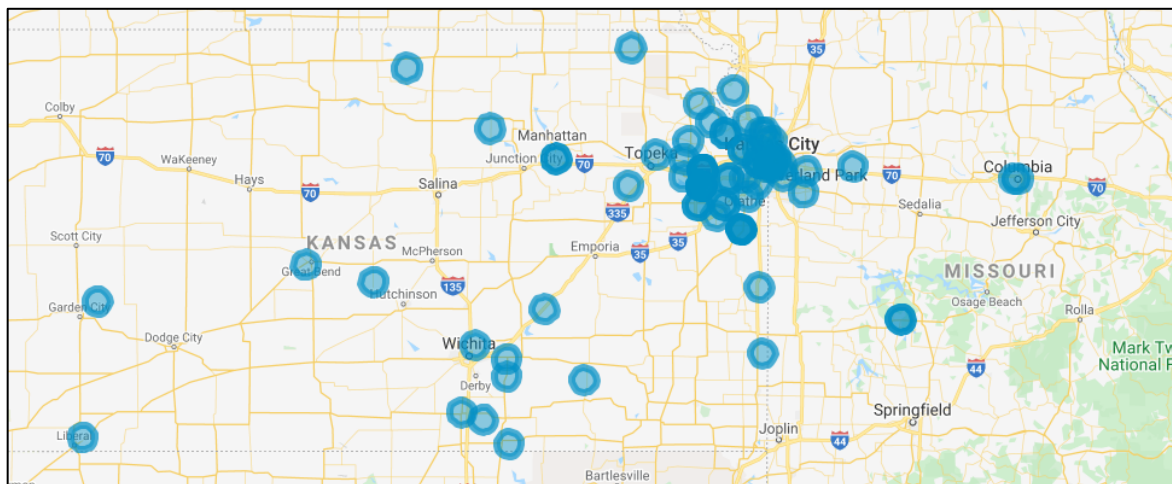


Figure 2.3: Geographic distribution of zip codes provided by former, beginning, and experienced farmers that participated in survey and focus groups to determine business training needs

A full summary of demographic information is shown below in Table 2.3 with the majority of survey respondents having less than 10 years of experience (60%) and the majority of both survey respondents and focus group participants were female (60%, 58%) and farm business owners (76%, 83%). Based on data from the USDA Census of Agriculture, the survey

sample differs from the total U.S. population of specialty crop farmers in terms of gender and years of farming which nationally are 62% male and 64% have farming experience of 11 years or more (USDA NASS, 2017). Survey respondents were asked to indicate their highest education level and approximately half of respondents had a 4-year degree (48%) and a quarter had at least a graduate degree (25%). When comparing years of experience with education, 72% of experienced farmers and 75% of beginning farmers had a 4-year degree or higher. Similarly, 77% of farm owners and 70% of employees had at least a 4-year degree.

Table 2.3: Sample demographics of former, beginning, and experienced farmers that participated in survey and focus groups to determine business training needs.

Sample Demographics		Survey (n = 91)		Focus Groups (n = 24)	
		n ^z	% ^y	n ^x	% ^w
State	Kansas	61	67%	16	67%
	Missouri	27	30%	8	33%
	Other	3	3%	0	
Proximity to Kansas City	Within 50 miles	63	69%	21	88%
Gender	Female	54	60%	14	58%
	Male	35	38%	10	42%
	Other	2	2%	0	
Farming experience	Farm Business Owner	69	76%	20	83%
	Farm Employee	10	11%	2	8%
	Farm Helper/Volunteer	10	11%	1	4%
	Intern	2	2%	1	4%
Farming status	Currently farming full time	35	38%	12	50%
	Currently farming part time	50	55%	7	29%
	Used to farm but no longer	4	4%	3	13%
	Farming but not as a business	2	2%	2	8%
Years of experience	Less than 5 years	44	48%	7	29%
	5-9 years	11	12%	4	17%
	10 years or more	36	40%	13	54%
Highest level of education	Less than high school	0		0	
	High school graduate/GED	7	8%	2	8%
	Completed a non-degree program	1	1%	0	
	Some college	10	11%	1	4%
	2-year degree	6	7%	1	4%
	4-year degree	44	48%	15	63%
	Graduate degree	23	25%	5	21%
Highest level of business education	No formal business education	31	34%	6	25%
	Attended one or more business workshops	20	22%	5	21%
	Completed a non-degree program	13	14%	5	21%
	Completed some undergraduate business courses	17	19%	3	13%
	Obtained an undergraduate degree related to business	6	7%	4	17%
	Completed some graduate level business courses	1	1%	0	
	Obtained a graduate degree related to business	3	3%	1	4%
^z Total number of survey question response from survey and focus group participants, ^y Percent of survey question response from survey and focus group participants, ^x Total number of survey question response from focus group participants, ^w Percent of survey question response from focus group participants					

Overall, more than a third of all survey respondents had no formal business education with the second most common form of business education being business- related workshops. The highest level of business education among years of farming experience can be seen in Table 2.4. Beginning farmers had the highest percentage of no formal business education experience (38%) but also the highest percentage of college related coursework (33%). The experienced farmers group had the highest number of participants who obtained their business education from workshops (28%) which was the same number of participants with no formal business education.

Table 2.4: Business education demographics of former, beginning, and experienced farmers that participated in survey and focus groups to determine business training needs.

Highest Level of Business Education^z		
Experienced Farmers^x	n	%^y
No formal business education	10	28%
Attended one or more business workshops	10	28%
Completed a non-degree program (e.g. apprenticeship)	7	19%
Completed some undergraduate business courses	5	14%
Obtained an undergraduate degree related to business	2	6%
Completed some graduate level business courses	1	3%
Obtained a graduate degree related to business	1	3%
Total	36	100%
Beginning Farmers^w	n	%
No formal business education	21	38%
Attended one or more business workshops	10	18%
Completed a non-degree program (e.g. apprenticeship)	6	11%
Completed some undergraduate business courses	12	22%
Obtained an undergraduate degree related to business	4	7%
Obtained a graduate degree related to business	2	4%
Total	55	100%
^z Data obtained from survey and focus group participants that completed demographics question in survey, ^y Percent of respondents score distributed across each response, ^x Experienced farmer defined as any producer with 10 years or more of experience, ^w Beginning Farmer is defined as any producer with less than 10 years of experience.		

Survey Results: Important Business Skills Question

Participants in the survey were asked to rank using a Likert scale the importance of a series of skills that are common to standard business education curriculum as seen in Table 2.6. For the purpose of analysis, an important ranking is assigned a 3, neutral is a 2 and unimportant is a 1. Although the majority of participants ranked these skills as important, human resources had a mean score closest to neutral at 2.28 and almost half of respondents (49%) indicated a neutral response. Credit access was the second lowest with a mean score of 2.46 and 41% of respondents indicating a neutral response. At the highest end of the spectrum, recordkeeping had a mean score of 2.96 with 96% of responses ranking it as important followed by financial management and marketing which both had a mean score of 2.92 and 92% of responses rating it as important.

There was a total of ten “Other” skill responses given and all were ranked as important (3.0). They included: grant writing literacy, time management, spray drift management, BIPOC (black, Indigenous and people of color) focused training programs, technical advice, cooperative or multi-party business start-ups, farm taxes, product development, crop insurance and micro/macroeconomics.

Table 2.5: Descriptive statistics of perceived skill importance based on responses by former, beginning, and experienced farmers that participated in survey and focus groups to determine business training needs.

How important is this skill to small specialty crop farm business success?	n ^y	$\bar{x}$ ^x	SD ^w	Percent of Responses ^z		
				Important	Neutral	Unimportant
Record Keeping	78	2.96	0.19	96%	4%	0%
Financial Management	78	2.92	0.27	92%	8%	0%
Marketing	78	2.92	0.27	92%	8%	0%
Business Planning	78	2.91	0.29	91%	9%	0%
Accounting	78	2.90	0.31	90%	10%	0%
Budgeting	78	2.83	0.38	83%	17%	0%
Tax Management	78	2.82	0.39	82%	18%	0%
Risk Management	78	2.68	0.47	68%	32%	0%
Farm Law	78	2.56	0.57	60%	36%	4%
Credit Access	78	2.46	0.62	53%	41%	6%
Human Resources	78	2.28	0.66	40%	49%	12%

^zPercent of respondents score distributed across the three categories: Important, Neutral and Unimportant, ^yNumber of all respondents in focus groups and survey who took the completed the question on perceived skill importance, ^xMean score for perceived skill importance based on all survey and focus group responses (1 = Unimportant, 2 = Neutral, 3 = Important), ^wStandard deviation of mean scores for perceived skill importance based on all survey and focus group responses

Rankings were statistically compared between different types of farming groups as seen in Figure 2.4. Descriptive statistics showed experienced farmers ranked all skills as more important than beginning farmers. However, a Mann–Whitney Test was performed and there were no statistically significant differences among the means of the importance scores of beginning and experienced farmers.

When the Mann–Whitney Test was performed among owners and employees, median skill importance for marketing was the only skill statistically significant, $U = 163$, $z = -3.517$, $p < 0.0005$, using an exact sampling distribution for U (Dineen & Blakesley, 1973) and farm owners had a higher mean rank on skill importance for marketing ($\bar{x} = 2.97$) than farm employees ($\bar{x} = 2.63$). When the Mann–Whitney Test was performed among full-time versus part-time farmers, median skill importance for human resources was the only skill statistically significant, $U = 488$, $z = -2.056$, $p = 0.04$, using an exact sampling distribution for U (Dineen & Blakesley, 1973)

and full-time farmers had a higher mean rank ($\bar{x} = 2.44$) for human resource skill importance than part-time farmers ($\bar{x} = 2.15$).

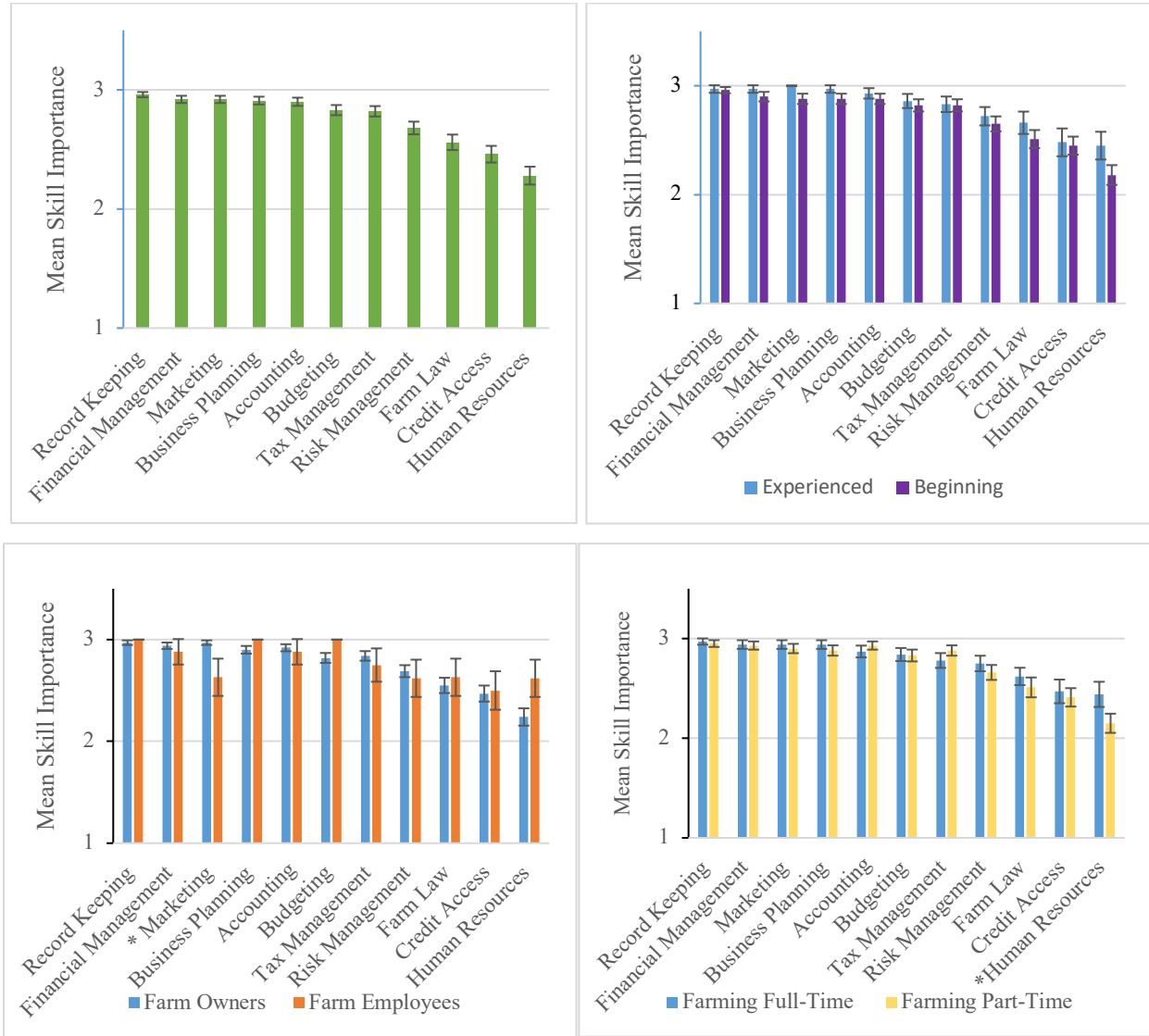


Figure 2.4: Mean ranks of business skill importance with standard error bars from farmers that participated in survey and focus groups to determine business training needs. (A) shows the overall combined survey rankings, (B) shows ranking between beginning and experienced farmers, (C) shows rankings between farm owners and farm employees and (D) shows rankings between full-time and part-time workers. Skills with an asterisk (*) were statistically significant ($\alpha = 0.05$). Standard error calculated as $(\frac{\sigma}{\sqrt{n}})$.

Focus group respondents answered the same skills importance question as the electronic survey. They answered similarly to the overall survey participants in that all skills were ranked as important with the exception of credit access being neutral as seen in Figure 2.5. There were no statistically significant differences in responses for skill importance among the different

groups of farmers in the focus groups. The “Other” skills responses given were all ranked as important (3.0) and they included: farm taxes, product development, crop insurance and micro/macroeconomics.

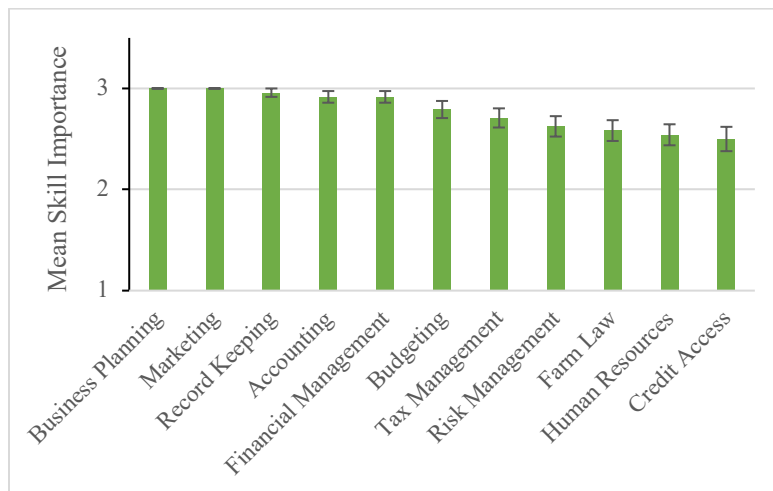


Figure 2.5: Means of business skill importance with standard error bars from farmers that participated in focus groups to determine business training needs. Standard error calculated as $(\frac{\sigma}{\sqrt{n}})$.

Survey Results: Farm Business Skill Resources Available Question

Survey respondents ranked their satisfaction with resources available on the various business skills. A satisfied ranking is assigned a 3, neutral is a 2 and unsatisfied is a 1. Unlike the business skill rankings, the level of satisfaction of resources was much more varied. All resources had a mean within neutral limits; however, the percent of responses was divided among satisfied, neutral and unsatisfied more unevenly as seen in Table 2.7. The “Other” category had a mean of 1.18 and 83% of responses indicated unsatisfied. Marketing was the only skill split almost evenly among satisfied, neutral and unsatisfied but all other skills had the majority of responses being neutral or unsatisfied.

Table 2.6: Descriptive statistics of perceived resource satisfaction among former, beginning, and experienced farmers that participated in survey and focus groups to determine business training needs.

How satisfied are you with resources on this topic?	n ^y	$\bar{x}$ ^x	SD ^w	Percent of Responses ^z		
				Satisfied %	Neutral %	Unsatisfied %
Business Planning	77	2.03	0.71	26%	51%	23%
Record Keeping	77	2.01	0.77	30%	42%	29%
Marketing	77	2.00	0.81	32%	35%	32%
Budgeting	74	1.91	0.64	16%	58%	26%
Accounting	77	1.87	0.69	18%	51%	31%
Financial Management	77	1.82	0.70	17%	48%	35%
Risk Management	77	1.74	0.57	6%	61%	32%
Credit Access	77	1.74	0.64	10%	53%	36%
Human Resources	77	1.69	0.57	5%	58%	36%
Farm Law	77	1.62	0.69	12%	39%	49%
Tax Management	76	1.59	0.68	11%	38%	51%

^zPercent of respondents score distributed across the three categories: Important, Neutral and Unimportant, ^yNumber of all respondents in focus groups and survey who took the completed the question on perceived skill importance, ^xMean score for perceived skill importance based on all survey and focus group responses (1 = Unimportant, 2 = Neutral, 3 = Important), ^wStandard deviation of mean scores for perceived skill importance based on all survey and focus group responses

Rankings were statistically compared between different types of farming groups as seen in Figure 2.6. When the Mann–Whitney Test was performed among beginning versus experienced farmers, median resource satisfaction for accounting, financial management, tax management, farm law and human resources were statistically significant. Median resource satisfaction for accounting was statistically significantly different at $U = 491.5$, $z = -2.354$, $p = 0.019$. Experienced farmers had a higher mean rank ($\bar{x} = 2.10$) than beginning farmers ($\bar{x} = 1.73$) and median resource satisfaction for financial management was statistically significantly different at $U = 478.5$, $z = -2.499$, $p = 0.012$. Experienced farmers had a higher mean rank ($\bar{x} = 2.07$) than beginning farmers ($\bar{x} = 1.67$) and median resource satisfaction for tax management was statistically significantly different at $U = 393$, $z = -3.431$, $p = 0.001$. Experienced farmers had a higher mean rank ($\bar{x} = 1.93$) than beginning farmers ($\bar{x} = 1.38$) and median resource satisfaction for farm law was statistically significantly different at $U = 479$, $z = -2.52$, $p = 0.012$. Experienced farmers had a higher mean rank ($\bar{x} = 1.9$) than beginning farmers ($\bar{x} = 1.46$) and

median resource satisfaction for human resources was statistically significantly different at $U = 521$, $z = -2.121$, $p = 0.034$. Experienced farmers had a lower mean rank ($\bar{x} = 1.52$) than beginning farmers ($\bar{x} = 1.79$). There were no statistically significant differences among the means of farm owners and employees.

When the Mann–Whitney Test was performed among full-time versus part-time farmers, median resource satisfaction for tax management was the only resource that was statistically significant, $U = 445$, $z = -2.25$, $p = 0.024$, using an exact sampling distribution for U (Dineen & Blakesley, 1973). Full-time farmers had a higher mean rank ($\bar{x} = 1.81$) for tax management resource satisfaction than part-time farmers ($\bar{x} = 1.45$).

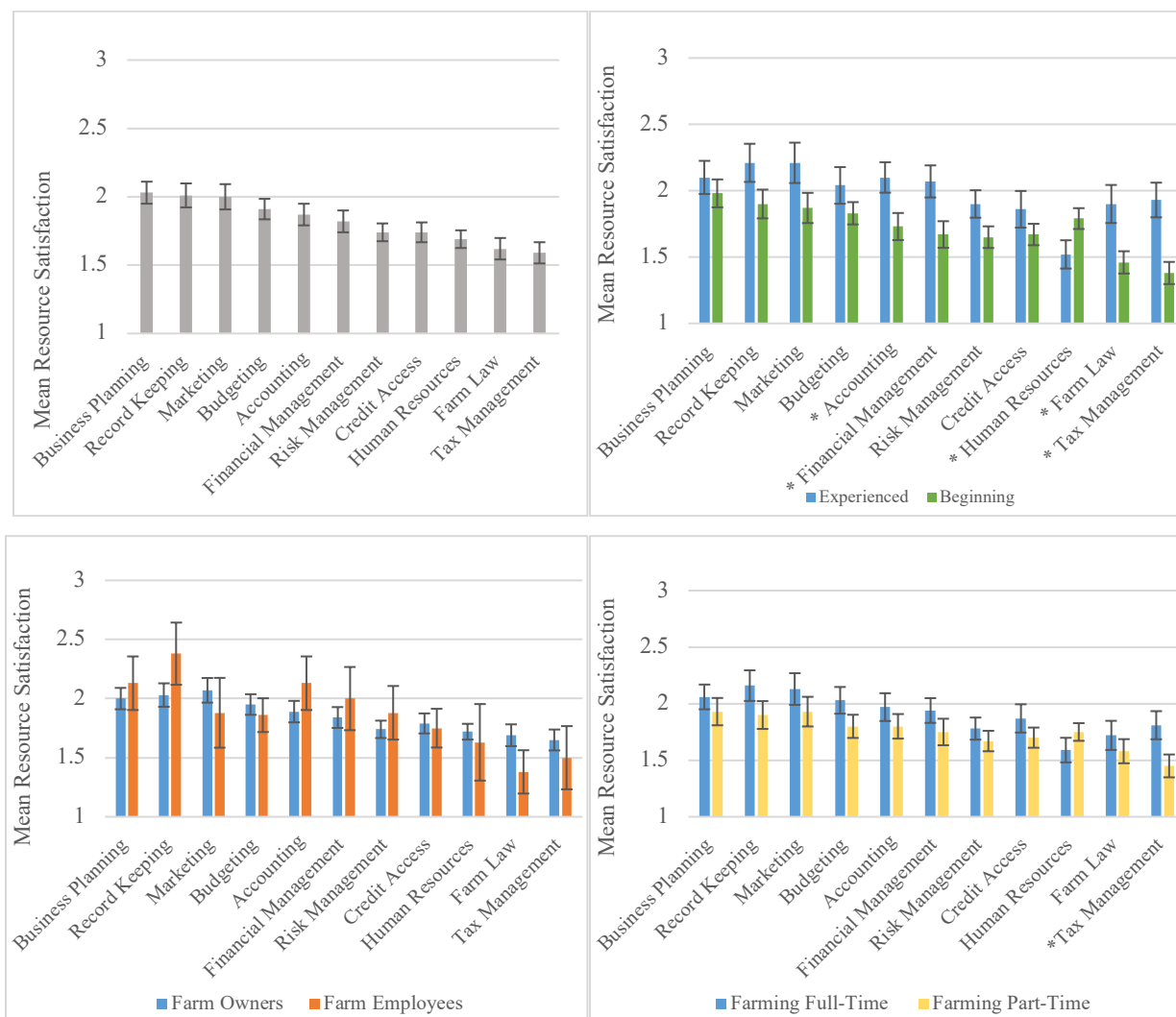


Figure 2.6: Mean ranks of business skill resource satisfaction with standard error bars from farmers that participated in survey and focus groups to determine business training needs. (A) shows the overall combined survey rankings, (B) shows ranking between beginning and experienced farmers, (C) shows rankings between farm owners and farm

employees and (D) shows rankings between full-time and part-time workers. Skills with an asterisk (*) were statistically significant. Standard error calculated as $(\frac{\sigma}{\sqrt{n}})$.

Focus group respondents answered similarly with all resources having a mean within neutral limits as seen in Figure 2.7. The “Other” category had a mean of 1 and 100% of responses indicated unsatisfied. There were no significant differences between the different types of farmers in the focus groups.

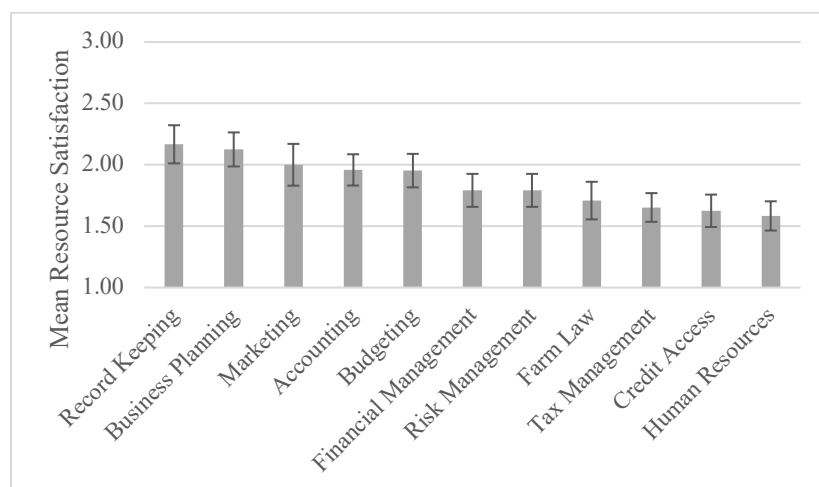


Figure 2.7: Mean ranks of business skill resource satisfaction with standard error bars from farmers that participated in focus groups to determine business training needs. Standard error calculated as $(\frac{\sigma}{\sqrt{n}})$.

Focus Groups: Business Skill Needs Identified

For the focus group (qualitative) portion of the study, the frequency of recurring themes were compared among types of farmers in the focus groups. Unlike the survey, participants were not given a list of skills to choose from and skills identified originated from the farmer’s own thoughts and ideas. All skills that were in the survey were also brought up in the focus groups but there were some that were categorized differently. In an attempt to simplify the number of themes identified, certain themes were grouped together because they were often cited in conjunction with another skill. In the focus groups, human resources was grouped with labor management, risk management was grouped with business management and credit access was synonymous with access to capital.

Of the 24 participants participating in the focus groups portion of, 13 were experienced farmers, 6 were beginning and 5 were “former farmers” (FF) which included individuals who received formal farm training and are no longer farming or not farming as a business. There were

nineteen recurring themes for the most important skills to a specialty crop operation which can be seen below in Table 2.5. Among the top five most frequently cited skills that are most important to a specialty crop farm business were marketing, business management, labor management, budgeting or finances and business planning. The top 10 identified skills overall were the exact same for the experienced farmer group but for beginning farmers, only marketing was similarly ranked as a key skill at number 1 with the remaining theme rankings differing slightly. As part of the qualitative analysis, a third group was also examined which was former farmers. This was the smallest group, and their top skill identified was recordkeeping. Another top skill of former farmers included land management which was not in either of the other groups' top ten skill needs.

Table 2.7: Frequency of perceived important business skills themes mentioned among former, beginning, and experienced farmers that participated in focus groups to determine business training needs.

Theme	Emergent Themes	Types of Farmers (number of mentions)					
		Total Mentions ^z	Overall Rank	Experienced ^y	Beginning ^x	Former ^w	χ^2 ^v
Skills	Marketing	89	1	16%	17%	11%	0.011 _a , 0.021 _b
	Business			15%	9%	10%	
	Management	71	2				0.019 _c
	Labor Management	66	3	14%	8%	7%	0.007 _c
	Budgeting, Finances	61	4	9%	13%	11%	n.s.
	Business Planning	42	5	6%	9%	10%	n.s.
	Recordkeeping	40	6	5%	8%	12%	n.s.
	Production Planning	30	7	5%	7%	4%	n.s.
	Sales	26	8	5%	4%	5%	n.s.
	Communication			4%	2%	10%	
	Skills	24	9				n.s.
	Accounting	17	10	4%	2%	1%	n.s.
	Access to Capital	15	11	2%	2%	5%	n.s.
	Legal & Tax			3%	2%	2%	
	Knowledge	14	13				n.s.
	Profitability	14	12	3%	2%	1%	n.s.
	Balancing Values	13	14	2%	2%	4%	n.s.
	Work Ethic	12	15	2%	4%	0%	n.s.
	Land Management	11	17	2%	1%	5%	n.s.
	Outsource			2%	2%	0%	
	Accounting	11	16				n.s.
	Land Access	9	18	1%	2%	2%	n.s.
	Problem Solving	7	19	1%	1%	2%	n.s.
	Total	572	-	100%	100%	100%	-

^zTotal number of mentions per theme for all focus group participants, ^yExperienced farmer defined as any producer with 10 years or more of experience, ^xBeginning Farmer is defined as any producer with less than 10 years of experience, ^wFormer Farmer is defined as a farmer who went through a formal farm training program and is either no longer farming or not farming as a business, ^va chi-square goodness-of-fit test with unequal proportions was conducted to determine whether the frequency of identified skills differed among the various types of farmers involved in the study, n.s. = no significance at $p < 0.05$, respectively, a = p-value among beginning farmers and former farmers, b = p-value among experienced and beginning farmers, c = p-value among experienced farmers and former farmers

A chi-square goodness-of-fit test with unequal proportions was conducted to determine whether the frequency of identified skills differed among the various types of farmers involved in the study. Only skills where there was an expected frequency of at least five in each group of the categorical variable were analyzed as this is a general rule of thumb for chi-square tests. When all three groups of farmers were compared, marketing, business management and labor management were statistically significant (Marketing: $\chi^2(2) = 6.833, p = .033$, minimum expected frequency = 18.7; Business Management: $\chi^2(2) = 6.959, p = .031$, minimum expected frequency = 14.9; Labor Management: $\chi^2(2) = 8.821, p = .012$, minimum expected frequency = 13.9).

The chi-square goodness-of-fit test was repeated among two groups which indicated that the frequency of marketing mentioned as a skill was not similarly distributed among beginning farmers and former farmers ($\chi^2(2) = 6.391, p = .011$, minimum expected frequency = 16.7) or between experienced farmers and former farmers ($\chi^2(2) = 5.309, p = .021$, minimum expected frequency = 17.1). Many farmers stated the importance of being able to sell your product as stated by this experienced farmer, “Sales and marketing are a number one item for us. I never really thought of them as business skills, but of course they are. If you can't sell what you produce, then the business is not going to last!”

The test also indicated that the frequency of business management mentioned as a skill was not similarly distributed among experienced farmers and former farmers ($\chi^2(2) = 5.514, p = .019$, minimum expected frequency = 16.0). Themes of problem solving, decision making, and efficiency were expressed among experienced farmers. One experienced farmer explained how critical decision making was to business management, “Decisions pertaining to the daily operations of the business, marketing, sourcing or expansion are a responsibility not to be taken lightly. Make informed decisions based on data, experience and research- not hopes, dreams and knee jerk reactions...reason needs to be applied as you assess your own capabilities and the amount of time you can afford to allocate.”

Lastly, it indicated that the frequency of labor management mentioned as a skill was not similarly distributed among experienced farmers and former farmers ($\chi^2(2) = 7.314, p = .007$, minimum expected frequency = 14.8). Experienced farmers cited labor management as an important skill 47 times which was 8.8 more times than expected. One experienced farmer discussed how they use this skill on their operation, “I think the idea of labor, how to go about

hiring employees, how to retain employees, how to determine how much to pay your employee ... This is something that we've been looking at for a few years, and we've finally come up with an end-of-the-year equation that we can do to determine if we were paying our employees accurately through season.” There was also extensive discussion among these farmers on utilizing systems to manage employees and daily tasks as one farmer defines, “Systems: ability to create systems that guide the functions of your farm, this includes communicating systems to employees and responding to feedback and changing the systems as needed”.

Focus Group Themes: Obstacles

During the focus groups, participants were asked to identify and describe their biggest obstacles to profitability as specialty crop growers. Participants were not given a list of obstacles to choose from and a total of 18 themes were created based on discussion responses as seen in Table 2.8. The most cited obstacles were labor and markets/sales which were mentioned a total of 40% of the time during the discussion. Other obstacles included access to capital, lack of knowledge, infrastructure, land, profitability, regulations and weather/climate change.

Table 2.8: Frequency of themes mentioned for obstacles to profitability among former, beginning, and experienced farmers that participated in focus groups to determine business training needs.

Theme	Emergent Themes	Types of Farmers (number of mentions)					
		Total ^z	Rank	Experienced ^y	Beginning ^x	Former ^w	X ² ^v
Obstacles	Labor	86	1	24%	17%	15%	n.s.
	Markets, Sales	86	2	22%	16%	20%	n.s.
	Access to Capital	46	3	9%	11%	14%	n.s.
	Lack of knowledge	32	4	5%	10%	9%	n.s.
	Infrastructure	29	5	4%	11%	9%	0.014 _a
	Land	28	6	4%	8%	8%	n.s.
	Profitability	28	7	7%	5%	8%	n.s.
	Regulations	21	8	8%	1%	1%	0.012 _a , 0.027 _b
	Weather, Climate Change	20	9	7%	2%	2%	n.s.
	Insufficient resources	10	10	2%	4%	2%	n.s.
	Taxes	10	11	2%	3%	3%	n.s.
	Taking on too much	8	12	2%	3%	1%	n.s.
	Insurance	6	13	2%	2%	0%	n.s.
	Theft	6	14	0%	5%	1%	n.s.
	Inability to adapt	4	15	0%	3%	0%	n.s.
	Stress	4	16	1%	0%	2%	n.s.
	Verbal Agreements	3	17	0%	0%	2%	n.s.
	Recordkeeping	2	18	0%	1%	1%	n.s.
	Total	429	-	100%	100%	100%	-
^z Total number of mentions per theme for all focus group participants, ^y Experienced farmer defined as any producer with 10 years or more of experience, ^x Beginning Farmer is defined as any producer with less than 10 years of experience, ^w Former Farmer is defined as a farmer who went through a formal farm training program and is either no longer farming or not farming as a business, ^v A chi-square goodness-of-fit test with unequal proportions was conducted to determine whether the frequency of identified skills differed among the various types of farmers involved in the study, n.s. = no significance at p<0.05, respectively, _a = p-value among beginning farmers and former farmers, _b = p-value among experienced and beginning farmers, _c = p-value among experienced farmers and former farmers							

Labor was one of the most cited obstacles across all types of farmers. Among beginning and former farmers, not having enough time to complete daily farming tasks was a prevalent obstacle. One former farmer described labor obstacles as, “Juggling running the farm with managing the administration of the farm is one of the biggest challenges. There are so many

tasks to DO that it can be easy to postpone sitting down to manage the admin...yet, if you don't manage the admin side you can easily decrease or even threaten your profitability...having the discipline to stop while there is still light out to manage the admin is always tough. The flip side is having the energy to keep going at night to get it done after daylight is done can burn the candle at both ends and wasn't sustainable for me.” Experienced farmers cited different forms of labor obstacles as one explained, “One of the big challenges for us is to be able to retain that quality employee from season to season. We don't employ anyone year-round. For about eight months we have employees that have a regular schedule...But the challenge arises when you find that quality person is to be able to give them enough hours to make sure they'll stay with you, bring them back.”

Some of the biggest challenges cited surround the obstacle of markets and sales included fluctuating markets, retaining and surveying customers, balancing pricing and volume of sales with different buyers (direct vs. wholesale) and using social media or online platforms to market. One experienced farmer gave their viewpoint on why beginning farmers may have difficulty with this, “One thing I see in younger starting individuals is that they see a particular crop as being very profitable and plant a lot. Then come harvest time they find out that their outlets for said product is very limiting in demand. Nothing worse than raising a good crop and not being able to find a home for it.” Among experienced farmers, finding the most profitable market was a challenge as one stated, “I would say on our end, some of the risks in terms of wanting to grow our farm more are access to strong markets for products. In particular, I especially think of the organic crops we grow. I think about larger scale wholesale [markets] around here. There's just not a big market for it.” Another theme was finding the right market and finding customers as one beginning farmer stated, “So I think I would say the biggest thing is that it can be a challenge to identify your ideal customer base and take the time to establish it. People expect transparency from farmers now and establishing that image and trust takes effort away from food production.”

Access to capital was the third most cited obstacle and was commonly expressed among both experienced and beginning farmers. One experienced farmer talked about their experience with the need to take out loans, “I leveraged our assets quite heavily to rapidly expand our farm during that same time. With equipment, land, and operating loans open, one thing that ate up our cash vs profit (although was financially planned for) was loan payments and interest expense. It can be something that is easily looked past when working on capital budgets, especially when

market rates on operating notes change regularly.” A beginning farmer expressed similar challenges, “I also think that there is a gap between profitability as a small-scale farmer and that of a mid-size farmer for vegetable production. Finding efficient ways and techniques to scale up without having to over-extend yourself with investments in equipment/personnel/inputs/post-harvest processing and handling/etc. is tough when trying to increase acreage or add a new market or distribution channel.”

A chi-square goodness-of-fit test with unequal proportions was conducted to determine whether the frequency of mentioned obstacles differed among the various types of farmers recruited to the study. Of the 24 participants recruited to the study, 13 were experienced farmers, 6 were beginning and 5 were former farmers. A chi-square goodness-of-fit test was conducted to determine whether the frequency of mentioned obstacles differed among the various types of farmers recruited to the study. Only resources where there was an expected frequency of at least 5 in each group of the categorical variable were analyzed. When all three groups of farmers were compared, only the infrastructure theme was statistically significant ($\chi^2(2) = 6.544$, $p = .038$, minimum expected frequency = 6.1) as being different between the groups.

The chi-square goodness-of-fit test was repeated among two groups which indicated that the frequency of regulations mentioned as an obstacle was not similarly distributed among experienced farmers and former farmers ($\chi^2(2) = 4.872$, $p = .027$, minimum expected frequency = 5.3) or between experienced farmers and beginning farmers ($\chi^2(2) = 6.242$, $p = .012$, minimum expected frequency = 6.1). Experienced farmers had 5.1 more observed counts than expected when compared to beginning farmers and when compared to former farmers, they had 4.3 more observed counts than expected. One experienced farmer summarized their frustration of regulations in this post, “As we grow and expand our operation, I find government regulation as an increasing obstacle. We are large enough that we are required to contribute to state unemployment, add in workman’s comp and our labor bill is higher than our smaller competitors. We are subject to more food safety regulations as we grow, which smaller growers are not. Lots of growing pains when one expands his operation. Increased liability protection is also needed. These are things that often get overlooked until you get to the size that trips the trigger so to speak.”

The chi-square goodness-of-fit test also indicated that the frequency of infrastructure mentioned as an obstacle was not similarly distributed among experienced farmers and beginning

farmers ($\chi^2(2) = 6.101$, $p = .014$, minimum expected frequency = 6.7. Experienced farmers had 5.3 less observed counts than expected and beginning farmers had 5.3 more. Beginning farmers often expressed frustration with acquiring infrastructure. As one beginning farmer pointed out, “Major obstacles related to business that make it difficult for farming to be profitable include the cost of land and equipment. I think it would be hard to expand your farm business through land acquisition if you didn't have another job with reliable income, though I have seen it done and am encouraged.”

Focus Group Themes: Desired Business Courses

In the focus groups, participants were asked to describe their most desired business courses. Participants were not given a list of courses to choose from and a total of 17 codes were created based on discussion responses as seen in Figure 2.8. The top desired courses composed of 54% of all themes mentioned and included financial planning, legal/farm law/taxes, hiring professionals and accounting. Unlike the other topics of discussion, there were not enough themes mentioned to run a statistical analysis among the different types of farming groups.

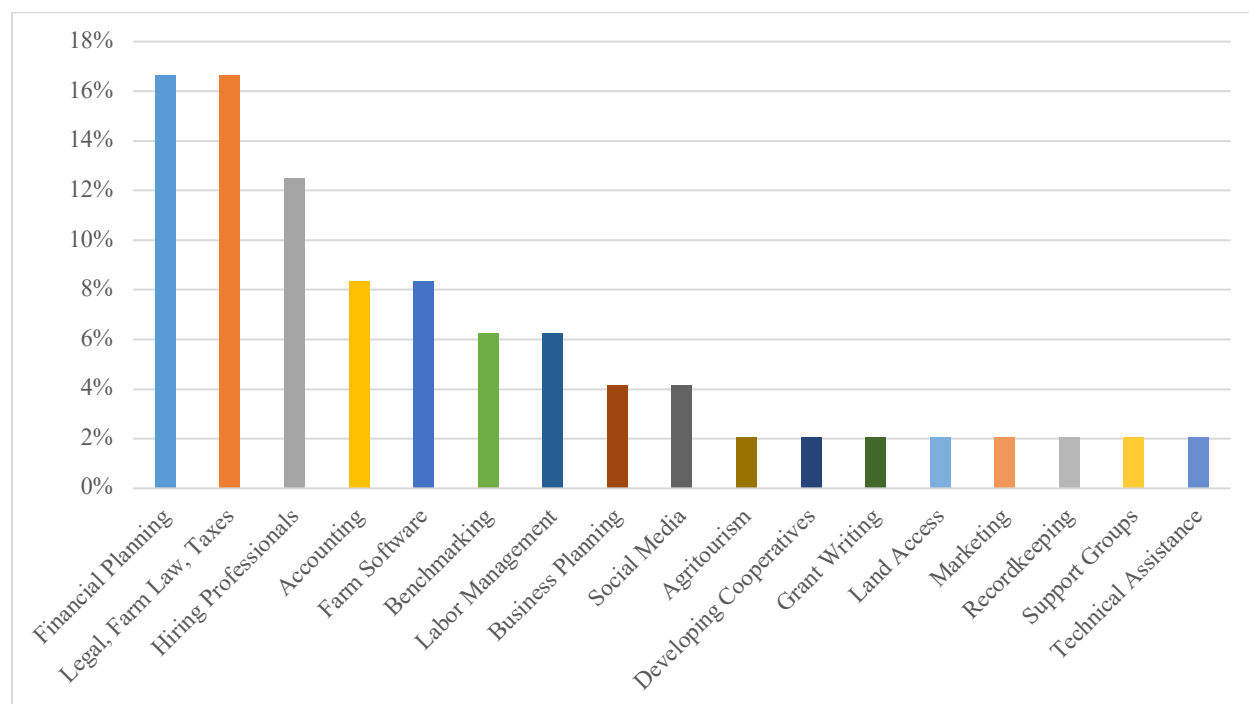


Figure 2.8: Percent of coding references of themes mentioned for desired courses among former, beginning, and experienced farmers that participated in focus groups to determine business training needs.

Focus Group Themes: Resources Utilized

For the qualitative analysis, focus group participants were asked to describe their top resources where they obtain information. Participants were not given a list of resources to choose from and themes were created based on discussion responses and were of their own opinions. Thirteen themes mentioned were analyzed to show frequencies of recurring themes as seen in Table 2.9. The most popular resource was peer support and networking which was brought up 23% of the time during the discussion among all farmers. Other resources that farmers looked to included formal training programs such as the Growing Growers program and JCCC's sustainable agriculture program, as well as conferences and events, the internet, mentorship and books.

Table 2.9: Frequency of themes for business resources mentioned among former, beginning, and experienced farmers that participated in focus groups to determine business training needs

Theme	Emergent Themes	Total ^z	Rank	Types of Farmers (number of mentions)			X ² ^w
				Experienced ^y	Beginning ^x	Former ^w	
Resources	Peer Support,						
	Networking	72	1	25%	24%	20%	0.02 _a
	Formal Training						0.01 _b ,
	Programs	48	2	10%	19%	32%	0.04 _c
	Conference, Event	35	3	15%	8%	10%	n.s.
	Internet	27	4	8%	10%	10%	n.s.
	Books	21	5	8%	7%	5%	n.s.
							0.049 _a ,
	Mentorship	20	6	5%	10%	5%	0.03 _b
	Extension	15	7	5%	5%	5%	n.s.
	Grower Groups	14	8	5%	5%	2%	n.s.
	Accounting Software	13	9	6%	1%	5%	n.s.
	Consultants,						
	Professionals	13	10	6%	3%	0%	n.s.
	Podcasts	9	11	3%	1%	7%	n.s.
	USDA	9	12	1%	7%	0%	n.s.
	Customer Feedback	2	13	1%	0%	0%	n.s.
	Total	238	-	100%	100%	100%	-
^z Total number of mentions per theme for all focus group participants, ^y Experienced farmer defined as any producer with 10 years or more of experience, ^x Beginning Farmer is defined as any producer with less than 10 years of experience, ^w Former Farmer is defined as a farmer who went through a formal farm training program and is either no longer farming or not farming as a business, ^v A chi-square goodness-of-fit test with unequal proportions was conducted to determine whether the frequency of identified skills differed among the various types of farmers involved in the study, n.s. = no significance at p<0.05, respectively, <i>a</i> = p-value among beginning farmers and former farmers, <i>b</i> = p-value among experienced and beginning farmers, <i>c</i> = p-value among experienced farmers and former farmers							

A chi-square goodness-of-fit test with unequal proportions was conducted to determine whether the frequency of mentioned resources differed among the various types of farmers recruited to the study. Only resources where there was an expected frequency of at least 5 in each group of the categorical variable were analyzed. When all three groups of farmers were compared, only the formal training programs was statistically significant ($\chi^2(2) = 8.726$, $p = .013$, minimum expected frequency = 10.1).

The chi-square goodness-of-fit test was repeated among two groups which indicated that the frequency of mentorship mentioned as a resource was not similarly distributed among beginning farmers and former farmers ($\chi^2(2) = 3.892$, $p = .049$, minimum expected frequency = 5.4) or between experienced farmers and beginning farmers ($\chi^2(2) = 4.590$, $p = .032$, minimum expected frequency = 5.8). In both cases, beginning farmers had observed counts that fit the expected counts better than the other group. Experienced farmers had 4.2 less in the observed counts than what was expected, and former farmers had 3.4 less in the observed counts than what was expected.

The test also indicated that the frequency of formal training programs mentioned as a resource was not similarly distributed among experienced farmers and former farmers ($\chi^2(2) = 4.073$, $p = .044$, minimum expected frequency = 8.1) or between experienced farmers and beginning farmers ($\chi^2(2) = 7.988$, $p = .005$, minimum expected frequency = 11.2). In both cases, experienced farmers had less observed counts than expected. As one beginning farmer stated, “My most useful business knowledge didn't come from the state or USDA sponsored programs or conventions but from farmers actually demonstrating their business skills.” This was echoed among other beginning farmers with statements like, “I am always more energized and motivated to follow through by my peers” and “Learning from my peers is the best way for me to learn and definitely the most enjoyable!” Unlike beginning farmers, experienced farmers commonly cited top sources of learning through other farmers, family and other career experience. One experienced farmer explained how they learned their skills, “I also had a career while farming and I learned from my employer. I was always curious and investigated why decisions were made and how it would affect the bottom line. I learned the importance of attention to detail.”

Lastly, it indicated that the frequency of peer support mentioned as a resource was not similarly distributed among beginning farmers and former farmers ($\chi^2(2) = 5.172$, $p = .023$, minimum expected frequency = 14.4). Former farmers had 6.4 less observed counts than what was expected. Beginning farmers often associated peer support with mentorship as one farmer stated, “I think that I usually ask other farmers that I know to tell me what they've done, or do they have good ideas that might help me answer my question? That's probably the first thing that I do, go back to my mentors and ask them.” Conversely, former farmers expressed notions of loneliness and isolation. One former farmer who was struggling to start and operate their own farm business stated, “the biggest obstacle, and almost overwhelming, is just putting the

There was heavy discussion that curriculum should incorporate real world applications so that the knowledge learned could be used directly into their own operations. One experienced farmer summarized this belief with “getting to work with real world examples (even if old data, being able to look at and review real financials and books from companies both big and small [names can be changed], be given real world problems (such as crop enterprise budgets or short/medium term capital budgets) to work through that relate to decisions the farm was making at that time (how to price lettuce, can we justify a vacuum seeder [does it pay for itself in labor savings], how do we extend our income season with season extension without blowing our labor budget, etc.”

Participant’s definitions were thematically coded for important subjects included in specialty crop business education curriculum. There were 20 emergent themes of core subjects in business education cited among the study participants as seen in Table 2.10. The top five themes made up almost 50% of all total themes which included finances and economics, accounting, business planning, marketing and legal knowledge. Many of the subjects cited were also topics in other themes such as skills and obstacles. Participants were asked to give their definition of business education once throughout the study and it was deemed that there was an insufficient number of themes to run any statistical analysis among the different types of farming groups.

Table 2.10: Emergent themes of the definition of business education mentioned among former, beginning, and experienced farmers that participated in focus groups to determine business training needs.

Theme	Emergent Themes	Total ^z
Business Education	Finances & Economics	13%
	Accounting	10%
	Business Planning	10%
	Marketing	9%
	Legal Knowledge	7%
	Labor Management	7%
	Sales	6%
	Profitability	5%
	Taxes	5%
	Inventory Management	4%
	Recordkeeping	4%
	Communications	4%
	Business Management	3%
	Balancing Values	2%
	Entrepreneurship	2%
	Risk Management	2%
	Production Planning	2%
	Software & Technology	2%
	Grant Writing	1%
	Total	100%
^z Percent of mentioned themes for total number of mentions by focus group participants		

Online Focus Groups

Participants were required to reply to a post once per day and comment on at least two other posts. There were no minimum word counts and the length of posts ranged throughout the discussion board with the 64% of initial posts being two paragraphs or more in length. During Days 2-5, participants were highly encouraged to interact with one another and 73% of posts had at least one reply with another farmer.

Video calls generated new discussion about business education. Questions asked by the moderator differed with every focus group as the main purpose was to further elaborate

discussion board content. Common topics brought up in the call included obstacles to profitability and primary resources for obtaining information about farm business practices.

Farmers were asked if they learned something new at the end of the study and although five participants did not answer this question, the majority of participants stated yes as seen in Figure 2.10. They were also asked if they planned on changing any aspects of their business after participating in the study. Many (46%) of participants stated that they did, and this included five beginning farmers and six experienced farmers. Common changes that farmers planned to implement included diversifying their markets, keeping more thorough records, better financial planning, utilizing peers/mentors more frequently and hiring an accountant.

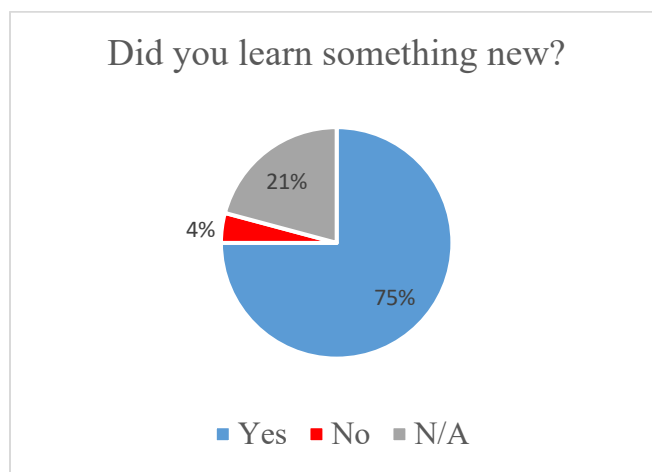


Figure 2.10: Responses to asynchronous discussion board question of learning something new by among former, beginning, and experienced farmers that participated in focus groups to determine business training needs

Discussion

The overall goal of this work was to develop a comprehensive needs assessment related to business education for beginning specialty crop growers. The primary motivation to utilize a virtual platform was due to the COVID-19 pandemic. The original study design was planned in 2019 and would have consisted of in-person focus groups and survey distribution both electronically and in-person during farming related events. Consequently, plans to conduct in-person focus groups were canceled and the project was adapted accordingly. This study required all recruited participants to have sufficient internet access, which is a limitation for interpreting the results. Farmers needed to be part of the email listserv, online membership organization lists and social media pages that were utilized for recruitment. Adequate internet bandwidth was especially important for focus group participants as they had to not only consistently participate in an online discussion board but also be capable of joining a 1.5-hour video conference call. Consequently, farmers who do not have internet access or severely limited internet connection could not participate. These factors contributed to nonresponse in survey data collection as a threat to internal validity. Lack of internet access for non-respondents and the limited sample size of respondents within the survey could have resulted in some bias towards the sample respondents and therefore data may not be generalizable to the population.

One method that is commonly used to address these threats to internal validity is to compare the sample's respondents to the total study population. However, the study's population includes Kansas and Missouri specialty crop farmers and there are very limited public datasets with demographic data on these farmers as USDA state level census data does not include producer characteristics within specialty crop production. Another common method is to compare early to late respondents (Israel 2009). This comparison of early and late respondents resulted in no significant differences which can provide validity to generalize results for the total target population. There was also a limitation in that there was no pilot study in the survey design among farmers to test the validity of instrumentation. There was an attempt to improve statistical conclusion by increasing the sample size through prolonged survey collection to improve statistical power.

It should be noted that qualitative data collection is not necessarily generalizable to a study's population because it doesn't answer questions by producing numeric data in a controlled environment. However, qualitative methods can produce rich descriptive text representative of

the bigger picture. In this study, the exploratory approach of grounded theory was used to reduce bias and explore how farmers perceived the importance of business skills, resources and obstacles without the influence of specific notions or theories to direct their discussion. There were also efforts to improve credibility by prolonging engagement to establish credibility, increase transferability by providing rich descriptions of participant perceptions, improve dependability with an inquiry audit with a researcher outside of agriculture and enhance confirmability through the triangulation of sources and comparing differing viewpoints in the focus groups.

Needs Assessment Based Upon Grower Feedback

The results of this study include skill and resource needs that were identified by small-scale specialty crop farmers related to business education. We also determined the perceived importance of skills and satisfaction of resources on those topics, business-related obstacles to profitability, needed courses and resources for business education and the perception of what business education should encompass. The data revealed distinct perceptions of these topics among various types of farmers which can provide educators with specific information on their target audience's resource needs.

In terms of obstacles, beginning farmers cited their top three as marketing/sales, labor and access to capital. Explanations of labor difficulties differed from experienced farmers in that beginning farmers struggled with having enough time to complete daily farming tasks. They also perceived infrastructure as a barrier more than expected when compared to experienced farmers revealing that they could use more resources on navigating the process of acquiring infrastructure.

When top resources for obtaining business education information were discussed, beginning farmers cited peer support/networking, formal training programs, use of the internet and mentorship. Citing of peer support and networking was significantly higher for beginning farmers than for former farmers. Also, mentioning of mentorship was more frequent than both former and experienced farmers suggesting mentorship is valued more by beginning farmers.

"Peer support and networking" was the top resource for both experienced and beginning farmers, showing the importance of connecting with colleagues as a sustainable and reliable source of information for farmers. Future educational curriculum could incorporate and facilitate connection with other farmers as part of their training program. This assertion correlates with

other research that despite the desire of mentors, apprenticeships are currently not equipped to connect apprentices to business management resources and opportunities that promote entry into a farming career (Fischer 2017). Similarly, a recent research study on the Growing Growers Kansas City program revealed the need for improved business curriculum by integrating learning environments such as classroom instruction with hands-on application. This study's data highlighted that a classroom learning environment for business management might not be enough experience for beginning farmers as this learning objective ranked 12th out of 14 for workshop score improvement indicating a strong need for improved workshop design (Gilmore 2019).

Educational curricula should also hold real-world application and integrate hands-on practice in filling out budgeting and finance- related sheets. This coincides with research that lecture- only learning environments for beginning farmers are a major weakness of educational workshops and hands-on activities should be incorporated whenever possible (Bailey 2014).

Careful consideration of the needs of beginning farmers can help to create the most effective and beneficial business education curricula. Through this form of education, farmers can gain the skills they need to possess better management and planning skills which can help increase financial performance (Mishra et al. 2009).

Recommendations for Educators

Survey results showed that there is substantial room for improvement on availability of resources related to business skills. Tax management had the lowest ranking and highest number of unsatisfied responses (51%) besides the "Other" category. Followed by tax management was farm law which had 49% unsatisfied responses and would be another important resource to improve upon. This supports recent research on Kansas City metro extension programs that found extension resources on financial information had the fewest number of extension educators involved in this kind of programming (Tanner et al. 2014). In the study, only 4 out of 15 educators discussed having programs that address farm- related finances.

Data also showed that there are statistically significant differences in resource perception among the types of farmers. One group in particular, beginning farmers, had a perceived resource satisfaction much lower than other farmers. They also had different views of resources, obstacles and business skills in the focus group research. Educators should be aware of their target audience in order to best serve their needs.

Focus group results showed that the most common sources for farmers to obtain business education were peer support and networking. Educators could provide more opportunities for farmers to connect with other farmers in order to better support their farming community.

When asked about desired courses, focus group results showed farmers had strong desires for financial planning, legal/ farm law/ taxes, hiring professionals, accounting and farm software. The first two skills align with the low rankings in resource satisfaction showing the value in creating curriculum on these topics.

Comparison of the Different Types of Farmers

While all skills in the importance survey question had mean rankings within the important category, there were notable differences in perception between different groups of farmers. The first comparison examined experienced and beginning farmers. For the purpose of this study, it was assumed that if a farmer was able to sustain their business operation for 10 years or more, then they were considered viable and therefore “successful”. Data from experienced farmers were compared to beginning farmers which is a group that is particularly financially vulnerable and can struggle to earn a sufficient profit (USDA 2013).

The second group of farmers compared was those who work full time versus those that work part time. Recent census data shows that in both Kansas and Missouri, roughly 40% of specialty crop producers’ primary occupation was off the farm and that the producer spent less than 50% of their worktime farming (USDA-NASS 2019). With so many farmers working off farm jobs, it was important to see if there would be a difference between farmers who worked full time versus those who didn’t.

The final group of farmers compared consisted of farm owners and non-owners. Recent census data shows that in both Kansas and Missouri, approximately 30% of specialty crop operations hire farm labor resulting in 2,647 farm workers in Kansas and 6,306 farm workers in Missouri (USDA-NASS 2019). Data from owners and non-owners were compared to see if there were differences in their business skills needs.

Focus group and survey data shared marketing, business planning, financial management, recordkeeping, budgeting and accounting in their top ten skills needed. This data coincides with recent focus group research that found young and beginning farmers identified agricultural business management skills, financial skills and legal knowledge as the most important educational needs (Bailey et al. 2014).

The results of this study also revealed specific perceptions of resources, obstacles and desired courses that are attributed with the business skills. Marketing and labor management stood out as two of the most frequently cited topics in the study in regard to skill importance and how they related to obstacles and resources. There were also several differences in perceptions among farmer groups on these skills.

Marketing was perceived as one of the most important skills in the study but there were notable differences in rankings between types of farmers. Survey data showed that farm owners had a significantly different ranking of perceived importance than farm employees. This data suggests that farm owners may utilize and prioritize marketing skills more than employees. One explanation could be that farm owners may take the responsibility of marketing duties while designating other farm-related tasks to employees. In order to support employees transitioning to owners, marketing resources should be available so that they can learn the full depth of this skill and how to implement it in their operation. There were no significant differences in resource satisfaction of marketing among different farmer groups and mean rankings were all within neutral limits.

Focus group data revealed that marketing was the most frequently cited key skill. There was a statistical difference in ranked marketing importance between beginning and former farmers as well as between experienced farmers and former farmers. In both comparisons, former farmers cited marketing less than what was expected, and the other groups cited more times than expected. This data suggests that experienced and beginning farmers place more importance and value on marketing as a skill than former farmers. Markets and sales were the top mentioned obstacle along with labor. There were no differences among the farmer groups in this coding suggesting that all farmers experience some degree of difficulty in markets and sales. Some of the biggest challenges included fluctuating markets, retaining and surveying customers, balancing pricing and volume of sales with different buyers (direct vs. wholesale) and using online platforms to market.

Survey data indicated human resources as the lowest ranked skill for importance at 2.28. Skill importance rankings of human resources were compared among various groups and median skill importance was significantly higher for full-time farmers than part-time farmers. This data suggests that full-time farmers may utilize human resources skills more frequently and have more awareness of the need for this skill than part-time farmers. Future curriculum for part-time

farmers transitioning to full-time should include this skill so that they can acquire the knowledge to use it on their own farm.

While there were no statistically significant differences in resource satisfaction between these groups, there were differences between experienced and beginning farmers. Both had similar rankings of importance, but experienced farmers had a statistically significant lower median ranking for resource satisfaction than beginning farmers (experienced $\bar{x} = 1.52$ vs. beginning $\bar{x} = 1.79$). One possible explanation could be that one group might utilize a skill more frequently, have more knowledge of a topic and require less resources. Experienced farmers may have more specialized needs on this topic than beginning farmers and appropriate resources should be developed to better serve this group of farmers.

There were some key differences between the survey and focus group perception of human resources. In the focus groups, whenever human resources was brought up in discussion, it was coded under the category of labor management. Research cites human resource policies and practices as defining aspects of the relationship between labor and management, and human resource policies can have an impact on the quality of labor management relations which can affect economic performance (Ichniowski 1992).

Labor management was emphasized repeatedly regarding its importance to running a successful operation by farmers and was the third most-cited skill. There were statistically significant differences between experienced farmers and former farmers as experienced farmers had a higher expected frequency. This data suggests a similar conclusion to survey data in that experienced farmers may utilize and prioritize labor management more than other groups. Discussion among experienced farmers included talk of hiring, retaining and paying employees as well as creating a management system to direct employees by organizing and delegating job roles.

Labor was the highest-ranked obstacle alongside marketing and sales. There were no significant differences between the farming groups which suggests this obstacle is universally present among all farmers. One of the biggest challenges involving labor was accounting for time into cost of production as many farmers said this was incredibly hard to do while paying either themselves or an employee an adequate wage.

Distinct descriptions of labor challenges emerged between farmer groups. Among beginning and former farmers, not having enough time to complete daily farming tasks was a

prevalent obstacle. Meanwhile, experienced farmers often cited retention of quality labor and the extensive time to train and manage employees. A recent research study on urban farmers in the Kansas City metro area found that 70% of respondents didn't hire farm labor and 55% didn't have any volunteers (Tanner et al. 2014). This data shows that many farmers don't hire farm labor and this could be causing the differences in perception between labor needs.

Due to the importance of labor management as a skill, the unsatisfaction of labor-related resources and prevalence of labor as an obstacle, educators should focus on creating more resources for farmers on this topic. Research on small-scale specialty crop producers found that labor demands and expenses can impede a farmer's ability to earn a sufficient net cash income (Hendrickson 2005). Educators should be aware of the different educational needs between different types of farmer in order to deliver the appropriate resources.

Experienced owners had consistently higher resource satisfaction than beginning farmers with the exception of human resources. Statistically significant differences in higher resource satisfaction included accounting, financial management, tax management and farm law. This data could suggest that experienced farmers have an easier time finding and navigating resources than those who haven't. Their experience and accumulated knowledge could also give them the tools they need to support their needs. Since beginning farmers lack this experience, educators should be aware of these topics so that they can provide their students with the resources they need.

A statistically significant difference of resource satisfaction between full-time and part-time farmers included tax management where full-time farmers had a higher mean rank than part-time farmers. Like experienced farmers, full-time farmers may have an easier time finding and navigating resources than those who haven't or have more experience with filing taxes. This data suggests that educators wanting to help farmers transition to full-time labor should provide more resources on tax management.

The top three topics mentioned made up for 51% of all topics mentioned as obstacles which included labor, market/sales and access to capital. Among these three obstacles, there were no statistically significant differences in coding frequency among different groups of farmers, suggesting all farmers face these challenges within their farming careers. Access to capital included themes of needing capital to buy property, mechanize, operate and expand. Experienced farmers often brought up the difficult decisions to take out loans with interest in

order to expand capital assets. Similarly, beginning farmers expressed difficulties with finding ways to acquire the capital needed to purchase infrastructure and equipment so that they could access new markets. This data suggests that beginning farmers could use more resources and education on navigating the process of acquiring infrastructure.

These findings coincide with recent research on the Growing Growers Kansas City program that stated the need for land acquisition. The study emphasized that educators should teach alternatives to purchasing land and explore the idea of landless agribusiness in order to reduce the land acquisition becoming a barrier to entry into the industry (Gilmore 2019).

There were statistically significant differences in infrastructure and regulation obstacles between experienced and beginning farmers. Beginning farmers perceived infrastructure as a barrier more than expected and this was evident in discussion themes of needing to purchase infrastructure and equipment in order to scale up and become profitable. Experienced farmers had significantly different frequencies of citing regulations as an obstacle, citing it more than both beginning farmers and former farmers. Government regulations like tax rates and food safety regulations were commonly brought up in discussion. This data suggest that experienced farmers could benefit from resources that helped them plan for regulations while expanding their operation and how to navigate them as efficiently as possible.

Top desired courses cited by farmers in the focus groups included financial planning and legal/farm law/taxes. In the survey, financial management, farm law and tax management had low resource satisfaction rankings that were under 2.0 (neutral) at 1.82, 1.62 and 1.59 respectively. All these skills were ranked as important by farmers in the survey showing the potential perceived value in the creation of resources on these topics. This data was similar to recent research on the programming needs for Montana young and beginning farmers which found a strong emphasis from farmers on financial management education (Bailey et al. 2014). This included how to understand loans, forming relationship with lenders and understanding financial analysis (Bailey et al. 2014).

Focus group data revealed themes of the most commonly cited resources used for business skills. The top three cited resources comprised 52% of all cited skills which included peer support/networking, formal training programs and conferences/events. There were statistical differences between farmer groups and the frequency of cited resources. Formal training programs were cited more frequently among beginning and former farmers than experienced

farmers. Beginning farmers may cite them more because farm training programs like Growing Growers and JCCC's Sustainable Agriculture Program were not in place when some of the experienced farmers were first starting. This data could also suggest that experienced farmers may not have acquired their skills through formal training programs. Experienced farmers often cited learning through other farmers, family and previous careers as top ways to acquire skills. Recent research showed that Kansas City metro farmers frequently cited preferred learning formats as self-taught and little to no reliance on outside organizations for needed information (Tanner et al. 2014).

Peer support and networking comprised of 25% of all cited resources and it was the top resource for both experienced and beginning farmers. There was a statistical difference in frequency of peer support mentions in the focus groups among beginning farmers and former farmers with beginning farmers having higher frequencies than expected and former farmers having lower frequencies. Beginning farmers expressed strong preference of learning from other farmers and emphasized how these experiences were positive and motivational. This data suggests that those first starting in farming could better thrive if they had a network of peers to rely on. Peer support could keep beginning farmers more satisfied and motivated to pursue their farming careers. Conversely, former farmers often cited feelings of loneliness which made farming daunting. Efforts to link beginning farmers with a network of peers could prevent dropout and help enable the transition to own a farm business. This was discussed in a previous study of Kansas City metro farmers that found growers primarily use self-driven independent sources for information, such as self-research, peers, family, and other farmers (Tanner et al. 2014). Despite this prevalence in resource preference, extension programming focus on digital media and formal workshops on urban agriculture topics.

Another statistical difference of resource mentions was in mentorship. Beginning farmers mentioned mentorship more frequently than both former farmers and experienced farmers. This data suggests mentorship is valued more by beginning farmers than other groups and that beginning farmers may associate communication with experienced farmers as a form of mentorship rather than just networking.

Both networking and mentorship were viewed as successful components of educational programs in a recent research study on Montana young and beginning farmers (Bailey et al. 2014). Farmers in this study had a strong desire to connect and learn from older, more

experienced producers to learn from them and had placed high importance on one-to-one mentorship (Bailey et al. 2014).

The large number of neutral responses in the survey business skill resource question could be interpreted through different ways. Some research shows that midpoint responses could truly mean feelings of neutrality or indifference, but they can also indicate “don’t know”, “undecided” or “never thought about it” (Raaijmakers et al. 2000). The majority of beginning farmers ranked resource satisfaction as neutral and this could be attributed to their lack of knowledge which was stated as one of their primary obstacles. For example, in the case of satisfaction of resources on human resources, experienced farmers had an unsatisfied ranking but beginning farmers had a neutral. As mentioned earlier, this could be due to beginning farmers not having to think about this skill and use it in their operation.

In order to create business education curricula that best serves small-scale specialty crop farmers, this research needed to ask how they perceived the definition of business education. Data from focus group discussions suggest that business education for specialty crop production should broadly cover many of the same topics as standard business education but have real world application. Similar to popular topics for desired courses, finances, farm law, legal knowledge and taxes were some of the top cited core subjects of business education. There was also considerable discussion surrounding business planning related to marketing strategies such as identifying target markets, competitors and niche products. These cited topics were similar to non-agricultural business education. Standard entrepreneurship educational curriculum consists of accounting, management, law, finance, marketing, decision making, economics, business planning and other key concepts (Hood and Young 1993; Wang et al. 2010).

Many participants emphasized that educators should teach skills in ways that are relevant to farming, including real life examples. Experienced farmers often stated the advantage of reviewing actual financial data and budgeting sheets from real farms as a great resource to learn from. A practical application that was repeatedly mentioned was the emphasis of practicing completing and filling out finance- related sheets, budgeting and farm records for beginning farmers so that they could have the knowledge to independently complete them. Experienced farmers brought up concerns of having financial resources related to specialty crops such as specialized enterprise crop budget sheets which are often only made by extension for commodity crops.

The belief that business education encompassed everything but the physical production and growing of crops was routinely expressed among all types of farmers. Discussion also revealed a strong consensus among farmers that curriculum should connect back to specialty crop operations and be relevant to their own farm business. Research shows that individuals must understand how the information directly impacts them and can help their situation in order to fully value the education (Knowles 1984). Farmer perception of business curriculum must be favorable and perceived as needed in order for them to fully utilize the educational resources.

Viability of Virtual Focus Groups for Agricultural Research

This study combined asynchronous and synchronous methods in conducting online focus groups amongst specialty crop growers. In-person focus groups for qualitative research are common among agriculture researchers, but online focus groups are rarely utilized. Technology improvements have provided many urban and rural farmers with better access to internet and a greater variety of online platforms to share information and connect with others. These tools have allowed researchers to conduct online focus groups more efficiently than ever. It should be noted that some farmers choose not to use the internet for philosophical reasons or simply do not have access to the internet so this can be a limitation to this type of research method.

Use of discussion boards for asynchronous focus group discussion provided an abundant number of in-depth responses collected from farmers which are ideal for qualitative research. While some farmers participated with the minimum number of requested posts with several sentences, 64% posted at least two paragraphs in their initial post. Many participants started new side discussions with their peers about business related subjects after their initial posts. Due to the online platform's notification feature, participants could go back to previous days discussions and reply to their peers whenever they wanted. Research shows that online focus group participants highly place a high value the convenience of participating at their own time and place (Zwaanswijk and Dulmen 2014). For researchers, there was also the convenience of having the discussion typed out and without any need for transcription.

Integration of a live video call through Zoom also allowed for real-time discussion of topics that were either not brought up in the discussion boards or needed elaboration to clarify viewpoints. These sessions generated new brainstorming of issues surrounding business education as well as a deeper discussion of topics that were talked about previously in the discussion boards. Having the calls at the end of the discussion boards also helped to create a

warmer and more open atmosphere. The farmers were already familiar with one another and the topic because they had been interacting previously on the discussion board platform.

A noteworthy trend that occurred was that often the farmers who had interacted minimally on the boards thrived in the synchronous video call. Research shows that synchronous online focus groups are the most like face-to-face focus groups and face to face conversation can help facilitate a more fluid discussion (Zwaanswijk and Dulmen 2014). Conversely, farmers who contributed greatly to discussion board posting, interacted minimally in the synchronous call. Recent research shows that this tendency to disclose more in discussion board is affected by the nature of anonymity helping participants to be less worried about their public perception and more inclined to express their opinions (Graffinga and Bosio 2006). This helps to provide context to explain why some of the farmers who posted frequently and contributed larger amounts of content on the boards participated minimally on the video calls. Knowing these differences in personality and conversational attributes prior to creating focus groups could allow researchers to have better predictions of the conversational group dynamic in order to better reveal perspectives, attitudes and behaviors among focus group participants (Stewart and Shamdasani 2017).

Several farmers stated that this was a new resource that they learned from and would like to participate in again. They enjoyed hearing perspectives from their peers and learned new information about business related skills and resources. One farmer talked about the responsibility of input, “It's nice to be in a group because there's a little bit of responsibility that you're putting into it. You get feedback. Sometimes, I need to have somebody hold my feet to the fire to actually get it done, so if in a small group like this and you're actually talking about real issues, you can get more done.”

There was also shared sentiment towards being able to work at their own pace, answer a different question every day and communicate back and forth with other farmers. One farmer spurred conversation about the convenience of online focus groups by stating, “I just have really appreciated the ability to participate in this at my own pace. A one- or two-day conference, you just barely get warmed up. But by expanding it out over a whole week with minimal investment per day, it gets you thinking about it for more than one or two days. I feel like this is what I needed at this time of the year, so I'm grateful.” Another farmer talked about convenience and connecting with others, “I've really enjoyed this focus group because I get a chance to listen and

hear other farmers' stories and experiences and I don't have to go anywhere, and I get to work at my own pace.”

With the multi-day format of discussion boards, convenience of participation, and amount of descriptive text, this qualitative research method has many benefits as a research method and could be more frequently used in future agricultural studies. Similarly, research shows that the integration of online focus group formats can produce the desirable characteristics of conversational exchange by creating a widespread thematic discussion and a more articulate group exchange (Graffinga and Bosio 2006).

Recommendations for Future Research

Future research should focus on a more defined exploration of certain business skills. The study was a broad exploration of business education curriculum as a whole with general perceptions on business skills and obstacles. With a more specific research goal like marketing, more defined curriculum could be developed from feedback. Additionally, obtaining a larger sample size of individuals who dropped out of farming for business- related reasons could provide more insight into the barriers that beginning farmers face so that they can be addressed and prevented. Finally, with the continued improvement of internet access among urban and rural farmers, online focus groups could be a powerful and useful tool in agricultural qualitative research. In times of restrictions on meetings and gatherings, being able to conduct this type of research online is advantageous. This convenience of participation coupled with the continued ability to connect with others make it a promising form of data collection.

Conclusion

This study provides new insight into the relationship between small-scale specialty crop farmers and business education, and to our knowledge, it is the first report on this topic. The financial vulnerability of specialty crop farmers is indisputable as 60% of Kansas producers and 57% of Missouri producers earn less than \$10,000 a year (KDA 2017; MU 2017). Additionally, the decline in the number of farms and farm workers are resulting in fewer small-scale farms than ever. If the lack of an educational resource prevents a farmer from dropping out of business, that represents the farmer's lost economic, social and environmental contribution to society. Because research shows that business education is positively related to profitability and that farmers with a higher education are more likely to be successful in their farming careers, the need for specialty crop business education is critical now more than ever. Accordingly, the business education needs of specialty crop farmers must be addressed (Castle et al., 1987).

This study aimed to define the most important business skills that successful and unsuccessful farmers view as necessary to be profitable. Our data suggests that there is great opportunity to develop curriculum and resources for Kansas and Missouri specialty crop producers. While many of the business skills that correlate with standard business education subjects were perceived with importance, specialty crop farmers emphasized a low satisfaction with business education- related resources. Data revealed that there are important differences in the needs of various types of farmers that educators should take into account when considering the development of business education programming. Educators should be aware of their target audience's perception of resource satisfaction, skills, obstacles and desired courses because beginning farmers need different types of support than experienced farmers. These data also provide insight into how certain farmer groups differ, identifying areas of business skill knowledge that can be strengthened in order to improve beginning farmer viability. The goals of developing curriculum from this data would be to identify skills and areas where beginning farmers need increased confidence and knowledge to get that boost and motivation to manage successful and viable farm businesses. The development of appropriate and useful business education resources could help farmers become more business literate and ultimately more financially viable and successful, securing the future of specialty crop farmers in Kansas and Missouri.

Chapter 3 - Supporting Wholesale Marketing for Beginning Specialty Crop Farmers

The following manual

Demystifying the Wholesale Market Manual

By

M. McManus, K. Nixon, and C. Rivard

was written to be published in the KSRE Growing Growers publication series.

Anecdotal evidence and data generated from this thesis (Ch. 2) indicates that marketing is among the top needs for this local small scale specialty crop producers. This manual was developed through a literature review of existing wholesale resources as well as interviews of local wholesale buyers and successful farmers growing for wholesale in order to help educate Kansas City region farmers on selling to these markets. Growers can use this manual as a resource to learn how sell to wholesale markets as a way to diversify their markets and eventually increase their profitability. Crop cheat sheets were developed in collaboration with the KC Food Hub.

The Demystifying the Wholesale Market Manual was brought to you by The Beginning Farmer Wholesale Project

The Beginning Farmer Wholesale Project has other resources in addition to this manual that can help producers. The mentor farmer program matches qualified farms with a seasoned grower from around the country where they can receive up to 25 hours of targeted consulting services throughout the year. The project can also provide one-on-one technical assistance where beginning farmers can request direct technical assistance from ag specialists with tailored support on the very topics discussed in this book. They even provide farmer-to-buyer matching where advisors offer consultation to beginning farmers and facilitate their connection with buyers.

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Manual Introduction

A recent feasibility study in Kansas City revealed that there is a large, unmet demand for local food. In Greater Kansas City, consumers spent almost \$2.5 billion on fruits and vegetables in 2013 and the estimated demand for local produce is almost \$177 million. In addition, survey data showed that 43% of specialty crop growers are very interested in growing for a food hub wholesale market and an additional 39% showed a moderate level of interest. Consumer demand for local food is growing and farmers can benefit from this by growing for wholesale. The purpose of this manual is to provide Midwest small or mid-scale specialty crop growers a basic overview of the steps they need to enter the Greater Kansas City wholesale market.

What is Wholesale?

Wholesale markets involve selling to produce distributors and retailers like grocery stores, co-op's, and food hubs. They also include selling to restaurants and institutions such as hospitals and schools. These types of buyers purchase much larger quantities of fruits and vegetables than a consumer at your typical market.

It is important to understand what each buyer requires of the grower. There are different packing requirements, standards for produce varieties and business relationships that are needed to cultivate a profitable partnership. Although choosing to sell in wholesale markets can bring certain challenges that come with growing an operation it can also bring opportunities to expand your sales and revenue streams.

Focus of this Manual

There are many important aspects of wholesale farming that growers should know such as marketing, pre-harvest preparation, harvesting, post-harvest handling, food safety and more. There are some great resources for farmers that already include all this information and will be referenced throughout this manual.

This manual will focus on the planning, marketing and buyer characteristics that are specific to the Midwest region. Included will also be interviews from actual wholesale buyers and producers near the Kansas City area who have become successful in their own operations as well as crop sheets and examples of sales sheets, invoices, buyer requirement sheets and more.



Notes on topics that we will *NOT* be covering:

Soil Management & Irrigation:

☞ When it comes to farming at any scale, it is crucial to build and maintain healthy soils in your fields. Conduct regular soil sampling to detect any deficiency or overabundance of plant nutrients, organic matter, pH, and other characteristics. Healthy soils can improve plant health and productivity.

☞ Irrigation is key to maintaining soil moisture during the plant's growth and this will affect the postharvest quality of the produce. Too little water can result in dehydrated and smaller sized produce at harvest. Conversely, too much water can lead to disease and other issues related to crop productivity and quality.



Figure 3.1: Drip irrigation is one of the most efficient and safe irrigation methods

Integrated Pest Management (IPM):

☞ Insects and pests can greatly affect crop production. Managing these crops through integrated pest management techniques can not only prevent damage from pests but also increase the health of your soil and biodiversity.

Harvest Practices:

☞ Good harvest practices include harvesting early in the day when field heat is lowest and avoiding muddy/wet conditions. Always use clean harvesting tools and containers and remove excess soil and debris from the harvested crops while in the field. It is also best to avoid direct sun exposure to harvested crops so moving them immediately to a shaded area until they can be put in a temperature-controlled storage environment.

☞ It may be helpful to learn the indications for ripeness in your crops. For example, tomatoes are best to harvest at first signs of red color (blushing). Other things to keep in mind include knowing how long your product can be stored, if your crop can mature after harvest or what your buyers' preference is.

Post-harvest Cooling:

☞ Cooling produce and removing field heat is one of the most important steps of postharvest handling. It will dramatically affect the product quality and shelf-life of produce. It should be

noted that harvesting frequently, early in the day or in cool temperatures and the prompt transfer of harvested crop to cooling facilities are crucial to optimum produce. Maintaining the cold chain from harvest to transaction is critical and there are many resources out there that go into this in great detail.



Figure 3.2: Walk in coolers are great for storing wholesale produce

Post-harvest Cleaning:

☞ When it comes to washing your produce, the methods that should be taken are entirely dependent on the type of crop grown. Some crops should be washed before cooling and storing but others such as root crops are best kept unwashed. It is important to have knowledge of what water temperatures and cleaning agents are optimum for both maintaining your produce quality as well as food safety.

FSMA & GAP Requirements:

☞ The Food Safety Modernization Act requires all farmers adhere to food safety rules set by the U.S. Food and Drug Administration (FDA). You may be exempt from the safety rule if you meet any of the following: produce that is rarely consumed raw, produce used for personal consumption, food grains, produce intended for commercial processing and farms that have an average annual value of produce sold during the previous three year period of \$25,000 or less. Depending on the buyer, additional certifications may be required such as Good Agricultural Practices (GAP). While these certifications can add additional costs to your budget, they can expand your buyer markets and ensure optimum food safety standards.

Recommended readings for more detailed information on these topics:

- FamilyFarmed's Wholesale Success Manual
- Cornell's Produce Safety Alliance Manual
- Wholesale Packing Resource Guide
- ATTRA Scaling Up Your Vegetable Farm for Regional Markets
- KSU Extension Food Safety Website
- KSU/MU Extension Produce Safety Website
- University of Missouri Extension
- FDA'S FSMA Website

Planning & Marketing

When deciding if wholesale is right for you, it is important to consider the pros and cons of growing for this type of market as there is a big difference between a wholesale buyer and direct market buyers (consumers). The average price for wholesale produce is typically lower than direct markets but this can be made up with higher volume. Instead of selling to many different consumers with small orders such as at a farmers' market, you will be selling to one buyer with a significantly larger order. It is important to maintain a professional relationship with the buyer and have clear expectations with fulfilling sales.

Pros and Cons of Selling Wholesale

Negatives	Benefits
✗ Selling wholesale can result in lower prices for the grower	✓ Growing demand for local food leaves much of the wholesale market untapped
✗ Buyers typically purchase a limited variety of crops	✓ More crop specialization to streamline the planning, harvesting and storage process
✗ Buyers often demand a consistent supply and quantity throughout the season	✓ Consistent and guaranteed orders
✗ Standards for crop quality and appearance can be higher and stricter than direct markets	✓ Large quantities of fruits or vegetables can be sold in one transaction
✗ High standards for postharvest handling can require additional infrastructure	✓ Significantly reduced time on marketing and distribution
✗ Buyers may require additional food safety certifications such as GAP or HACCP	✓ Buyers can assume some of the product quality risks
✗ Payment might not be immediate when orders are delivered	✓ Farm branding can be maintained with certain buyers and/or crop packaging
✗ Significant planning and communicating with buyers is required	✓ Sell your excess produce during peak production
✗ No face-to-face relationship with consumers	✓ Can still sell to other market outlets such as CSA's or farmers' markets
✗ Buyers may require specific tracking and traceability software	✓ Potential for reduced labor time and fuel costs associated with delivery
	✓ Can outsource marketing & distribution tasks to the wholesale buyers

Marketing Channels		
GENERAL CHARACTERISTICS		
FEATURES	WHOLESALE	DIRECT
Price per unit	LOW	HIGH
Price per transaction	HIGH	LOW
Volume	HIGH	LOW
Customer Interaction	LOW	HIGH
Postharvest Handling & Certifications	HIGH	LOW
Crop Diversity	LOW	HIGH

Figure 3.3: Marketing Channel General Characteristics

Planning Considerations

When growing at a larger scale, farmers need to adapt a different way of planning than selling for direct markets. There are many planning considerations to think about such as: scale, operation size, type of products, volume output (quality and consistency), labor, post-harvest handling and infrastructure, storage, packing, delivery, pricing and certifications.

☞ [Check out Production Planning 2021: Harvest Chart from the KC Food Hub in the Additional Resources section at the end of the manual.](#)

It's a good idea to try thinking of your production goals in case quantities rather than pounds. Think of your buyers and what their preferred units, materials and weights are. For reference, you can look at the crop cheat sheets in this manual to get a sense of what the KC Food Hub expects.

Once you have set your harvest goals and are planning your production for the year, here is a general format of planning:

1. Determine your harvest goal per week.
2. Determine your field spacing for the plant you are growing.
3. Next, estimate how much you are able to harvest per plant per week.
4. Divide your harvest goal by the estimated harvest per plant to determine the number of plants needed.
5. Determine the number of bed space based on the number of plants needed.
6. Sometimes it is best to factor in the percent of harvested crops that will actually meet buyer standards. Some fruit may not be large enough or uniform looking so to compensate for this, you would need to add more plants to your field to still reach your harvest goal.

Let's run through some examples if you are growing for the KC Food Hub:

Tomatoes



1. Let's say your harvest goal in the summer is five 20 lb cases of medium red slicing tomatoes per week (100 lbs of fruit total).
2. You know that you will be planting tomatoes in your fields at a spacing of 2 feet apart.
3. Let's estimate a harvest of 1 lb of marketable fruit per plant per week.
4. Now we know we'll need 100 plants that give 1 lb of fruit each to reach our harvest goal of 100 lbs of fruit.
5. Our 100 tomato plants will take up 200 linear feet of row.
6. Factor in that perhaps only 50-70% of the tomatoes you harvest are #1's and sized correctly (*see standard packing in Cheat Sheets). Knowing this, it would be best to plant anywhere from 42-100 **extra** plants which would take up 84-200 **extra** feet of row.

Cucumbers:



1. Your harvest goal in the summer is ten 40 lb crates of medium pickling cucumbers per week (400 lbs of fruit total).
2. You know that you will be planting cucumbers in your fields at a spacing of 3 feet apart.
3. Let's estimate a harvest of 5 lbs of marketable fruit per plant per week.
4. Now we know we'll need 80 plants that give 5 lb of fruit each to reach our harvest goal of 400 lbs of fruit.
5. Our 80 cucumber plants will take up 240 linear feet of row.
6. If only 50-70% of the cucumbers you harvest are #1's and sized correctly (*see standard packing in Cheat Sheets), it would be best to plant anywhere from 34-80 **extra** plants which would take up 102-240 **extra** feet of bed space.
7. Since cucumbers are typically harvested for 3-4 weeks, successional plantings can be used to cover growing season.

Sweetpotatoes:



1. Your harvest goal is twenty 50 lb crates of sweet potatoes (1000 lbs of sweet potatoes total).
2. You know that you will be planting sweet potatoes in your fields at a spacing of 1 foot apart.
3. Let's estimate a harvest of 1 lb of marketable sweet potatoes per plant.
4. Now we know we'll need 1000 plants that give 1 lb of roots each to reach our harvest goal of 1000 lbs.
5. Our 1000 plants will take up 1000 linear feet of row.
6. If only 50-70% of the sweet potatoes you harvest are #1's and sized correctly (*see standard packing in Cheat Sheets), it would be best to plant anywhere from 428-1000 **extra** plants which would take up 428-1000 **extra** feet of bed space.

Bell Peppers:



1. Your harvest goal in the summer is four 30 lb crates of green bell peppers per week (120 lbs of fruit total).
2. You know that you will be planting peppers in your fields at a spacing of 1.5 feet apart.
3. Let's estimate a harvest of 4 lbs of marketable fruit per plant per week.
4. Now we know we'll need 30 plants that give 4 lbs of fruit each to reach our harvest goal of 120 lbs of fruit.
5. Our 30 bell pepper plants will take up 45 linear feet of row.
6. If only 50-70% of the peppers you harvest are #1's and sized correctly (*see standard packing in Cheat Sheets), it would be best to plant anywhere from 12-30 **extra** plants which would take up 18-45 **extra** feet of bed space.

Determining Crop Varieties

It is important to consider the variety you will be growing so that you can plan your planting and harvest windows. It is also important to think about which varieties your buyer prefers, what has the best long-term storage characteristics, and which might also sell well in direct-to-consumer markets.

Top Crops Among USDA Surveyed Wholesalers:

- | | |
|------------------|-----------------|
| 1. Sweet Corn | 6. Bell Peppers |
| 2. Cucumbers | 7. Leafy Greens |
| 3. Beans | 8. Tomatoes |
| 4. Summer Squash | 9. Carrots |
| 5. Cabbage | 10. Asparagus |

Contacting Potential Buyers

One of the best ways to initiate conversation with potential buyers is come prepared with knowledge on the market. Get to know how other growers navigate the wholesale market like

which buyers pay the most, communicate the best, or set their expectations effectively. There are numerous local farmer member groups that can be utilized and the Beginning Farmer Wholesale Project has several mentor farmers who are available to help mentees in their free mentor program. Knowing the buyers around you can help you decide who could work best with your operation.

It is also important to prepare an availability sheet to send in advance. Give the buyers time to review the sheet and follow up to see if they are interested. Once a buyer is interested, make sure all details of the sale are understood and documented by both parties. This can include clarifying the product, price, delivery dates and more. Some buyers may even have a pre-established set of standard requirements for all growers.

Always be professional and maintain good communication. Keep buyers updated at all times on your farm's production and if you have any issues, let them know right away. Some of the most common issues buyers state they've had with local growers are inconsistent quality, delivery and availability. Maintaining a clear line of communication can help both parties have clear expectations on sales orders.

Pricing and Sales Contracts

Pricing is important and making sure you have a comprehensive sales contract is key. Farmers must have realistic expectations with wholesale buyers and should know that their products will not sell at the standard direct to consumer rate. You must first know your cost of production and then sell above this price point.

Communicate with buyers about the quality of your local product so that they can pay you a consistent and fair price. Compare local wholesale market prices of your crops by searching the USDA Agricultural Marketing Services which provides daily market price reports online.

It is best to get negotiated contracts or agreements in writing. Have detailed expectations to prevent miscommunications and lay the foundation for a business relationship. Some important aspects to have in the contract include names, dates, type and amounts of crops, packaging and delivery requirements, payment schedules, protocol in event of a lost crop and more.

Availability Sheet

Good communication starts with availability sheets. Depending on the buyer, they may prefer email, fax, texts or phone calls. It is important to establish which method is best and then maintain all records of communication. Your availability sheet can be one page or multiple and it must always be organized and easy to read. It can also be helpful to include packing specifications that is preferred by the buyer.

🔗 [View an example of a sales sheet](#) in the Additional Resources section at the end of the manual.

Table 3.1: Important details to include in availability sheet

ITEM	DESCRIPTION	Count	Pack	UNIT PRICE	Qty Available	Notes
1	Red Peppers	80 count	Per bushel	\$40.50	20 bushels	Carmen

Billing

After confirming the order with the buyer, it is best to send a copy of the invoice right before and after delivery. Include a packing slip with the order upon delivery to ensure a smooth transaction. Always keep copies for your own records and develop a regular invoicing schedule with the buyer.

🔗 [View an example of a sales invoice](#) in the Additional Resources section at the end of the manual.

Buyer Characteristics

It is important to note that different buyers have their own specific standards. This can even vary within the different subtypes of buyers, for example, each restaurant or chef can have vastly different expectations for their produce and deliveries. Generally, most buyers will have their own unique standards on the price, quality and availability of produce. Below are the general characteristics for the various types of wholesale buyers and this information can help farmers decide what is the best market for them.



Figure 3.5: Grocery stores may have stricter standards for produce than other buyers

Common Buyer Requirements

1. Specific grading of produce
 - a. USDA grades or the buyer's own standards
2. Cold chain infrastructure to maintain refrigerated storage of produce
 - a. Maintained from the field to the buyer
3. Food safety plan
4. Thorough record keeping
5. Special food safety certifications
 - a. Ex. Good Agricultural Practices (GAP)
6. Large and consistent quantities of produce
7. Signed contracts
8. Professional and consistent communication
 - a. Regular updates on inventory availability
 - b. Placing orders
 - c. Scheduling deliveries
 - d. Billing and invoicing



Figure 3.6: Consistent delivery and communication is key

Wholesale Buyers & Characteristics

	Description	Pros	Cons	KC Examples
Distributors	Distributors carry a wide variety of products and have expertise in managing inventory and supply chain logistics. They often sell their products to other wholesalers like grocers, retailers, institutions or even restaurants. They have the capacity to buy extremely large volumes of products that are distributed to their own buyers.	▪ Great way for farms to sell large quantities of produce at once ▪ Takes care of all the logistics of delivery, sales or contracts that a farmer would otherwise need to do themselves	▪ High expectations for quality and packing ▪ Runs on timely schedules ▪ Often lose brand name for generic packaging ▪ High expectations for traceability, food safety	• Liberty Produce • C&C Produce • KC Food Hub • Good Natured Family Farms
Retailers	Retailers sell food directly to consumers and they can include independent grocery stores, grocery chains, natural food stores and more. Each retailer has their own requirements for purchasing and sometimes they are not done at the local store level but may require approval from their regional management. Large grocery chains often have their own distributor that	▪ Offers farmers a way to move lots of volume to fewer buyers ▪ Ability to maintain brand name ▪ Farmer knows who is consuming their product	▪ Buyer specific expectations vary greatly ▪ Very selective with the produce they seek ▪ May require additional food safety certifications, management and traceability systems	• The Merc • Checkers • Hy-Vee

	they purchase produce from.			
Restaurants	While all restaurants seek fresh, high quality and local products that they can use in their menu, the volume in demand can vary greatly from one restaurant to another.	• Often willing to buy more unique and seasonal items • Often markets the farm to promote local ingredients	▪ Some chefs may only buy smaller quantities of produce at a time ▪ Strict harvest and post-harvest quality expectations	• Use KC Healthy Kids' Eat Local KC Map to find chefs: https://www.kchealthkids.org/eat-local-kc-map.html
Institutions & Corporate Cafeterias	Institutions encompass many different types of buyers that buy large volumes of food. They can include schools, hospitals, prisons or colleges. Similar to institutions, some corporations will purchase large volumes of food for their employee cafeterias.	• Unique consumer base such as children or healthcare workers • Ability to purchase large volumes of food	• May require special certifications or requirements (especially in public sector) • Often prefer to work with distributors	• KU Medical Center • Kansas City School District

Buyer Profiles

The following pages include interviews from a variety of wholesale buyers in the Kansas City region. Included are details like important requirements, processes to get involved, the most sought-after crops and general advice for growers. Keep in mind that the details given in each interview are unique to that buyer and may not be representative of other similar types of wholesale buyer. The written views of the interviewees may not reflect the opinion of the USDA-NIFA, Kansas State University, or any other listed partners

KC Food Hub

“ The KC Food Hub is a farmer-owned and farmer-run cooperative of twenty family and non-profit farms that aggregate produce, protein, and value-added goods to meet the demands of Kansas City’s middle market including schools, corporate cafeterias, restaurants, and grocery stores.

Our farmers grow on 400 acres, have 325 years of collective experience, and operate forty high tunnels and greenhouses for all-season production. We aggregate through our ‘sub hub’ system: two rural aggregation sites, or ‘sub hubs’ where rural farmers bring their goods halfway to town, and the sub hubs deliver to our central warehouse for distribution to customers.

THE KANSAS CITY FOOD HUB

Grower Member Process

Starting every year in January, the KC Food Hub opens consideration for new grower members. In order to become a member grower, all farmers must meet our standard guidelines and set up an on-site farm visit. A member of the KC Food Hub will come out and interview the grower and tour the farm. They will discuss growing practices, food production, storage, food safety plan and more. After these preliminary steps, the farmer will be voted into membership and begin an orientation for sales platform and operating procedure training.

The KC Food Hub holds at least three production planning meetings with existing member growers throughout the year to establish what everyone has available in order to match their buyers’ needs with the demand.

Guidelines

In addition to quality and food safety standards, the KC Food Hub has packing and prepping expectations. The food hub is a combination of wholesale and retail, so all incoming produce needs to be ready to sell by arriving cleaned, prepared and packaged for distribution. Once farmers take the product to the sub hub, the food hub takes care of the rest of the work including marketing, selling and distributing the product to the buyers. The food hub aggregates, packs, and delivers about 5 days a week.

Top Crops

- | | |
|------------------|--------------------|
| 1. Tomatoes | 4. Cucumbers |
| 2. Peppers | 5. Greens/Lettuces |
| 3. Summer Squash | |



Advice for Interested Growers:

Growers initially join the hub for sales, but they greatly appreciate the benefits of working together with other farmers and from partner connections in our regional food value chain.

☞ Check out the KC Food Hub’s Production Planning 2021: Harvest Chart in the appendices or visit www.thekcfoodhub.com

Chef Nick Goellner

“ I have been cooking professionally for 14 years. I attended the French culinary Institute in NYC in 2007 and then worked for chefs around the world including under French/ Sardinian Chef Alain Allegretti in NY, British Chef Mark Salter at The Robert Morris Inn in MD, the Rieger restaurant in KC, Chef Nancy Oakes in CA and Noma Restaurant in Copenhagen, Denmark. I opened **The Antler Room** with my business partner/wife soon after returning to Kansas City and we’ve been operating in the Hospital Hill neighborhood for over 4 years.

We use a lot of local produce at our restaurant, but we do not define ourselves as a “farm to table” or local/seasonally focused restaurant. Instead we try to use as much local produce as possible when it makes sense financially and creatively. A great example I like to give when people ask me to expand on this is citrus. We (and almost all restaurants in America) use an abundance of lemons, limes etc. in our cooking and behind our bar. We go through several cases of lemons a week whether it is in season or not, and they are, of course, never local. During the winter there is usually a stretch of 12-14 weeks every year where we are offered basically nothing from farmers at all, yet we are still open, and we must sell our customers something. The answer of course is to buy produce from large companies sourcing from California and Mexico.

Another thing we struggle with is the lack of diversity in offerings. It is hard for my 42-seat restaurant to support as many farmers as I would like to if everyone is offering basically the same crops at the same times. There are only so many pounds of kale and beets I can buy in a year, (even though I love them). Believe it or not I struggle mightily every year to find a consistent source of many vegetables I became accustomed



to buying exclusively from farmers when I was in CA or MD. If, for example, I had more farmers in the spring growing cardoons, artichokes, asparagus, English peas, etc. I could spread my money out easier, instead I am often given virtually identical offering lists from 10 farmers. I understand there are good reasons for the uniformity of offerings from farmer to farmer, but it nonetheless hampers our ability to spread our buying power around.

Information Needed from Growers

We need to know how/when we will be contacted each week with updated offering/price sheets. Texting and email are best so we can answer in a more methodical and uniform way. We make agreements with farmers to buy a certain amount of something if they grow/raise it on our suggestion.

General Expectations

Prewashed vegetables are not necessary but if they come in clean it is a bonus for us. We appreciate greens picked and packed in such a way that they do not wilt or bruise fast. If the produce is overpacked in too small containers or bags we end up with a higher rate of spoilage, product loss.

Most Desired Crops

Asparagus, White Asparagus, English peas, Cauliflower, Castelfranco radicchio, Artichokes, Cardoons, Little Gem lettuce, baby vegetables in general, celtuce, shelling beans

Advice for Interested Growers

Communication is key, continue to send offering lists to restaurants even if they have not purchased from you in a while. More often than not it is just because they have changed their menu. Inevitably they will be in need of something you are offering in the future. We tend to use different farmers more in different

seasons. We may buy more from farmer A in the spring and more from farmer B in the winter. Along the same lines, we may use one producer for chicken liver and one for whole chicken. We buy based on what particular product works for a particular dish. Having discussions up front about needs is very important.”

☞ For more information visit The Antler Room’s website at <https://www.theantlerroomkc.com>

The Merc Co+op

“ The Merc Co+op is a grocery store owned by our community. Our over 8,500 owners elect a board of directors made up of 9 owners, who decide the Ends or goals of our cooperative business, beyond sales and profit. These include providing access to healthy, local and organic food and products and creating a robust, sustainable local food economy.



We define local as within 200 miles of our stores, one in central Lawrence and one in downtown Kansas City, KS. Nearly 30% of our annual sales are local, and we are proud to partner with over 250 local vendors, and 19 produce growers in 2020.

Co-op Produce Vendors - Process

Each January, we welcome new vendors and reach out to our existing vendors to establish a forecast for ordering for the calendar year. Growers provide information for the coming season including:

- growing practices
- planned crops, including changes or additions from previous years.
- estimated harvest times, quantities, and prices
- delivery days
- promotional materials

The Produce Manager meets with every local producer to establish an agreement estimating the crops and quantities the co-op will purchase from that producer for the coming year. This estimate is based on previous years' sales and projections. Growers are provided guidelines for communicating inventory, delivery and packaging. Of course, it is rare that a season goes exactly as planned. To ensure we are meeting our customers' needs, we identify

primary and secondary sources for every crop.

Guidelines

1. **High Quality.** In a grocery setting, quality standards are at their highest. Quality control begins at the farm – beyond growing and harvesting to post-harvest and storage practices. We expect to provide produce with at least 3-5 days of shelf life. All products delivered to The Merc Co+op should be in optimal condition.
2. **Retail Ready.** Products should arrive ready to be placed on our shelves - clean, bagged, bunched, or tied, weighed and labeled when appropriate.
3. **Consistent Communication.** At the co-op, we value our relationships with all our producers. We understand the unexpected happens, so consistent, reliable communication about changes to what is available and when is critical.

Top Sellers: Tomatoes and Packaged Salads

What The Merc Co+op looks for locally:

- orchard crops - pears, stone fruit, apples
- nuts
- berries
- peas
- brassicas
- spinach - taste the difference
- herbs

Advice for Interested Growers:

As in any relationship, good communication, consistency, and reliability will set you apart. ”

☞ Check out The Merc Co+Op Producer Guidelines sheet in the Additional Resources section or visit <https://www.themerc.coop/>

JCCC Culinary Program

Chef Aaron Prater

“ I used to own and operate a restaurant and market concept in Kansas City and it was there that I developed close relationships with many local farmers and food producers. While I no longer own my restaurant, I work regularly with many of those same local farmers for our Local Foods Production class for Johnson County Community College’s Sustainable Agriculture Certificate. I will order specialty crops for the class and even whole animals to teach the butchery process.

Process for Potential Growers

The college has made it very easy for farmers to work with both our Sustainable Agriculture program and our Hospitality program. Farmers provide an invoice for requested products and if they have card processing capabilities, they receive payment immediately, if not, because the state of Kansas has fiscal reporting protocols, the invoice is submitted to our accounts payable department and a check is mailed to the farmer. As far as ordering goes however, it can be as simple as a conversation and an agreement to purchase goods.

Since we are a state and county funded institution, we have more requirements than I used to have as an independent business. We can’t pay sales tax, so Tax ID numbers and purveyor profiles are kept on file with contact and payment processing methods.

Contract Process

This is generally initiated by me, if I hear about a farm doing something interesting, or if I run across someone at a farmer’s market, I will try to start the process to set up



something more formal.

Unfortunately, I have two significant barriers; first, JCCC is a big institution, and most people don’t consider us an option or that it would require too much red tape and second, a lot of farmers don’t know that we have a culinary school that would love to buy from them. We just aren’t on people’s minds.

General Expectations

Fresh, local food is something we teach our students, so having access to locally produced goods is very important in both programs. We want to be considered the same as any independent restaurant in town. We don’t have the capacity to buy a tremendous amount from our department, but we are training the chefs who will be the next generation of buyers, so if you can put your best foot forward here, it can turn into sales at multiple outlets in the future.

Just like any other restaurant, we want the best quality possible. We’re currently looking to develop a value-added processing class so in the future we might be able to handle a large volume of “seconds”. Packaging is easy for us, the way you bring it to the farmer’s market, or another restaurant is the same way you would bring it to us. Farmers typically know their product the best and one thing we do in academia is leave it to the experts.

Communication

In a perfect world, a grower would contact me at the beginning of the fall and spring semesters (usually by email) and say here’s what I’m planning on doing for the year and tell when it would be ready and I would plan my labs and cooking accordingly to accommodate that. For example, if I have to make caponata, I would much rather prefer to get fresh basil, tomatoes, bell pepper and

eggplant from a local source. If I know when a farmer might have those available, I can schedule the Italian cuisine lab for that week.

Most Desired Crops

Everything, we teach basic cooking but also regional and international cuisine, so by necessity we need a tremendous amount of variety. It may only be for a week or two but if you grow, I can find a place for it.

Advice for interested growers

Don't hesitate to ask and be adventurous. I know it is because the market dictates that you grow certain products but if you experiment with a few esoteric things, we are a perfect venue to sell those things too. Part of our mission is exposure, the more I can show my students, the better.

☞ For more information on the JCCC Culinary Program, visit:
<https://www.jccc.edu/>

Liberty Fruit Co.



“ About Locally Grown Procurement Program -

Liberty Fruit supports Locally grown produce year-round. From Hot House grown Hydro Boston lettuce to seasonal crops grown in the KS, MO, AR, NE regions. Apples, Peaches, Summer Squash, Hard Squash, Melons of all kinds, Beans, Cabbage, Bell pepper, Corn, Tomatoes, Bush berries, Kale, Root veg.... to name a few.

Purpose - Supporting locally grown produce is a top priority for Liberty fruit. Every local grower has a story of their own and we love to be part of and help proliferate that story. Locally grown produce is fresher to market, decreases shipping costs and supports our community and local farmers. As a distributor we can move more volume than a local “farmers market” can move, helping to grow the production on local farms.

Process – We are SQF level 2 (Certified HACCP-Based Food Safety Plan) rated facility. All of our Grower partners must be Gap/food safety certified. We cannot carry any items that are not food safety certified. This is not just for our safety but for all involved from Grower to Consumer to know that the food they are purchasing has been farmed and distributed in a manner that meets all the proper guidelines for food safety.

We can set up contracts but usually buy on Market based pricing. We strive to have a personal relationship with our growers. Trips to farms and weekly calls to ensure we are ready to either pickup or receive the produce as it is ready to be harvested.

Expectations - Quality is always a top priority. We trade under the USDA Good Delivery Guidelines. Packaging is industry standards, Cardboard for bulk items in all different sizing depending on the product. Clam shell and Bags for certain items IE cherry tomatoes, mini sweet peppers... bulk Boxes IE bell pepper, squash, cabbage, Round tomatoes.

Most Desired Crops - Summer squash, green beans, bell pepper, tomatoes, cabbage, melons.... It really depends on the farm and what they can grow successfully.

Advice for Interested Growers - Growers should know what they want to grow, the volume they can handle and having the workforce to harvest and pack the product to the standards of the

USDA. ”

☞ For more information visit Liberty Fruit Co.'s website at: <https://libertyfruit.com/>



YEAR ROUND

8 oz	Arugula Microgreens
8 oz	Purple cabbage Microgreens
8 oz	Cilantro Microgreens
8 oz	Kale Microgreens
8 oz	Purple Mizuna Microgreens
8 oz	Mustard Microgreens
8 oz	Sugar Pea Shoots
8 oz	Golden Popcorn Shoots
8 oz	Micro Sunflower Shoots
8 oz	Micro Tokyo Bekana
8 oz	Micro Intensity Blend
10#	Hydro Bibb Lettuce
	Hydro Mix

HARVEST CALENDAR

PRODUCE	PACK/SIZE	MAY	JUN	JUL	AUG	SEP	OCT
LETTUCE GREEN LEAF	24CT						
LETTUCE RED LEAF	24CT						
LETTUCE ROMAINE	24CT						
CABBAGE NAPA	30#						
CHARD RAINBOW SWISS	10CT						
KALE GREEN	24CT						
CUCUMBER SLICING	24CT / BUSHEL						
SQUASH YELLOW	20#						
SQUASH ZUCCHINI	20#						
CUCUMBER KIRBY	20#						
SQUASH BLOSSOM	10CT CLAMHELL						
TOMATO FIELD	20# / 25#						
TOMATO HEIRLOOM	20# / 25#						
PEPPER JALAPENO	10# / BUSHEL						
MELON JADE	8IN 60CT / 8IN 45CT						
MELON ATHENA	8IN 60CT / 8IN 45CT / 8IN 60CT						
MELON BLACK SEEDLESS	8IN 60CT / 8IN 45CT						
MELON CANTALOUPE	8IN 75-80CT						
TOMATO YELLOW	25#						
WATERMELON SEEDED	8IN 35CT						
WATERMELON SEEDLESS	8IN 35CT / 8IN 45CT / 8IN 60CT						
WATERMELON YELLOW	8IN 45CT / 8IN 60 CT						
WATERMELON ORANGE	8IN 45CT / 8IN 60CT						
SQUASH ACCORN	BUSHEL / 8IN						
SQUASH BUTTERNUT	BUSHEL / 8IN						
SQUASH SPAGHETTI	BUSHEL / 8IN						
PUMPKIN PE	8IN ASSORTMENT 175-225						
PUMPKIN MINI	20#						
PUMPKIN WHITE	8IN 70CT						
PUMPKIN MINI WHITE	20#						
PUMPKIN ORNAMENTAL	8IN 600#						
PUMPKIN	8IN 20-25CT / 8IN 30-35CT / 8IN 40-45CT						

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Contact Your Sales Representative or Call Customer Service, (913) 281-5200 For Current Availability.



LOCAL PROGRAM



C&C Produce is a local family owned produce company founded in 1993 with an established customer base in the foodservice and retail sectors. C&C Produce has a division dedicated to locally grown produce and local food products. We work with more than 120 small family farms within a 300 mile radius of Kansas City, Missouri. Approximately 80% of our farm families are 120 miles or less from our distribution center in North Kansas City, Missouri. Due to our geographic footprint we are in a unique position to purchase and pick up directly from our growers utilizing our fleet of refrigerated tractor trailers and straight trucks that travel throughout the Midwest on a daily basis. Our Harvest To Market Program grows as customer and community awareness lends it support for healthy and sustainable food systems. Our Midwest growing season typically runs from mid May through the first week in November. We coordinate with our growers as well as our foodservice and retail customers to determine capacities of production prior to each growing season. This mitigates the risk of over or under production and enhances local farm economic stability. We are working with some innovative producers who are utilizing greenhouses, hoop houses, aquaculture, aeroponics and hydroponic growing methods which allows for year-round produce availability. Our growers are either USDA GAP Certified, Primus or Certified Organic. We assist our growers in navigating through the certification process by working closely with the USDA. We are involved and continue to follow developments related to The Food Safety Modernization Act in conjunction with the FDA. We work closely with The Departments of Agriculture in Missouri, Kansas, Oklahoma and Nebraska. We also have an on going process which keeps all growers continuously updated to the latest checks and balances or changes in food safety procedures. We truly appreciate your interest/commitment to produce grown on small family farms and look forward to the continued success of this important program

- Kansas and Missouri Potato Promotion
- Seed Selection - Heirloom Varieties
- Farmer's Markets
- Marketing - Labeling, Packaging and Signage. Library of components unique to each grower
- Local Processed Produce through our Cool Creations Division
- Promotion of Home Grown through our Re-pack Operations
- Improve capacities with current growers and cultivate new growers.
- Farm to School
- Farm to Table in Business & Industry
- Farm Tours
- Blackberry Hill Farms
- Implemented Food Safety Traceability System.
- Truckload quantities

GROWER GUIDELINES

- All products will be grown in accordance with G.A.P./G.H.P.
- GAP/ Harmonized GAP/ Primus/ USDA Certified Organic or trending
- Product must meet US Grade Standards for that particular commodity.
- Field heat removal through hydro cooling/refrigeration or early a.m. Harvest schedule
- Use of Heirloom Varieties of seeds
- Active Farm Plan & Farm Maps Sustainable farming practices including:
 - Crop rotation
 - Cover cropping
 - Harvest methods
 - Crop diversity
 - Integrated pest management
 - Minimal use of pesticides
 - Water management & conservation
 - Soil & water testing
- All boxes will clearly state content of box, farm name, location and date harvested for traceability
- Produce packed in new industry standard boxes
- Ability to conduct mock recall and actual recall
- Undergo Farm audits throughout the growing season
- Committed to farming and establishing long term grower relationships
- The ability to consistently grow high quality produce
- Staggered plantings throughout season to ensure available product
- Product will be inspected for quality/grading by C&C Produce Quality Assurance Team
- Product that fails to meet USDA Quality Standards will be rejected at the time of delivery
- All orders will be placed through a C&C Purchase Order identifying item, quantity and pricing

Chris Shea, Local Product Development • 816.830.3663

C & C Produce • 1100 Atlantic St, N. Kansas City, MO 64116 • 816.241.4425

Farm Fresh Produce — Our Business Is Making Your Business Better

Chef Ryan Brazeal

“ **Novel KC** has been open for 8 years in downtown Kansas City. One of our core tenets is to work with local producers to try to create a unique culinary environment in the Midwest and drive attention and tourism. Since we don't have a specific culinary identity outside of BBQ, we rely on the terroir by using regional produce to complement our novel American cuisine. We focus on cultivating relationships with farmers that actually work their own land and grow their own products, as opposed to a lot of "local farmers" that buy the majority of their foodstuffs at auctions and then just deliver it as a middleman.

I started reaching out to farmers before we opened by asking other chefs for contacts and going to the local farmers market every weekend to meet new people. As a smaller restaurant we have gradually paired down the number of people we work with to help support the guys that really adhere to our philosophy and mindset. Most all of the farmers have the same product available at the same limited window of time. That meant that originally, we were buying one bunch of radishes or carrots from six different people instead of six bunches from one farmer.

General Expectations

The trust issue is very important. If you take an order and say you are going to be here on a certain day, I plan my menu around that. Too often farmers just would not show up or when they did, they had sold my produce to someone before they got here. That was obviously frustrating. Most farmers call or email on Monday or Tuesday for a weekly Thursday delivery during the growing season.

Some farmers deliver their products in reusable plastic tubs that we would return the following week or give back on the spot. Some farmers deliver in used cardboard boxes



that we have to dispose of. Since we are not a retail store it is pretty wasteful to have things delivered in retail packaging. It is nice if the product is relatively free of dirt and bugs so

we can just put it away instead of having to process it on the spot. It is also great if they don't deliver after service starts.

Desired Crops

I like dealing with farmers that specialize in a few good vegetables instead of having a little bit of a lot of things. That way I can just say "I get all my tomatoes from the Crums and all my squash from Thane and all my spinach from Johnny". Fruit is also very desirable because not many farmers offer it for delivery.

The most desired crops are things that you can build a dish around like tomatoes, potatoes, eggplant. Things like radishes and cucumbers are great but I don't need more than a bunch or two at a time. Also, carrots and onions are a tough sell because they are just so much more expensive than commodity products. As a chef, I really like tender young baby vegetables like squash.

Advice for Interested Growers

A good farmer will stagger their planting from the outset so they will have consistent crops for a longer time. Like having good lettuce for 6 weeks instead of having a ton for 1 week or having baby lettuce for one week and then having it gradually get bigger and bigger as time goes on. That makes it much easier to have a consistent menu for as long as possible.



☞ For more information visit Novel KC's website at <https://www.novelkc.com/>

USD 231

“ **Gardner Edgerton USD 231** serves the communities of Gardner and Edgerton in Johnson County, Kansas. The district educates over 6,000 student and includes seven elementary schools, three middle schools and one high school.



USD 231 Nutrition Services embraces the Farm to School model in three key areas:

- * Seasonal menu planning (Garden Bar) to incorporate fresh produce
- * Harvest of the Month including highlighted menu items weekly (more info below)
- * Produce-focused deli salads available weekly at high school

Harvest of the Month

This is a monthly menu-focused offering for all students that highlights one fruit or vegetable group per month. These are selected to coincide with local growing seasons when possible so students can get a taste for the same items that may be on sale in their local grocery store. For example, we focus on melon in August (watermelon, cantaloupe, honeydew), root vegetables in September, and pears or apples in October. We prepare these items in a variety of ways to give our students the opportunity to try a familiar item in a new way (e.g., roasted pears) or something they may not have tried (butternut squash). This also allows us to procure local produce when possible by using this seasonal planning.

One of our first partners in this directive was the Kansas City Food Hub. Since the inception of this partnership in 2018, we have also worked to source local produce from our broadline distributor as well as a local farmer who lives within our district boundaries.

We follow the Farm to School guidelines as provided by the Kansas State Department of Education's Child Nutrition & Wellness team. This includes a grower's food safety checklist, procurement guidelines, and delivery options. Because we are a medium-sized district, we can purchase larger quantities of produce but have the flexibility to tailor to specific menus and locations.

Price is a key factor for schools as we don't have a huge budget to work within. Most of our produce needs to come in at \$0.25 - \$0.40 per serving and require a minimal amount of processing from our staff (chopping, slicing, etc.). We will pay more for specific local items on a special occasion but know that our budget is significantly less than a grocery store or restaurant.



”

Note to Growers

Please be aware that this information applies to a pre-COVID world and we've deviated from this significantly during the current school year. We are planning to return to this model for the 2021-2022 school year.

☞ For more information on USD 231 visit their website at www.usd231.com

Checkers Foods

“ Checkers Foods is a family owned, independent grocery store that has been in Lawrence for about 40 years. It has a reputation for having the best produce department in town. The department has been recognized as such many times by the “Best of Lawrence” program.



Connection with Growers

We have a long-standing practice of buying produce from local growers. One of the original growers to sell to us was Britt Gardens located there in Manhattan. Currently we buy from Juniper Hills Farm, South Baldwin Farms, Voight Farms, Two Sisters, Geiringer Orchards, Charles Taylor, Beisecker Farms, and Chlorofields, to name a few. We also buy from individual small growers who come to us with what they have for sale.

Getting Started

Growers should contact us about what they want to sell and at what price. In order to get set up to sell to us they need to fill out a W-9 form so that we have their tax ID information. Usually the grower will stay in touch with us on at least a weekly basis to tell us what they have available to sell and to arrange for delivery.

When they deliver to the store, we can help to offload trailers or trucks using our forklift. They leave their invoices which are sent to the accounting department to be paid in the billing cycle.

Expectations

We expect the growers to have first quality produce. If packaging is necessary, we prefer to have the grower do it. We do take items in bulk and then bag or band, and price and tag them ourselves in order to make them ready for the sales floor.

What We Buy

We are motivated to buy any local seasonal crop we can. We buy everything:

- Cucumbers
- Apples
- Asian vegetables such as nira grass, wintermelon, opo, sine qua, bittermelon and daikon
- Cantaloupes
- Pumpkins
- Watermelons
- Cider
- Corn
- Lettuce
- Tomatoes
- Zucchini
- Okra
- Yellow squash
- Peaches
- Fall squash

Advice for Interested Growers

Our advice for interested growers is to call us, tell us what they want to sell and let's negotiate a price and get to work! ” For more information visit Checkers Foods website at: <https://www.checkersfoods.com/>

Farmer Profiles

The following pages contain interviews from real farmers around the Kansas City region who have adopted wholesale markets into their farm sales. For more detailed information on these farmers and their production, check out the video series, which will be available to watch in 2021 through the Beginning Farmer Wholesale Project.

Juniper Hill Farms

Established in 2010, Juniper Hill Farms is located in Lawrence, Kansas and is owned by Scott Thellman.

In addition to producing hay, alfalfa and small grains, Juniper Hill Farms grows over 50 acres of produce both organically and conventionally.

They sell to a range of buyers including farmers markets and wholesale. They also work with a number of growers within the regions to broker and distribute their produce.



Crop Highlight: Lettuce

The farm originally grew lettuce on a small scale and harvested everything by hand. As the business grew, Scott realized this was neither cost-effective nor consistent in quality. Investing in better infrastructure enabled increased output, reduced labor, higher quality and more consistent product. By planting more, Scott could purchase seed in bulk which lowers input costs. Juniper Hill Farms is GAP certified and certified organic. The operation implements a post-harvest process that includes sanitizer, triple washing and lettuce spinners.

Wholesale markets for greens include **restaurants**, **institutions** and a variety of **retail outlets** like **grocery stores** and an **online platform**. Scott says that clamshell packaging has worked well because it is more appealing for consumers, allows for better shelf placement at grocery stores and it better displays the farm branding.

Scott's Tips for Growers:

1. Find your buyers first! Start planting a few beds but have your buyers in place as soon as possible, especially with quick growing crops like greens.
2. It might seem like a shock when first looking at wholesale prices compared to direct to consumer but don't overthink it! Start shifting your mindset from "by the bunch" to "by the case/pallet". The volume in sales can outweigh the price cuts, especially reduced time marketing and increase in efficiency.
3. Additional food safety certifications can open the door to new buyers. Juniper Hill is GAP certified which has allowed the farm to sell to institutional buyers.

Learn more about their wholesale production of salad greens from Juniper Hill Farms in the Beginning Wholesale Project's Video Series!

Jirak Family Produce

Mark and his family started Jirak Family Produce in 2005. They farm 7 acres in Cummings, KS where they grow a variety of vegetables including tomatoes, melons, sweet corn, summer squash, winter squash and lots of peppers.

In addition to growing in the field, they also have 4 high tunnels where they grow tomatoes and peppers. The farm sells to a variety of markets which includes wholesale buyers like **food service, restaurants** and **local school districts**.



Crop Highlight: Peppers

Jirak Family Produce started growing bell peppers at the request of local food service and schools. Soon after, he expanded production to more specialty varieties like jalapenos, poblanos and snacking peppers. Mark first began growing snacking peppers when he saw an opportunity to increase his sales with school districts because of the variety's appeal to children.

Mark likes selling to wholesale buyers like food service and schools because he knows exactly where his food is going and who is consuming it. His buyers appreciate the quality and freshness of his local produce over the shipped in produce they might get from national distributors. Jirak Family Produce is GAP certified and has taken food safety measures like building a wash shed where they handle and store their produce. While he acknowledges you earn less money per item when selling to wholesale, the volume of product you can offload is unmatched.

Mark's Tips for Growers:

1. Be as good a marketer as you are a grower! Unpredictable changes in markets can be easier to navigate when you have multiple buyers to sell product.
2. Find buyers that appreciate quality and freshness. While some may allocate produce from across the country because it's cheaper, you can stand out from those competitors with your product's quality.
3. Always practice good recordkeeping skills. This is especially important for FSMA or GAP certification which buyers often require.

Learn more about their wholesale production of peppers, including more detailed growing practices from Jirak Family Produce in the Beginning Wholesale Project's Video Series!

Moyer Farms

Nathan Moyer and his family own Moyer Farms in Richmond, MO. Since 2011 they have been growing a variety of produce on 60 acres in the field, in high tunnels, a greenhouse and a hydroponic system. They also raise grass fed beef and bottle raw honey.

Moyer Farms sells to a variety of market outlets including a **retail store, food hub, grocery stores** and **distributors**.

Crop Highlight: Squash



Moyer Farms grows their squash in both the open field and in high tunnels. They start seeding in greenhouses about 3-4 weeks in advance before using a water wheel transplanter to plant in the field. They seed again right before the first harvest to ensure a continual succession of harvests throughout the season.

Harvesting and packing can be labor intensive as they can pick up to 500 cases a day in peak season but a real “game changer” to their plant production has been the investment of a large cooler. The quality of produce can be maintained much longer, and this alleviates the pressure to offload their product right away.

Nathan says some of the benefits of wholesale over retail includes the ability to sell a higher volume of product and the consistency in sales. He also believes it’s an easier market to plan for because you will already know exactly what to produce and when to deliver it.

Nathan’s Tips for Growers:

1. Always have clear communication with your wholesaler buyers! You should have a good understanding of what they expect of your product (ex. how product should be packaged, the types of varieties they prefer).
2. Utilize your resources for information. Both your fellow peers and university extension are excellent sources of knowledge.
3. Always think about labor when planning production. Labor can be hard to come by, so make sure you have enough hands to manage your crop production.

Learn more about their wholesale production of squash from Moyer Farms in the Beginning Wholesale Project’s Video Series!

Mellowfields Farm

Jessi and Kevin run Mellowfields Farm in Lawrence, KS. They produce a wide variety of certified organic produce on 2.5 acres, including growing under cover in tunnels. Their markets include direct sales through farmers markets, a multi-farm CSA and an online webstore.



They also sell wholesale through **grocery stores**, the **KC Food Hub** and **restaurants**. They are certified organic which has allowed them to make more profit on their wholesale account sales.

Crop Highlight: Salad Greens

Mellowfields Farm specializes in greens production and focuses on lettuce mix, arugula, baby kale and mustard green mix. They start their Salanova salad mixes in the greenhouse and transplant into the field with a Paper Pot Transplanter to succession harvest throughout the year. By starting in protected crop environments like high tunnels, they can harvest as early as February through late May before resuming again in September to harvest through December.

Transplanting Salanova is worth the effort because it only takes up a small amount of space in the greenhouse to produce transplants. Direct seeding this crop can lead to unpredictable germination, so transplanting is key. They chose to make the investment in a Paper Pot transplanter because it significantly saves labor by minimizing the time to plant. What used to take the whole afternoon to transplant, now takes one person under 45 minutes.

Mellowfields Farm has a wash shed that incorporates stainless steel wash basins and an electric spinner to efficiently process their greens. When it comes to packing for wholesale accounts, they utilize clamshell packaging which displays their farm branding and organic certification.

Jessi & Kevin's Tips for Growers:

1. Network with your fellow farmers! You can learn a lot by talking and listening to the farmers near you. Whether it be in person or through social media, these relationships are valuable.
2. Focus on higher value wholesale accounts. They might not beat retail prices but with the right crops, they can make a profit.
3. Invest time into talking about farmer roles. Your operation can become much more efficient by specializing each person to specific roles like marketing, sales, harvesting, etc.

Learn more about their wholesale production of salad greens from Mellowfields Farm in the Beginning Wholesale Project's Video Series!

JET Produce

Jacob Thomas is the owner of **JET Produce and Meats** in Leavenworth, KS. He first started growing on 0.5 acres but has steadily expanded his operation to 12 acres. He grows a variety of produce but specializes in brassica crops like broccoli, cabbage and cauliflower.



JET Produce and Meats sells to a variety of retail and wholesale markets. He enjoys having a combination of buyers because while wholesale can accept large volumes, they also have their retail outlets they can sell to. Currently they sell wholesale through the **KC Food Hub**, but they've also worked with grocery stores.

Crop Highlight: Brassicas

JET Produce yields around 3,000 lbs of broccoli, 4,000 lbs of cabbage and 1,000 lbs of cauliflower a year. Jacob experiments with different varieties because although heat-tolerant varieties might help extend the growing season, they might produce smaller heads that aren't appealing to consumers. He recommends building your relationship with customers first so they can trust your product quality and then try new things.

The JET Produce team starts their crops in a greenhouse and then transplants around the beginning of March to harvest early May. Jacob invested in a used tobacco transplanter at a local auction to help mechanize their planting process and it has significantly reduced time and labor.

Jacob says controlling insect pests is key with brassica production. Cabbage worms and loopers are the first pests of the season to look for and address. He finds that the organic pesticide, *Bacillus thuringiensis* works best for their operation. Another pest to keep an eye out for is the zebra moth caterpillar as it is much more difficult to get rid of and can require more intensive pest management.

Jacob's Tips for Growers:

1. Certain wholesale outlets can save you a lot of time because they will do all the marketing work for you! You can drop produce off to a single location and they'll take care of the distribution.
2. The more you plant, the more efficient you can become. With the right system, you can expand your operation without necessarily expanding the labor.
3. The most important thing when selling wholesale is maintaining good communication, honesty and quality. If you can stand behind your product, your customers will love it.

Learn more about their wholesale production of brassicas from JET Produce in the Beginning Wholesale Project's Video Series!

Green Thumbs Up

Green Thumbs Up was founded by John Edmonds and Austin Reynolds on two neighboring farms in Leavenworth County, KS. They grow roughly 1-acre of fruits and vegetables through field production, greenhouses, and high tunnels.

Their top crops for wholesale include cucumbers, squash and tomatoes. They started small by selling to farmers markets and then gradually expanded, selling wholesale to the **KC Food Hub**. They found it was easier to crop plan every year knowing they already had a wholesale buyer whereas their farmers market sales can be highly unpredictable.



Crop Highlight: Cucumbers

Cucumbers are one of Green Thumbs Up's best crops. They have trialed hundreds of varieties to see what sells best at market and they currently grow English, pickling and slicing cucumbers. Slicing cucumbers are ideal for their wholesale outlet because of their optimal shelf life.

John & Austin start seeding their cucumbers in a greenhouse around April before transplanting 2-4 weeks later. They grow bush varieties outdoors and in their high tunnels they utilize vertical trellising to maximize space. With the right season extension techniques, they can grow from April through November.

Most of their labor goes towards daily pruning and trellising. In peak season, they harvest twice a day because standard size and shapes are crucial in wholesale. With their production plan, they can yield around 500 lbs. per week from 400-500 plants.

John & Austin's Tips for Growers:

1. You don't need lots of acreage to grow for wholesale! You can grow a large amount of produce in a small amount of space in protected crop production like high tunnels.
2. Recordkeeping and crop planning are important tasks with wholesale production. Make time to revisit what grew well and what sold the best when planning for the next season.
3. Grading cucurbits is critical in wholesale production. Try to harvest daily to make sure the size is exactly what you want and hasn't grown too fast.

Learn more about their wholesale production of cucumbers & squash from Green Thumbs Up in the Beginning Wholesale Project's Video Series!

Spring Creek Farm

Stephanie and Tom started Spring Creek Farm in Baldwin City, KS around 2005 after Stephanie apprenticed for the Kansas City Center for Urban Agriculture (now Cultivate KC). In addition to raising free-range heirloom chickens and turkeys, they produce 60+ varieties of vegetables and fruit. They have 4 hoop houses in production and grow in cultivated field space of approximately 4 acres.

Stephanie and Tom started by selling exclusively through farmers markets but today, they primarily sell to **grocery stores**, and **restaurants**. Over 90% of their sweet potato production is sold wholesale through The Merc Co+Op.



Crop Highlight: Sweet Potatoes

Spring Creek Farm specializes in sweet potato production after learning that root crops were well-suited for the farm's sandy loam soil. Every year they order their slips and prepare for the first crucial step in production, soil preparation. They amend their soils with organic processed chicken manure and alfalfa pellets while creating raised beds and placing drip line irrigation. They hand-plant around 3,000 slips in 12,000 square feet of soil.

Weed control is another vital step because native grasses can become an enormous pressure and labor intensive to control. They also note that although there is little insect pressure, wildlife can cause problems. Deer, mice and voles love sweet potatoes, so farmers need to be creative with their pest control.

Once they start harvesting in September, they grade and sort their potatoes before bringing them to the packing shed to rinse, dry and cure. In peak season they can sell around 200-500 lbs per week and with proper storage, sweet potatoes can stay good for months.

Stephanie & Tom's Tips for Growers:

1. Always consider what your farm's capacity is to scale up! This can ensure that you provide an adequate volume before committing to a buyer.
2. Customers are extensions of yourselves. Always know your buyer's needs so you can provide exactly what they are looking for and really succeed.
3. Visual charts can be very helpful with grading. Sweet potatoes can be jumbos, number 1's, canners or cullers so it's important to know what to look for.

Learn more about their wholesale production of sweet potatoes from Spring Creek Farm in the Beginning Wholesale Project's Video Series!

Gieringers Family Orchard & Berry Farm

Frank Gieringer owns Gieringers Family Orchard & Berry Farm in Edgerton, KS. The farm grows a variety of fruit and vegetables in both field and high tunnel production, but their specialty is in “U-Pick” berry production.

In addition to running their berry activities, Gieringers sells to several different market outlets. Their produce is sold in their on-farm retail store, through farmers markets and in wholesale via **grocery stores**.

Crop Highlight: Tomatoes

Frank has four high tunnels dedicated to tomato production. He purchases grafted tomatoes (BH589 grafted to Maxifort) for plant vigor and disease resistance and then transplants them into the tunnels by the end of March.



Gieringers’ production plan is unique because they prepare their high tunnels during the winter months. This includes prepping the soil, laying weed fabric and drip irrigation, setting up their trellis system. By doing this labor early on, they can ensure that they are ready to grow in the spring once the tomatoes can be transplanted.

Frank states that the majority of labor involves sorting and grading the fruit. The tomatoes are packed in 22-pound boxes which are stored in a temperature-controlled packing shed. In peak season, they can harvest several thousand pounds in one week. While wholesale is not their primary outlet, it’s a great way to offload excess produce and guarantee income.

Frank’s Tips for Growers:

1. There is a learning curve when selling wholesale! Take time to understand the expectations of your buyers as some can be more flexible than others.
2. Some buyers repackage their produce so grading properly and ensuring uniformity is key. Make sure you sort carefully and avoid cracked fruit.
3. Landscape fabric can not only help keep weeds out of your tunnels, but it can maintain a cleaner and more sterile growing environment.

Learn more about their wholesale production of tomatoes from Gieringers Family Orchard & Berry Farm in the Beginning Wholesale Project’s Video Series!

Crop Cheat Sheets

The following crop sheets are produce featured in the Beginning Wholesale Project's video series and are some of the top crops sold for wholesale markets in the Kansas City region. Each sheet contains information on grading, sizing, packing, storage and optimal quality descriptions.

Packing information has been tailored to fit the KC Food Hub standards but note that packing requirements can vary from buyer to buyer. For more information on the USDA grade standards common among various wholesale buyers, please visit the USDA website at <https://www.ams.usda.gov/grades-standards/vegetables>.

These sheets were adapted from the *Vegetable Grading/Sizing Templates* and *Grading and Packing Guidelines by Crop* templates with the generous permission of Cornell Cooperative Extension's Growing for Wholesale Resources team. Visit their website at <https://cwp.cce.cornell.edu/> for more information.



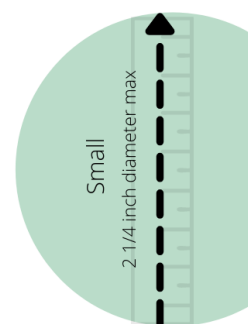
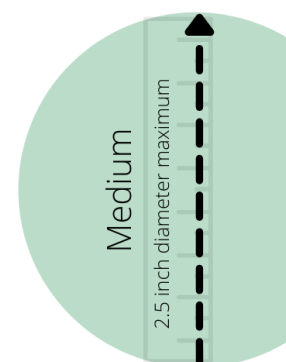
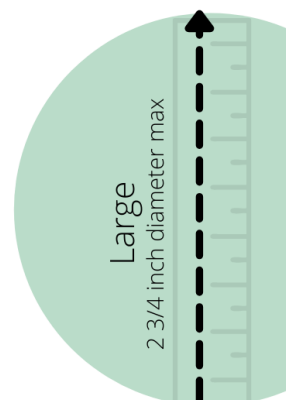
Wholesale Crop Cheat Sheets



Tomatoes

Packing Guide

Grades	No.1: consists of tomatoes which meet the following requirements: Similar varietal characteristics; Mature; Not overripe or soft; Clean; Well developed; Fairly well formed; and, Fairly smooth. Free from Decay; Freezing injury; and Sunscald. Not damaged by any other cause." Combination: "consists of a combination of U.S. No. 1 and U.S. No. 2 tomatoes: Provided, That at least 60 percent, by count, meet the requirements of U.S. No. 1 grade." No.2: consists of tomatoes which meet the following requirements: Similar varietal characteristics; Mature; Not overripe or soft; Clean; Well developed; Reasonably well formed; and, Not more than slightly rough. Free from Decay; Freezing injury; and Sunscald. Not seriously damaged by any other cause." No.3: consists of tomatoes which meet the following requirements: Similar varietal characteristics; Mature; Not overripe or soft; Clean; Well developed; and, May be misshapen. Free from Decay; and, Freezing injury. Not seriously damaged by Sunscald. Not very seriously damaged by any other cause."
Size	Cherry/Grape: packed in pints Medium: Diameter 2-2.5" (ex. standard tomato, medium heirlooms) Large: Diameter 2.5-3" (ex. slicers, larger heirlooms) Extra-large: over 3" (not desirable unless it's an heirloom or specialty tomato)
Material	Produce boxes or pint flats
Units	Pack in 25-lb. tomato or 1/2 bu. produce boxes Cherry tomatoes are packed in 12 pt. flats
Weight	25 lbs. *Notes: Weight <u>must</u> be consistent, especially when selling in bulk. If the buyer is purchasing heirlooms by the "each", grade the heirlooms by size rather than weight
Storage	Store tomatoes ideally at 55 °F with a relative humidity of 95%. Remove calyx for longer shelf life.
Color	The following are common colors that buyers may request: Green, Breakers, Turning, Pink, Light Red, Red and Mixed color . Visit the USDA's website for the detailed definitions of these colors on their page, "Tomato Grades and Standards".



TOMATOES

Grade: U.S. #1

- ✓ Tomato should be firm and glossy
- ✓ Color and shape should be uniform
- ✓ Shoulders should be smooth
- ✓ Clean
- ✓ Pack in 25 lb produce box

AVOID

- x Blemishes and bruising
- x Insect damage
- x Excessive cracking



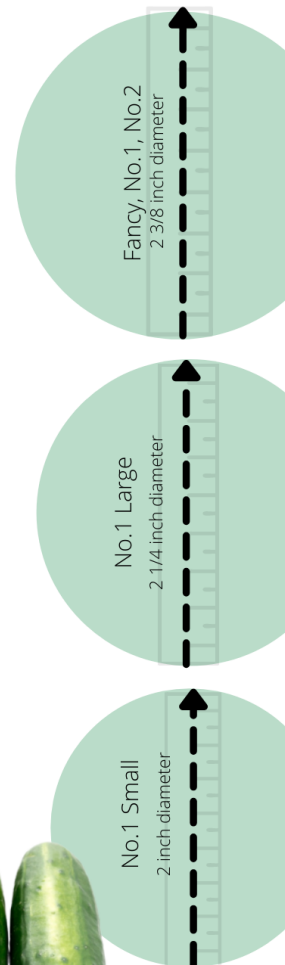
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Cucumbers

Cucumbers

Packing Guide

Grades	Fancy: "consists of cucumbers which are well colored, well formed, not overgrown, and which are fresh, firm, and free from decay, sunscald, and from injury caused by scars and from damage caused by yellowing, sunburn, dirt or other foreign material, freezing, mosaic or other disease, insects, cuts, bruises, mechanical or other means." Extra No. 1: "consists of a combination of U.S. Fancy and U.S. No. 1 cucumbers: Provided, That at least 50 percent of the cucumbers in the lot shall meet the requirements of the U.S. Fancy grade and the remainder shall meet the requirements of the U.S. No. 1 grade." No.1: "consists of cucumbers which are fairly well colored, fairly well formed, not overgrown, and which are fresh, firm, and free from decay, sunscald and from damage caused by scars, yellowing, sunburn, dirt or other foreign materials, freezing, mosaic or other disease, insects, cuts, bruises, mechanical or other means." No.1 Small: "Small consists of cucumbers which meet all requirements for the U.S. No. 1 grade except for size" No. 1 Large: "Large consists of cucumbers which meet all requirements for the U.S. No. 1 grade except for size." No.2: "consists of cucumbers which are moderately colored, not badly deformed, not overgrown, and which are fresh, firm, free from decay and free from damage caused by freezing, sunscald, cuts and from serious damage caused by scars, yellowing, sunburn, dirt or other foreign material, mosaic or other disease, insects, bruises, mechanical or other means."
Size	Fancy: Length: Minimum 6" Diameter: Maximum 2 3/8" Extra No.1: No specifications No.1: Length: Minimum 6" Diameter: Maximum 2 3/8" No.1 Small: Length: No requirements Diameter: 1 1/2"-2" No.1 Large: Length: Minimum 6" Diameter: Minimum 2 1/4" No.2: Length: Minimum 5" Diameter: Maximum 2 3/8"
Material	Cartons, crates
Units	20-lb. in 5/9 bu. cartons 40-lb. in 1/2 bu. or 1 1/9 bu. cartons or crates 24-count cartons
Storage	Store broccoli ideally at 50-54 °F with a relative humidity of 95%.



AVOID

- × Excessive amounts of skin blemishes
- × Excessive discoloration due to sunscald
- × Shriveled ends



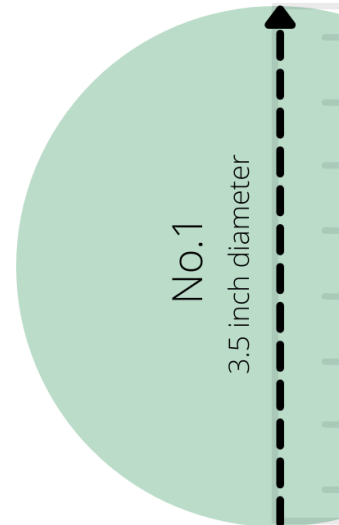
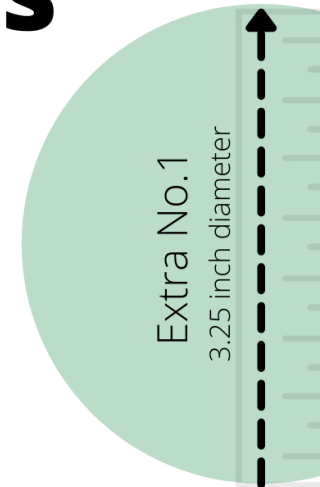
- ✓ Must be clean and semi-bright
- ✓ Semi-well-formed
- ✓ Some discoloration is acceptable
- ✓ Some skin blemishes and scarring are acceptable
- ✓ Cukes do NOT need to be perfectly straight or uniform in size
- ✓ All cukes should be washed and waxed
- ✓ Pack in standard 1 1/9 250# test box
- ✓ Box should contain 65-70 count

Adapted with permission from Cornell Cooperative Extension's Growing For Wholesale Resources

Sweet Potatoes

Packing Guide

Grades	Extra No.1: "consists of sweet potatoes of similar varietal characteristics which are firm, smooth, fairly clean, fairly well shaped, which are free from freezing injury, internal breakdown, Black Rot, other decay or wet breakdown, and free from damage caused by secondary rootlets, sprouts, cuts, bruises, scars, growth cracks, scurf, Pox (Soil Rot), or other diseases, wireworms, weevils, or other insects, or other means" No.1: "consists of sweet potatoes of one type which are firm, fairly smooth, fairly clean, fairly well shaped, which are free from freezing injury, internal breakdown, Black Rot, other decay or wet breakdown, and free from damage caused by secondary rootlets, sprouts, cuts, bruises, scars, growth cracks, scurf, Pox (Soil Rot), or other diseases, wireworms, weevils or other insects, or other means." Commercial: "consists of sweet potatoes which meet all the requirements of the U.S. No. 1 grade except that an increased tolerance for defects is allowed." No.2: "consists of sweet potatoes of one type which are firm and which are free from freezing injury, internal breakdown, Black Rot, other decay or wet breakdown, and free from serious damage, caused by dirt or other foreign materials, cuts, bruises, scars, growth cracks, Pox (Soil Rot), or other diseases, wireworms, weevils or other insects, or other means."
Size	Extra No.1: Length: 3"-9" Diameter: 1 $\frac{3}{4}$"-3 $\frac{1}{4}$" No.1: Length: 3"-9" Diameter: 1 $\frac{3}{4}$"-3 $\frac{1}{2}$" No.1 Petite: Length: 3"-7" Diameter: 1 $\frac{1}{2}$"-2 $\frac{1}{4}$" Commercial: Not specified No. 2: Diameter: 1 $\frac{1}{2}$"minimum
Weight	Extra No.1: Weight: 18 oz. maximum No.1: Weight: 20 oz. maximum No.1 Petite: Not specified Commercial: Not specified No.2: Weight: 36 oz. maximum
Units	Bushel or Crate (50-55 lbs.)



SWEET POTATOES

Grade: U.S. #1

- ✓ Sweet potato should be firm and smooth
- ✓ Color should be even-toned
- ✓ Fairly clean and free of excess dirt
- ✓ Pack in 50 lb produce crate

AVOID

- x Bruising & soft spots
- x Excessive blemishes & scarring



Adapted with permission from Cornell Cooperative Extension's Growing For Wholesale Resources

Leafy Greens

Packing Guide

"Leafy greens" include: iceberg lettuce, romaine lettuce, leaf lettuce, butter lettuce, baby leaf lettuce, escarole, endive, spring mix, spinach, cabbage, kale, arugula, and chard. There are no standard U.S. grades.

Raw Leafy Greens

Definition	"Raw" refers to agricultural produce that must be washed or processed before eating. Leafy greens are considered a raw agricultural commodity if you are simply harvesting whole head lettuce OR loose leafy greens that have been cut from individual roots or stems during harvesting and have <u>not undergone any additional cutting or processing after harvest</u> . Whole head lettuce must be sold directly to the public but loose leaves may be also sold to a distributor, processor, or other business with an FEP. *Raw greens do not need special permitting as "cut greens" would.
Weight & Units	Bushel = 18-20 lbs Bag = 1-1.5 lbs Whole head lettuce Clamshells
Storage	Store leafy greens as soon as possible ideally from 41 °F - 32°F with a relative humidity of 95-100%.
Packaging	Packaging on raw leafy greens should clearly state that the product must be washed before serving or eating.
Harvest Notes	Growers are highly encouraged to triple wash and spin-dry their greens. Always use clean and safe water source with appropriate microbial quality.



LEAFY GREENS

- ✓ Greens should be thoroughly washed in water to remove soil & other contaminants
- ✓ Must label that greens should be washed before consumption
- ✓ Must be stored in proper temperatures
- ✓ Must be clean, crisp and vibrant in coloring

AVOID

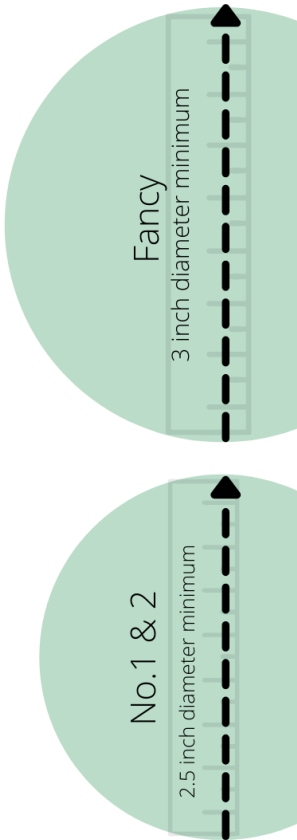
- x Wilting and dull leaves
- x Damaged or broken leaves
- x Excessive moisture in packaging

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Peppers

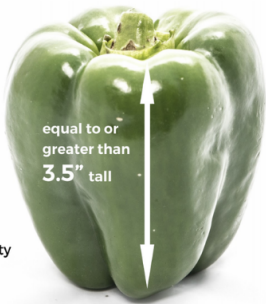
Packing Guide

Grades	Fancy: "consists of mature peppers of similar varietal characteristics (except when specified as mixed varieties and/or colors), which are firm, well shaped, and free from Blossom End Rot, crushed/broken, freezing, freezing injury, hail, insects, mechanical, sunscald, decay affecting calyxes and/or walls, decay affecting stems, and from injury caused by bruising, dirt, discoloration, disease, insects, pitting, scars, shriveling, sunburn, or other means." No.1: "consists of mature peppers of similar varietal characteristics (except when specified as mixed varieties and/or colors), which are firm, fairly well shaped, and free from crushed/broken, freezing, freezing injury, sunscald and decay affecting calyxes and/or walls, decay affecting stems, and free from damage caused by Blossom End Rot, bruising, dirt, discoloration, disease, hail, insects, pitting, scars, shriveling, sunburn, mechanical or other means." No.2: "consists of mature peppers of similar varietal characteristics (except when specified as mixed varieties and/or colors), which are firm, not seriously misshapen, and free from freezing, freezing injury, sunscald and decay affecting calyxes and/or walls, decay affecting stems, crushed/broken and free from serious damage caused Blossom End Rot, bruising, dirt, discoloration, disease, hail, insects, pitting, scars, shriveling, sunburn, mechanical or other means."
Size	"Size may be specified in inches and fractions thereof in connection with the grade in terms of minimum diameter, maximum diameter, minimum length and/or maximum length, or by count."
Units	1 1/9 Bushel or Crate
Weight	25-30 lbs.
Storage	Store peppers ideally at 45-55 °F with a relative humidity of 95%.



Grade: U.S. FANCY #1

- ✓ Must be fresh and firm
- ✓ Deep green colored calyx (outer wall) and bright in appearance
- ✓ Thick flesh
- ✓ Uniformly well-shaped
- ✓ Clean
- ✓ Pack in standard 1 1/9 box
- ✓ Box should contain 50-59 count with uniformity throughout the box



AVOID

- × Blemishes and browning



- × Misshaped fruit



- × Shriveled skin and scarring



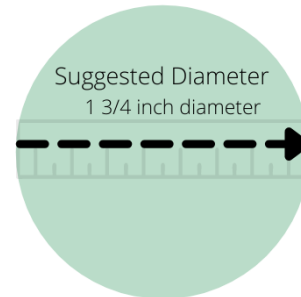
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Summer Squash

Summer Squash

Packing Guide

Grades	No.1: "consists of squash of one variety or similar varietal characteristics, with stems or portions of stems attached, which are fairly young and fairly tender, fairly well formed, firm, free from decay and breakdown, and from damage caused by discoloration, cuts, bruises and scars, freezing, dirt or other foreign material, disease, insects, mechanical or other means." No.2: "consists of squash of one variety or similar varietal characteristics which are not old and tough, but are firm, free from decay and breakdown, and free from damage caused by freezing, and from serious damage caused by discoloration, cuts, bruises, scars, dirt or other foreign material, disease, insects, mechanical or other means."
Size	No specific sizing
Material	Pack in produce boxes like sardines, with stem-end facing the carton walls to avoid damage
Units	Bushel or crate
Weight	40-44 lbs.
Storage	Store summer squash ideally at 41-50 °F with a relative humidity of 95%.



AVOID

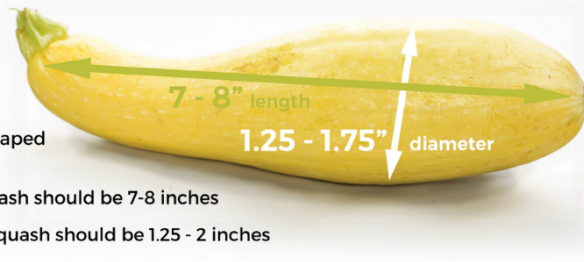
- ✗ Bulbous fruit with excessively narrow neck
- ✗ Decay and breakdown due to freezing, disease or insects
- ✗ Cuts, bruises, and scars caused by mechanical or other means
- ✗ Dirt or foreign material



SUMMER SQUASH

Grade: U.S. #1

- ✓ Squash must be fairly young and tender yet firm
- ✓ Bright color
- ✓ Fruit should be well-shaped and not too thick
- ✓ Length of summer squash should be 7-8 inches
- ✓ Diameter of summer squash should be 1.25 - 2 inches
- ✓ Box should contain 28-30 count



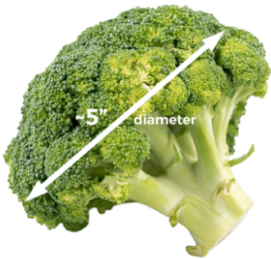
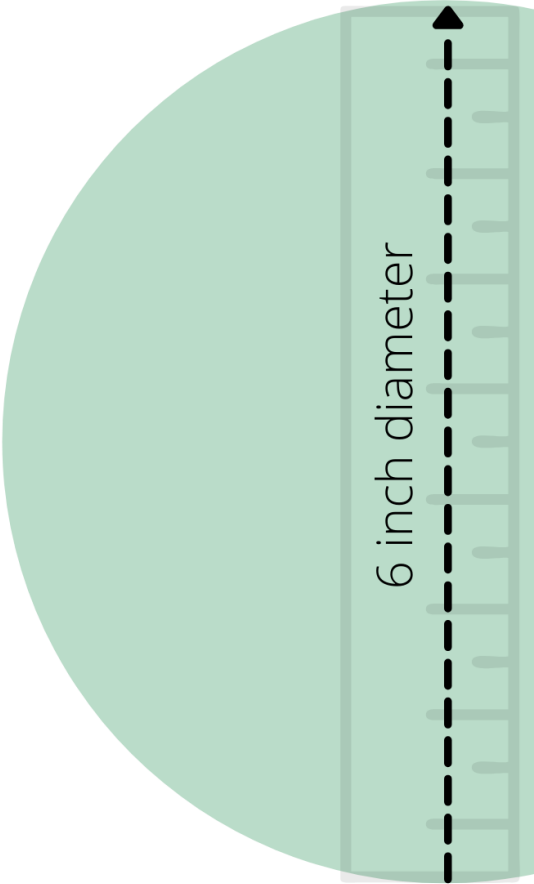
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Broccoli

Broccoli

Packing Guide

Grades	No.1: " consists of stalks or portions of stalks of broccoli which are fresh, tender, and have good characteristic color and compact heads, are well trimmed and which are free from decay and cull material, and are free from damage caused by discoloration, freezing, hollow stem or pithiness, scars, dirt or other foreign material, disease, insects or mechanical or other means." No.2: "U.S. No. 2" consists of stalks or portions of stalks of broccoli which are fresh, tender, and have good characteristic color and fairly compact heads, are fairly well trimmed and which are free from decay and cull material and are free from damage caused by scars, dirt or other foreign material, disease, insects, are free from serious damage caused by discoloration, 2 freezing, hollow stem or pithiness or mechanical or other means."
Size	No.1: Diameter: 3/8" minimum (stem), Length: 4"-6" No.2: Diameter: 1/4" minimum (stem), Length: 3"-6"
Material	Produce box, carton
Units	Pack 10, 12, 14, 16 or 18 in a 1/9 bu. produce box
Weight	23 lbs.
Storage	Store broccoli ideally at 32 °F with a relative humidity of 95%. Under these conditions, broccoli is acceptable for up to 4 weeks
Harvest Notes	Leave 6" of stem, crown diameter should be 6", the KC Food Hub will accept bunched stems as long as overall bundle diameter is 6"



AVOID

× Loose bud clusters or loose crowns



× Yellowing caused by opening of flower buds



× Black spots due to disease and rot



- ✓ Bud clusters should be dark green, sage green, or even green with a purplish tinge
- ✓ Each bud cluster must be a very well compact bunch
- ✓ Stems should be pale green in color and should be tender
- ✓ Standard broccoli box, 20 lbs

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Cabbage

Green Cabbage

Packing Guide

Grades	No.1: " consists of heads of cabbage which are firm, and well trimmed; which are free from soft rot, seedstems, and from damage caused by bursting, discoloration, freezing, disease, birds, insects, mechanical or other means. Unless otherwise specified, the weight of each head of cabbage shall be not less than 3 pounds." Commercial: "consists of heads of cabbage which are not soft; which are fairly well trimmed, free from soft rot, seedstems, and from serious damage caused by bursting, discoloration, freezing, disease, birds, insects, mechanical or other means. Unless otherwise specified, the weight of each head shall be not less than 2 pounds."
Size	Small: Under 2 lbs Medium: 2-5 lbs Large: Over 5 lbs
Material	1 2/3 bushel box
Units	One 1 2/3 bushel box
Weight	50 lb boxes, each box should contain 16-18 heads of cabbage
Storage	Store cabbage ideally at 32 °F with a relative humidity of 95%.
Harvest Notes	Cabbage should be solid, heavy, trimmed and clean.

AVOID

- × Blemishes and browning



- × Vein discoloration or rot



- × Insect or disease damage



Grade: U.S. #1

- ✓ Cabbage must be hard or solid and heavy for its size
- ✓ Medium green in color
- ✓ Stalk should be clean cut
- ✓ Must be well trimmed and clean
- ✓ 3-4 good green wrapper leaves must be on each head
- ✓ Standard 1 2/3 bushel box, 50 lbs
- ✓ Box should contain 16-18 count with uniformity throughout the box



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Recommended Educational Resources

Publications:

- FamilyFarmed's The Wholesale Success Manual: A Farmer's Guide to Food Safety, Selling, Postharvest Handling, and Packing Produce
<https://familyfarmed.z2systems.com/np/clients/familyfarmed/product.jsp?product=10&>
- ATTRA's Tips for Selling to: Wholesale Buyers at Terminal Markets
<https://attra.ncat.org/product/tips-for-selling-to-wholesale-buyers-at-terminal-markets/>

Online Manuals:

- Building a Sustainable Business <https://www.sare.org/Learning-Center/Books/Building-a-Sustainable-Business>
- Growing Farms: Successful Whole Farm Management Planning Book Think It! Write It! <https://catalog.extension.oregonstate.edu/sites/catalog/files/project/pdf/em9043.pdf>
- Scaling Up Your Vegetable Farm for Regional Markets <https://attra.ncat.org/attra-pub/download.php?id=469>
- The Guide to Marketing Channel Assessment: How to Sell Through Wholesale and Direct Marketing Channels <https://ecommons.cornell.edu/handle/1813/40260>
- Wholesale Packing Resource Guide <https://www.sare.org/Learning-Center/SARE-Project-Products/Northeast-SARE-Project-Products/Plain-Language-Guides-for-New-and-Under-Served-Producers/Wholesale-Packing-Resource-Guide>
- Selling Certified Organic Produce to Retail Produce Markets in the Upper Midwest <https://www.cias.wisc.edu/wp-content/uploads/2008/07/greenbrg.pdf>
- A Farmer's Guide to Crop Quality for Wholesale Outlets <https://sare.org/resources/a-farmers-guide-to-crop-quality-for-wholesale-outlets/>
- Wholesale and Retail Product Specifications: Guidance and Best Practices for Fresh Produce <https://www.cefs.ncsu.edu/ncgt/wholesale-and-retail-product-specs.pdf>
- Scaling Up: Perspectives from Growers and Buyers on Barriers and Benefits to Wholesale Marketing of Local Fruits and Vegetables
https://lib.dr.iastate.edu/cgi/viewcontent.cgi?article=1074&context=leopold_pubspapers

University and Extension Resources:

- Michigan State University's Market Channel Selection Tool
https://www.canr.msu.edu/foodsystems/uploads/resources/crfs_bfrdp_marketchannelselectiontool-pp_interactive.pdf
- Cornell Small Farms <https://smallfarms.cornell.edu/projects/baskets-to-pallets/wholesale-resources/>
- Kansas State University's Extension Food Safety Resources <https://www.ksre.k-state.edu/foodsafety/produce/>
- University of Missouri Marketing Vegetables in Missouri Resources
<https://extension.missouri.edu/publications/g6221>
- UC Agriculture & Natural Resources' How to Sell Produce Wholesale
<https://sarep.ucdavis.edu/fs/supply/wholesale>
- NC State Extension's How to Sell Produce to Distributors
<https://content.ces.ncsu.edu/how-to-sell-produce-to-distributors>

- UC Davis Postharvest Center's Produce Fact Sheets
http://postharvest.ucdavis.edu/Commodity_Resources/Fact_Sheets/index.cfm

Local Websites:

- North Central SARE <https://northcentral.sare.org/>
- Beginning Wholesale Farmer Project <http://www.growinggrowers.org/beginning-farmer-wholesale-project.html>
- Cultivate KC <https://www.cultivatekc.org/>
- KC Healthy Kids <https://www.kchealthykids.org/>
- West Central Missouri Community Action Agency <https://wcmcaa.org/>

Videos:

- Selling to Wholesale Buyers: <https://www.canr.msu.edu/resources/selling-to-wholesale-buyers>
- Selling Produce to Wegmans: Farmer Buyer Video Series
https://www.youtube.com/watch?v=S13hJz8Q0Zw&list=PLeB3pvIz7iiFe2fDlGDb_g2-FlMqjaXVv
- Selling Produce to Headwater Food Hub: Farmer Buyer Video Series:
<https://www.youtube.com/watch?v=NDe2tlq0-Q&list=PLeB3pvIz7iiHsbKMoFcAWqLYUDzZuk-sG>
- Michigan State University's Webinar Series:
https://www.canr.msu.edu/beginning_farmer_webinar_series/index

Funding Opportunities:

- USDA Office of Urban Agriculture and Innovative Production offers competitive grants to accelerate existing and emerging models of urban, indoor, and other agricultural practices that serve multiple farmers. For more information, visit the USDA Farmers.gov website (<https://www.farmers.gov/manage/urban/opportunities>).
- Sustainable Agriculture Research and Education Program (SARE) offers an array of competitive grants for researchers, agricultural educators, students, farmers and ranchers throughout the United States. Grants are regionally administered. For more information, visit the North Central SARE website (<http://www.northcentralsare.org/>) or contact the Kansas State Coordinator, Kerri Ebert (Phone: 785.532.2976, Email: kebert@ksu.edu).
- USDA Organic Certification Cost Share Program offers funding for cost share assistance to producers who are obtaining or renewing their National Organic Program certification. For more information, visit the USDA OCCSP website (<https://www.fsa.usda.gov/programs-and-services/occsp/index>).
- USDA Specialty Crop Block Grant Program offers funding to support market competition of specialty crops. Anyone can apply for this program and funds can support a variety of projects such as value-added processing, farm to school initiatives, and other research. For more information, visit the USDA SCBGP website (<https://www.ams.usda.gov/services/grants/scbgp/apply>).

Beginning Farmer Wholesale Project Services:

- **Mentor Farmer Program** - Qualified farms are matched with seasoned growers from around the country and receive up to 25 hrs of targeted consulting services throughout the year.
- **One-on-one technical assistance** - Beginning farmers can request direct technical assistance from ag specialists with tailored support for business management, crop planning, efficient production techniques, weed and pest management strategies and more.
- **Farmer-to-buyer matching** - Advisors from West Central, KC Food Hub, KC Healthy Kids, and Cultivate KC offer consultation on increasing market access to beginning farmers and facilitate connection with wholesale buyers.
- **COMING SOON: Foodshed GIS Map**- A comprehensive map of the KC foodshed with layers added for Farmers Markets, CSA, restaurants, wholesalers, food rescue & recovery, composting sites, and supply providers.
- **COMING SOON: Video Series** – A series of 6-minute videos filmed on the top crops for wholesale production featuring farms across the Kansas City region including information on production, packing, marketing and more

Additional Resources

Production Planning 2021: Harvest Chart

Name of Farm: _____

I feel I've got a good idea of what I'll plant in 2021:

I intend to catch the September-November wave in 2021.

I have a good idea what the Food Hub can sell for me in 2021:

I want to do production planning as a group for 2021:

Yes	No
Yes	No
Yes	No
Yes	No

How?

THE KANSAS CITY FOOD HUB

Crops

Planted

Yield per month

	J a n 1	J a n 15	Feb 1	Fe b 15	Mar 1	Mar 15	Apr il 1	April 15	Ma y 1	May 15	June 1	June 15	July 1	July 15	Au g 1	Au g 15	Sep t 1	Sept 15	Oct 1	Oct 15	Nov 1	Nov 15	Dec 1	De c 15
Arugula										100 4 oz bags	100 4 oz bags	100 4 oz bags	100 4 oz bags					100 4 oz bags	100 4 oz bags	100 4 oz bags	100 4 oz bags	100 4 oz bags		
Bok Choy (baby and large)										50 bunc h/pc	50 bunc h/pc	50 bunc h/pc	50 bunc h/pc	50 bunc h/pc				50 bunc h/pc	50 bunc h/pc	50 bunc h/pc	50 bunc h/pc	50 bunc h/pc		
Beets												50 bunc h/lb	50 bunc h/lb	50 bunc h/lb	50 bun ch/1 b	50 bun ch/1 b	50 bun ch/1 b	50 bunc h/lb						
Cabbage, green													200 lb./ 70 head s	200 lb./ 70 head s	200 lb./ 70 hea ds	200 lb./ 70 hea ds	200 lb./ 70 hea ds	200 lb./ 70 head s						
Carrots											100 bunc h/lb	100 bunc h/lb	100 bunc h/lb	100 bunc h/lb	100 bun ch/1 b	100 bun ch/1 b	100 bun ch/1 b	100 bunc h/lb			50 bunc h/lb	50 bunc h/lb	50 bun ch/1 b	50 bun ch/1 b
Cilantro									200 bun ch	200 bunc h								200 bunc h	200 bunc h	200 bunc h	200 bunc h			
Dill									100 bun ch	100 bunc h	100 bunc h	100 bunc h						100 bunc h	100 bunc h	100 bunc h	100 bunc h			

Fennel											100 bunc h/pc	100 bunc h/pc	100 bunc h/pc	100 bunc h/pc										
Ginger																		30 lbs	30 lbs	30 lbs	30 lbs			
Kale										200 bunc h/ba g	200 bunc h/ba g	200 bunc h/ba g	200 bunc h/ba g	200 bunc h/ba g				200 bunc h/ba g	200 bunc h/ba g	200 bunc h/ba g	200 bunc h/ba g	200 bunc h/ba g		
Lettuce Mix					200 4 oz bag s	200 4 oz bag s	200 4 oz bag s	200 4 oz bags	200 4 oz bag s	200 4 oz bags	200 4 oz bags	200 4 oz bags						200 4 oz bags	200 4 oz bags	200 4 oz bags	200 4 oz bags	200 4 oz bag s	200 4 oz bag s	
Lettuce Heads										100 head s	100 head s	100 head s	100 head s						100 head s	100 head s	100 head s	100 head s		
Onions														50 lbs	50 lbs	50 lbs	50 lbs	50 lbs						
Pea Shoots (grow to order)					20 lbs	20 lbs	20 lbs	20 lbs	20 lbs	20 lbs	20 lbs	20 lbs			20 lbs	20 lbs	20 lbs	20 lbs	20 lbs	20 lbs	20 lbs	20 lbs	20 lbs	20 lbs
Peppers, Bell														50 lbs	50 lbs	50 lbs	50 lbs	50 lbs	50 lbs	50 lbs				
Peppers, hot (jalapeno, poblano, anaheim)														10 lbs	10 lbs	10 lbs	10 lbs	10 lbs	10 lbs	10 lbs				
Peppers, Shishito														10 lbs	10 lbs	10 lbs	10 lbs	10 lbs	10 lbs	10 lbs				
Purple Daikon					100 lbs	100 lbs	100 lbs	100 lbs			100 lbs	100 lbs	100 lbs	100 lbs	100 lbs	100 lbs	100 lbs	100 lbs	100 lbs	100 lbs	100 lbs	100 lbs	100 lbs	100 lbs
Salad mix										100 4 oz bags	100 4 oz bags	100 4 oz bags	100 4 oz bags	100 4 oz bags				100 4 oz bags	100 4 oz bags	100 4 oz bags	100 4 oz bags	100 4 oz bags		
Zucchini												50 lbs	50 lbs	50 lbs	50 lbs	50 lbs	50 lbs	50 lbs	50 lbs					

Your Farm, Inc.

Name
Address

SALES AVAILABILITY

Thursday, August 14- Monday August 18, 2014
TERMS

We are pleased to make available the following products. By ordering, you agree to our terms below:

ITEM	DESCRIPTION	count	pack	UNIT PRICE	Quantity Available	Notes
1	Romaine Lettuce	24 ct.	Per case	\$28.00	12 cases	Carmen
2	Red Peppers	80 count	Per bushel	\$40.50	20 bushels	
3						
4						
5						
6						
7						
8						
9						
10						

We want to serve your business for years to come. To help us meet that goal, please note the following terms:

Orders are due by 3pm Monday August 18. Orders placed after 4 pm Monday will only be filled if you receive specific confirmation by 8am Tuesday. Order changed may be made only before 4pm Tuesday. If an order change is made after 4pm Tuesday, we may not be able to make the change. If the order change is crucial, a convenience fee of 5% may be added to the order. A 2% delivery fee is added to each order. The sales availability is an estimate only. Actual Availability may change. Although we are confident in our estimate, if a change is unavoidable, we will let you know by 9am Tuesday. If your order is under \$40, we may not be able to deliver without an additional charge. We will call you by Tuesday at 9am if we cannot deliver your order without an additional charge.

YOUR
LOGO

SALES INVOICE

Company Name

123 Main Street

Hamilton, OH 44416

(321) 456-7890

Email Address

CUSTOMER NAME

ATTN: Name / Department

Company Name

123 Main Street

Hamilton, OH 44416

(321) 456-7890

Email Address

DATE OF INVOICE

INVOICE NO.

DATE DUE

AMOUNT

DESCRIPTION	QUANTITY	UNIT PRICE	LINE TOTAL
Roma Lettuce Heads	50	2.50	125.00
Case of Roma Tomatoes (12 ct.)	30	4.00	120.00
Green Bell Peppers (10 ct.)	15	5.00	75.00
TOTAL			300.00

Please make check or payment payable to Your Company Name.

THANK YOU

For questions concerning this invoice, please contact

Name, (321) 456-7890, Email Address

www.yourwebaddress.com



The Merc Co+Op Producer Guidelines

It's time to begin planning for the next growing season! At the co-op, we value our relationships with local producers and look forward to working with you to make this year successful. Please take the time to read through this information thoroughly, as some items have changed from previous years.

Please submit the online form as soon as possible. **Deadline for consideration is January 31st.** After completion of the Produce and Floral Vendor Form, I will contact you to discuss details, answer questions, and obtain any paperwork or promotional materials you may have.

INDIVIDUAL MEETINGS

In the past we have set up in-person meetings to discuss details and plan for the upcoming growing season. *Due to the COVID-19 pandemic, we will have these conversations remotely – by email, phone, or video conference, if needed.*

We will discuss and clarify the following:

- What worked well in previous seasons from your perspective, and what could we work on?
- Packaging needs
- Expectations of bunching, bagging etc.
- Pricing
- Quality
- Invoicing
- Promotional Materials

Product Guidelines & Expectations

QUALITY

In order for us to continue to meet the needs of our customers, we are focusing on quality more than ever. High quality, fresh produce begins at the farm – beyond growing to harvesting and shipping practices. Please take all post-harvest steps to ensure freshness.

- We expect to provide produce with at least 3-5 days of shelf life.

- All products delivered to The Merc Co+op should be in optimal condition: clean, free of cracks and bruises.
- All products will have indicators of freshness and quality, and we can discuss those specifics as needed.
 - For example: Highly perishable products, such as tomatoes and berries should be firm, with good color. To ensure a premium shelf life for our customers, please deliver within 1-2 days of harvest.

In the event that the product does not meet our quality standards, we will request that the product be credited on the invoice within 24 hours of the time of delivery. If we ask for credit twice on a product from you, we may discontinue ordering that product.

PACKAGING

- Boxes shall be sturdy and lidded or closeable.
- Boxes shall not be damaged, disintegrating or wet.
- Boxes shall be labeled with a sticker no smaller than 3 1/3" x 4" and containing the following information:
 - Product name (if organic, noted as such) in larger print and prominently located
 - Date of delivery
 - Farm name and location
 - Weight or count of product
 - Organic 3rd party certification (if applicable)
- Product shall be packed according to industry standard weight or count.
- Weighing and counting shall be done prior to delivery.
- Product shall be delivered in a retail ready state; any bunching, bagging, tying, etc. should be done prior to delivery.

- For cut salads and greens – please provide “use by” dates on all packaged salad mixes.
- Organic produce shall only be packed into boxes in which no chemicals or non-organic produce has been packaged

AVAILABILITY

- We need initial forecasts of your product availability at least 2 weeks in advance.
- For your product to be considered for the next week’s order, you must email (produce@th Mercer.coop and producespecialist@th Mercer.coop) a copy of product availability, or call at 785-843-8544 ext. 242 by Sunday evening/Early Monday morning of the current week.
- ***If availability is limited or ending please notify us when we are ordering or email us as soon as possible so that we can make other arrangements to meet our customers’ needs.***

ORDERING AND DELIVERY

- Orders will be placed between 8am-4pm on Mondays after receiving your weekly updates.
- If you need more than one day notice to deliver or have a need for certain delivery days, please let us know and we can make individual arrangements.
- Deliveries must be made by 3pm Monday - Friday, unless prior arrangements have been made.
- No deliveries will be accepted during the weekends unless prior arrangements have been made.
- If you have a bumper crop and wish to renegotiate the price to increase sales volume, please communicate this at least 1 week in advance to set up a sale.

If you are unsure if you are able to meet these guidelines or lack the material resources to ensure compliance, let me know and we can discuss options.

INVOICING

- All deliveries must be accompanied by an invoice including the following information:
 - Product name (if organic, noted as such)
 - Tracking number
 - Delivery date
 - Farm name, address, & phone number
 - Payment terms (14 days or more)
 - Quantity
 - Unit price, extended price, & total price
 - Space for a produce department employee signature
- Invoices must be at least 5”x 8” and in duplicate
- Invoices must be legible and undamaged; please no wet, crumpled, or torn invoices.

We are unable to accept deliveries that do not meet the above packaging and invoicing guidelines. We reserve the right to discontinue purchasing product if it is priced differently than what was agreed to.

At the co-op, we value our relationships with all our producers. We understand the unexpected happens, so consistent, reliable communication about changes to what is available and when is critical. These guidelines are intended to provide clarity and mutual understanding. If you have any questions, please don’t hesitate to reach out to me.

Sincerely,
 Becky Crook
 Produce Manager
 The Merc Co+op
 901 Iowa St
 Lawrence, KS 66044
 785-843-8544, ext 242
 produce@th Mercer.coop

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Appendix A - Survey Questions

Demographics Block

What is your farming experience?

- Owner of farm business
- Farm employee
- Farm helper / volunteer (unpaid)
- Intern
- No experience

What is your farming status?

- Currently farming full time
- Currently farming part time
- Used to farm but no longer
- Never farmed

If you are farming or used to farm, how many years of experience do you have?

- Less than 5 years
- 5-9 years
- 10 years or more

What is your highest education level?

- Less than high school
- High school graduate/ GED
- Completed a non-degree program (farm apprenticeship program)
- Some college
- 2 year degree
- 4 year degree
- Graduate degree

What is your level of business education?

- No formal business education
- Attended one or more business workshops
- Completed a non-degree program (ex. farm apprenticeship program)
- Completed some undergraduate business courses
- Obtained an undergraduate degree related to business
- Completed some graduate level business courses
- Obtained a graduate degree related to business

What is your gender?

- Male
- Female
- Other

What zip code are you located?

Business Skills Block

Below is a list of various components of standard business education. Please rank the importance of those components and how satisfied you are with the availability of resources on these skills.

	How important is this to small specialty crop farm business success?			How satisfied are you with resources on this topic?		
	Unimportant	Neutral	Important	Unsatisfied	Neutral	Satisfied
Accounting	☐	☐	☐	☐	☐	☐
Record Keeping	☐	☐	☐	☐	☐	☐
Financial Management	☐	☐	☐	☐	☐	☐
Risk Management	☐	☐	☐	☐	☐	☐
Business Planning	☐	☐	☐	☐	☐	☐
Tax Management	☐	☐	☐	☐	☐	☐
Farm Law	☐	☐	☐	☐	☐	☐
Budgeting	☐	☐	☐	☐	☐	☐
Credit Access	☐	☐	☐	☐	☐	☐
Marketing	☐	☐	☐	☐	☐	☐
Human Resources	☐	☐	☐	☐	☐	☐
Other (please specify below)	☐	☐	☐	☐	☐	☐