



## **Central Texas Local Food Price Study**

### **Series I – Commonly Grown Vegetables**

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December 15, 2017

Dear Reader,

I'd venture that we can all agree we want kids in Texas schools to eat healthier food and that all of us will be healthier if we eat more vegetables. Surely we also agree that price can be a deal breaker. Farms have a breakeven price and can't go lower; buyers have a set budget. This study sheds light on the prices and products required by buyers and sellers to increase consumption of Texas grown crops in Texas schools, hospitals, corporate cafeterias, and other institutions.

Is it reasonable to expect central Texas schools and other institutions to serve food that's grown in Texas? There is a perception among central Texas schools and other institutional buyers that they can't afford to buy locally grown food. There is a perception among central Texas farmers that institutional buyers won't pay enough for locally grown food. Are these perceptions accurate? Can farmers and buyers find prices upon which they can agree? If not, what is the price gap and can that gap be mitigated through augmented funding or policy changes?

Funders and other investors make significant investments in programs that support equitable healthy food access in schools, hospitals, and other institutions. Governments and nonprofits spend millions on farmer support programs. For these investments to be effective, farmers must earn enough to stay in business and buyers must pay a price that's within their budget.

Our study asks whether the prices buyers are willing to pay are even close to the prices central Texas farmers require to sustain their businesses. We find that for some vegetables, farm and buyer prices are reasonably close; for other vegetables, not so much. Broccoli for example, looks promising as a crop that could meet farmer and buyer price requirements. Carrots, on the other hand, may require slicing and dicing for schools to buy them.

Increased purchases of Texas grown crops adds value to the Texas economy and to rural communities. Most food in Texas comes from outside our state. While this is not a study of farm worker pay or working conditions, it is worth considering the extent to which consumption of imported vegetables may improve health outcomes in Texas at the expense of health outcomes elsewhere.

We hope you will use this report to develop practical solutions and strategies that increase consumption of healthy, Texas grown food for central Texans. This report is intended to catalyze discussion. It should not be used to plan crops or purchases, but rather could help inform contract negotiations, investment targeting, and deal making. Mostly, it serves to inform future discussions and research regarding expanded opportunities for farmers to serve institutional markets.

I would like to thank our supporters and funders for their confidence in our research team. Most people are uncomfortable talking about price, yet price is a key determinant of economic activity. Our supporters and funders understand that these difficult conversations are necessary for us to discover effective strategies and actions to increase consumption of healthy foods in schools and other institutions. On behalf of the team, I would like to thank the St. David's Foundation for funding this important study and for their commitment to making central Texas home to the healthiest people in the world.

Sue Beckwith, Executive Director

## Table of Contents

Executive Summary .....	7
Vegetable Summary Table.....	9
Introduction.....	10
Opportunities for Next Steps.....	12
Methodology and Project Design .....	16
Characterization of Respondents .....	18
General Findings Related to Vegetable Pricing .....	20
Understanding the Individual Vegetable Data .....	25
Summer Squash.....	26
Okra .....	27
Cucumbers.....	28
Carrots .....	29
Bell Peppers.....	30
Tomatoes.....	31
Eggplant.....	32
Lettuce.....	33
Cabbage .....	34
Broccoli.....	35
Red Potatoes .....	36
Sweet Potatoes.....	37
Limitations .....	38
Glossary .....	39
Appendix A	
Farmer Survey.....	41
Appendix B	
Buyer Survey.....	55
Appendix C	
Lessons Learned About Survey Process.....	69

## Executive Summary

This report presents the findings of a fall 2017 project study of the prices required by buyers and sellers to increase consumption of Texas grown crops by Texas schools, hospitals, corporate cafeterias, and other institutions. Getting more fresh, healthy, locally grown vegetables into these institutions has the potential to improve the physical health of Texans and the economic health of farms and rural communities.

Development of robust, sustainable wholesale markets for locally grown vegetables requires prices that both provide profits to local farmers and fall within the budgets of wholesale buyers. The research team identified 12 vegetables that are commonly grown by Central Texas farms which seemed to have wholesale potential based on the team's existing knowledge of regional markets. Both farms and wholesale buyers were asked to provide the upper and lower prices they receive seasonally for each of those vegetables at several volumes ranging from 1-10 pounds to more than 4,000 pounds.

Fifteen farmers and six buyers provided usable responses. With small sample sizes, caution should be used in interpreting and generalizing results. However, several clear themes emerge from the data. Farm respondents did not report seasonal variation in pricing, but buyers did report paying different prices in different seasons. Nor were there differences in pricing reported by certified organic and uncertified farms. Farms that were not certified reported using sustainable practices. Farm prices generally decreased and became less variable at high volumes.

Median upper and lower prices were compared for farmers and wholesale buyers. Three vegetables were identified as having high potential for institutional purchase: broccoli, summer squash, and cucumbers (see "Vegetable Summary" table on page 9). Five additional vegetables had medium potential: okra, bell peppers, eggplant, cabbage, and sweet potatoes. Three vegetables had low to no potential for the wholesale market: carrots, tomatoes, and red potatoes.

Results of this study provide general guidelines in considering which Central Texas vegetables might warrant further research regarding wholesale market potential. Study findings may help farms and buyers compare their individual prices to the range of prices reported here, particularly the range of prices over which farms and buyers might find a mutually acceptable price. These results may also inform discussions of strategies to bridge differences in real and perceived gaps between local farm and wholesale buyer prices.

<b>HYPOTHESES</b>	<b>FINDINGS</b>
Significant unmet wholesale demand exists for a variety of local sustainable agricultural food products in Central Texas.	Several buyers indicated an interest in purchasing more local vegetables. About half said they would be willing to pay slightly more for locally (grown) sourced foods if they had a reliable source. On the other hand, the median high price paid by buyers was often lower than the median low price farmers reported receiving. Buyers' and farmers' ranges of median prices for okra, eggplant, and broccoli indicated strong potential for wholesale purchases of these vegetables. However, fewer buyers purchased okra and eggplant, limiting overall demand.

<p>Existing Texas sustainable farmers' perception of wholesale demand (both price and volume) underestimates actual demand for those products.</p>	<p>Many farms at smaller acreages expressed a willingness to expand. These farms were currently not filling orders at institutional volumes, and smaller orders were filled at higher prices. Farms not currently selling at higher volumes reported higher prices at lower volumes as compared to farms with high-volume sales (particularly sales above 100 pounds). It is possible that these farmers could benefit from education about pricing differentials.</p>
<p>Existing Texas sustainable farmers' perception of the profitability of supplying wholesale demand is likely lower than reality.</p>	<p>Some advisors to the research team also noted that farmers may not understand that unsold produce in consumer markets reduces the effective price received while wholesale contracts may provide a more certain market.</p>
<p>Existing and potential wholesale buyers of food products for human consumption perceive excessive expense related to purchasing from local farms and ranches (price, logistics, ordering, billing, payment).</p>	<p>Wholesale buyers do, in fact, express concern about pricing. Schools in particular are price-sensitive due to requirements that cost be a foremost consideration in purchasing decisions. However, many buyers, including school buyers, were willing to pay more for vegetables processed into more convenient forms, such as diced bell peppers, carrot sticks, and broccoli florets to save labor costs. As previously noted, about half said they would be willing to pay slightly more for locally sourced (grown) foods if they had a reliable source. Some buyers also had logistics concerns that favored suppliers who could deliver all needed products in order to reduce the number of deliveries.</p>



## Vegetable Summary<sup>1</sup>

Vegetable	Buyer Median Upper Price (B)	Farm Median Lower Price (F)	Difference (B - F)	Comments	
				<p><b>Green</b> – High potential for institutional purchase. Close price match for both farms and buyers. Demand appears sufficient to warrant further consideration.</p> <p><b>Orange</b> – Medium potential for institutional purchase. Price match for farms &amp; buyers has some challenge or limitation.</p> <p><b>Red</b> – Low to no potential for institutional purchase.</p>	
Summer Squash	\$ 1.16	\$ 1.20	- \$ 0.04	Higher volumes above 50 lbs are required for price match; highest demand in spring when local availability highest.	
Okra	\$ 2.95	\$ 2.50	+ \$ 0.45	Price match is very good for farms; disadvantage is that demand is very low. No schools surveyed bought okra. May be worth further research.	
Cucumbers	\$ 1.21	\$ 1.43	- \$ 0.22	Popular institutional vegetable. Higher volumes above 101 lbs required for price match. Demand is year-round, local supply strongest in spring.	
Carrots	\$ 1.08	\$ 1.61	- \$ 0.53	Very popular institutional vegetable but farmers will struggle to meet buyer price. Demand high for processed carrots.	
Bell Peppers	\$ 1.34	\$ 1.50	- \$ 0.16	Highest buyer price in winter when few grown locally.	
Tomatoes	\$ 1.39	\$ 1.90	- \$ 0.51	Buyer prices consistently lower than farmer prices; strong price pressure from imports.	
Eggplant	\$ 2.40	\$ 1.75	+ \$ 0.65	Not currently popular among institutional buyers.	
Lettuce (1 lb bag)				Insufficient data on washed lettuce.	
Cabbage	\$ 0.88	\$ 1.13	- \$ 0.25	Warrants further investigation; often bought by head not pound so data inconclusive.	
Broccoli	\$ 2.14	\$ 1.65	+ \$ 0.49	Highest buyer price in winter; farmers grow full heads; schools want florets, which are labor intensive.	
Potatoes (red)	\$ 0.60	\$ 1.52	- \$ 0.91	Limited data; few farmers are growing; price pressure from imports is strong.	
Sweet Potatoes				Demand appears high, farm data inconclusive.	

<sup>1</sup> Prices are per pound. Price varies with quantity; larger orders bring lower prices.

# Central Texas Local Food Price Study: A Pragmatic Value Chain Study

## Study 1: Commonly grown vegetables

### Introduction

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This study examines the prices farmers are willing to receive for their products and the prices wholesale buyers are willing to pay. Our intention is to shed light on the core issues of supply, demand, and price to develop a clearer understanding of market forces that work for or against strategies to increase healthy food access using locally grown food.

Funders, organizations, and government agencies working to increase access to healthy food in Central Texas devote significant resources to programs, process, policy, and infrastructure in our communities. How can we refine and target our strategies to successfully influence positive change? Can schools, universities, and hospitals afford to buy healthy, locally grown food? Can family-scale farmers afford to sell to institutional markets? Are buyers willing to pay enough to support farmers growing food without jeopardizing their livelihoods and business viability? Is it financially realistic to include locally grown food in healthy food initiatives?

The Central Texas Local Food Price Study will benefit funders, organizations, and government agencies working to increase healthy food access to lower income families in Central Texas. This study provides sound research to enable these change agents to focus resources, strategies, and tactics on products and sales outlets that work best in the marketplace, thereby leveraging resources to create the most effective and expeditious change. This study compiles hard data about optimal wholesale market prices by studying twelve (12) specific vegetables that are commonly grown in Central Texas.

This study is intended to estimate the prices at which it may be possible for farmers and wholesale buyers to meet on specific vegetables. It is not intended to be an assessment of price differential of organic and conventional and it is not a supply analysis. Rather this study gives readers a clearer understanding of the price differential between buyers and sellers of fresh vegetables.

To understand farmers' prices, we asked them their low and high prices for various quantities and various seasons across all markets. By asking about all markets, we are able to collect real world data and avoid speculation about what might be sold at what potential price. We asked buyers what they are paying now across all sources, again, to avoid speculation.

In discussions about serving locally grown vegetables in schools, hospitals, and other institutions, we often talk around price. We say it varies with season and quantities. We say we want to focus on determining if the demand exists. We say we'll talk about price later. This study is an attempt to look directly at price, as difficult as it may seem to be. We have tried to provide data that show what Central Texas farmers are willing and able to accept in order to earn a decent living in Central Texas. We hope this report will inform the conversations and enable action based on an understanding of the pragmatic aspects of market prices for at least these twelve vegetables.

The "value chain" is a way of looking at the traditional supply chain with the added perspectives of value and equity. From a value chain perspective, as we examine the flow of products, services, and money, we ask the questions, "What value does each participant get from their participation in the value chain?" "Is value distributed fairly and equitably to the players along the chain?" Price is a key indicator of value to farmers and buyers - and price is a key driver of economic activity. By researching prices for specific

vegetables, we can discover which vegetables are likely to create value for both buyers and sellers in the wholesale market. Those vegetables then become the focus of deeper value chain work including market development which can lead to increased sales of that vegetable.

### **How We Hope This Report Will Be Used**

We hope this report will be used by Central Texas buyers, producers, funders, healthcare and local food advocates, and others to inform and refine their strategies for increasing consumption of healthy local food in Central Texas. We believe this study provides data and considerations to inform conversations supporting both specific direction with regard to commonly grown vegetables and systemic changes in data management and regional collaboration.

### **We hope this report will catalyze discussions in Central Texas supporting the following:**

- (1) Encourage Texas farmers and ranchers to increase production of good, clean, fair food for the Central Texas wholesale market based on hard data about demand volume and willing prices by specific product type.
- (2) Encourage Central Texas wholesale food buyers to target increasing shares of their procurement budgets to local sustainable food based on hard data about quantity and prices.
- (3) Encourage Central Texas funders to continue this research to inform strategic decisions related to improving overall health, increasing regional economic prosperity, and supporting Central Texas sustainable family farms.
- (4) Encourage food policy makers, advocates, and industry associations to create support systems such as value chain coordination to target and track quantitative supply and demand for local sustainable food through the value chain for the purposes of:
  - a. regional economic development and rural job creation, including fostering and rebuilding a robust agricultural economy based on sustainable practices; and
  - b. increasing consumption of higher nutritional density and associated health benefits including lower long-term healthcare-related costs.

## Opportunities for Next Steps

These opportunities are drawn from stakeholder input and are based on study results, firsthand experience of interviewers, and professional experience of stakeholders.

1. Use this study to inform change in institutional buying of locally grown, healthy vegetables.

This study can be used by funders, organizations, and government agencies working to increase access to healthy food in Central Texas to inform their programs, process, policy and infrastructure in our communities. This study provides sound research to enable these change agents to focus resources, strategies, and tactics on products and sales outlets that may work best in the marketplace, thereby leveraging resources to create the most effective and expeditious change. Do not use this study to plan specific purchases or to select crops to plant; the results of this study provide general guidelines for considering which Central Texas vegetables might warrant further research regarding wholesale market potential.

2. Improve communication with target buyers, especially K-12 schools.

The small sample size in this study is due in large part to the significant time required to set up interviews with schools. On several occasions, after multiple phone calls and emails, interviewers were successful in making contact only when they went to the school site without an appointment and found the food service staff with whom they could schedule the interview. For future studies, how do we make contact with the right person more quickly and how can we change our approach to diminish the feeling of apprehension that interviewers perceived from school staff? It makes sense that staff would be apprehensive about sharing information with an outsider to their system.

Ideas for how to improve communication include:

- Create a regional school food collaboration program as a mechanism for improved communication.
- Work directly with superintendents to gain access to the right staff for interviews.
- Work directly with school boards to gain access to superintendents to identify staff to interview.
- Create a contest to stimulate competition among schools to participate in future studies.

3. Focus resources on the most interested school districts.

Create regional momentum for positive impact by working constructively with districts most interested in purchasing local and/or healthier food. Avoid spending resources to “sell” the notion of purchasing healthy local food to districts for which healthy local food is not currently a high priority. School food procurement systems are complicated and may be best changed by committed people working inside the system.

We conducted most of our buyer interviews with schools because healthy local food in schools is a shared priority of funders, farmers, and community leaders. Through our interviews and attempts to setup interviews for this study, we found that Central Texas school districts seem to be either actively pursuing ways to increase healthy, local food purchases or not pursuing it at all. Reasons for not pursuing local food purchasing were anecdotally provided to our interview team and included short staffing, small food budgets, and feeling overwhelmed by regulatory constraints. Reasons for pursuing local food purchases included a desire to feed healthier food to students, interest in supporting local agriculture, and a commitment to supporting local economies.

Strategies for allocating resources to school food programs that focus on the few districts actively pursuing local food purchasing may have more impact than a region-wide approach. There may be a short term strategic advantage by working with a smaller, committed group to analyze and mitigate

barriers, test and evaluate various implementation strategies, and share results region-wide with the intention to replicate success.

4. Explore opportunities specific to small rural districts.

Small rural districts may be able to implement simpler distribution and logistics systems. For example, if a school were paired up with a few farms nearby, then perhaps the farmers could deliver directly to the school rather than requiring a distributor. Aggregation and distribution costs typically add at least 28% to the price. The vegetables in this study found to have prices that may meet both buyer and seller requirements are broccoli, summer squash, and cucumbers. The difference in buyer and seller prices is very small, leaving little room for additional costs of storage and distribution.

5. Help school districts improve data management systems.

Our interviews were conducted in person and often included reviewing velocity reports<sup>2</sup> with school staff. There appeared to be no clear method of comparing purchases of specific products from one school year to the next. It seems important to find ways to track metrics for school food purchases over time. How will schools know if they are increasing the amount of vegetables purchased? How will they know if they have increased purchases of healthy local food by volume and cost? Data management systems employed by school districts and other institutions must support the metrics required for evaluation of programs to increase purchases (and subsequent consumption) of healthy local food.

6. Prioritize vegetables for which the price of the fresh product appears to be agreeable to both farms and buyers.

Use this price study to prioritize broccoli, summer squash, and cucumbers to conduct more in-depth conversations and research of markets and processing opportunities for institutional purchase. Also examine opportunities for okra, bell peppers, eggplant, cabbage, and sweet potatoes. A structured approach might look like this: a) Identify barriers to purchasing by schools and other institutions; include barriers to preparation, serving, logistics, distribution, policy, and supply; b) Eliminate or mitigate barriers (plan and implement); c) Identify useful metrics and evaluate; d) Share and replicate across the region.

7. Prioritize vegetables for which the price of a processed product may be agreeable to both farms and buyers.

Study data support closer examination of the potential for sale of lightly processed broccoli, summer squash, and cucumbers to schools and other institutions. Prices of these vegetables in whole fresh form are a close match for buyers and sellers and buyers told us they prefer to purchase these vegetables as fresh cut. It is recommended that a pilot project be implemented to prepare lightly processed vegetables to Central Texas schools and other institutions.

Additionally, this price study justifies further examination of processing opportunities for okra, bell peppers, eggplant, cabbage, and sweet potatoes. For example, schools don't buy much okra or eggplant; is that because no recipes call for these vegetables? Or perhaps some post-harvest processing is needed for a sale to occur. For institutional purchase, bell peppers may need to be diced, carrots may need to be coiled, and broccoli may need to be cut into florets. A structured approach might look like this: a) Identify barriers to purchasing of specific processed vegetables by schools and other institutions; include barriers to processing (including regional infrastructure), preparation, serving,

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<sup>2</sup> A velocity report tracks inventory and the rate at which inventory is depleted. For school food, these reports show what was purchased, quantity purchased, and when.

logistics, distribution, policy, and supply; b) Eliminate or mitigate barriers (plan and implement); c) Identify useful metrics and evaluate; d) Share and replicate across the region.

8. When using this data, recognize that wholesale buyers base buying decisions on different criteria across sectors or even within a sector. For example, corporate cafeterias are interested in selling food for profit or at least cost recovery. Institutions with in-house food service staff may prioritize nutrition above profit although cost recovery is not unimportant.

9. Direct resources to further value chain development and analysis for the vegetables identified as having high potential for institutional purchase.

Further value chain development could include (a) a pilot project to process broccoli heads into florets or to slice carrots into bite size bits, (b) experiment with growing contracts between farmers and specific buyers<sup>3</sup>, (c) developing recipes with food service staff for local crops such as okra, (d) holding a community celebration for broccoli (e.g. [BrassicaFest in Baltimore](#)), and/or (e) working with a specific distributor to increase purchasing of these target vegetables.

10. Improve regional coordination and cross-organization communication.

Many organizations and businesses are interested in increasing consumption of healthy, local food in Central Texas institutions especially in schools, hospitals, correctional facilities, and workplaces. For example, the Good Food Purchasing Program (GFPP)<sup>4</sup>, led by Edwin Marty of the City of Austin Office of Sustainability, has made significant progress in implementing and tracking key metrics to guide local food purchasing by Austin ISD, UT Austin, and the Austin Convention Center. What support exists for regional implementation of GFPP in Central Texas? What opportunities can be discovered by better communication among those interested in healthier local food consumption in Central Texas?

11. Find ways to share resources between urban and rural institutions.

Urban institutions often have more resources to dedicate to new initiatives including local food procurement than do smaller, rural institutions. We recommend finding ways to transfer lessons learned from better-resourced to lesser-resourced institutions. This knowledge transfer could take the form of training, mini-conferences, seminars, and/or ongoing collaboration teams.

12. Conduct a larger study to validate results of this study, incorporating lessons learned about the survey process.

13. Study distribution and logistics costs. Keep in mind that if pricing is not a close match between buyers and sellers, then careful attention should be given to the level of resources devoted to study of distribution and logistics.

14. Present these study results to the team studying feasibility of a Central Texas food hub and help that team integrate these results to inform their study. The food hub feasibility team includes many of the organizations participating in this study.

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<sup>3</sup> Leverage the work of Carolina Mueller of FarmShare Austin to use growing contracts for the City of Austin Central Health Healthy Corner Store initiative.

<sup>4</sup> The Good Food Purchasing Program is a nationally renowned metric-based framework encouraging large institutional buyers to direct their buying power toward five core values: local economies, environmental sustainability, valued workforce, animal welfare, and nutrition.

15. Leverage study results for farmland preservation. Work with the Austin/Travis County Food Policy Board to research how this data can be used to support efforts to preserve farmland. What follow up research is needed? Is demand from institutions sufficient to support multiple new farms in Central Texas? In the context of high and increasing land values, how feasible is it for a farmer to earn a living selling to institutional markets?
16. Apply lessons learned from this study to subsequent studies in the series. This study is Study 1 and is the first in a series of possible studies of the local food value chain in Central Texas. Engage in dialogue with buyers and sellers to identify the next study to prioritize, secure funding and proceed. Given the challenges our interview team experienced in reaching school districts, it seems it would be most effective to determine study priorities based on the strength of demand among the largest institutional buyers in Central Texas.

Central Texas Local Food Price Study – Example of a Pragmatic Value Chain Study Series

- Study 1: Category = Produce = (12) vegetables commonly grown now
- Study 2: Category = Livestock: 2a) Beef; 2b) Poultry; 2c) Goat; 2d) Sheep
- Study 3: Category = Grains = wheat sub-type a, b, c, rye, etc.
- Study 4: Category = Dairy
- Study 5: Category = Cover Crops = daikon radish, peanuts, peas, etc.
- Study 6: Category = Produce = less commonly grown now or potential
- Study 7: Category = Fruit and Nuts including olives and grapes
- Study 8: Category = Eggs and other

17. Research academic literature to identify measures of nutrient density. Is there a potential set of indicators of nutrient density that is as widely accepted as, say, that of shelf stability? How can nutritional quality be measured and communicated? Is there a way to distinguish a healthy, local product to support local purchasing, much in the way that a consumer might purchase a Dell computer with a warranty from a reputable company over a no-name computer?
18. Share study results with media including rural press and school boards across the region.
19. Expand the sample to explore differences in willingness-to-pay across types of wholesale buyers (e.g., grocery stores, hospitals, corporate cafeterias). This study takes a pragmatic approach looking at prices currently available in the market. Although asking about willingness-to-pay calls for speculation by the interviewee, there was a general sense among stakeholders that this line of inquiry might generate useful results.
20. Continue to seek specific feedback on this report from farms and buyers, regardless of whether they participated in this study. How will they use this data? What ideas do they have for improvement for future studies?

## **Methodology and Project Design**

The study consisted of two surveys: a farm survey and a buyer survey. Staff of the Texas Center for Local Food and Texas State University students conducted the surveys. Texas A&M AgriLife Extension faculty analyzed survey results. The research protocol was approved by the Texas State University Institutional Review Board (ID: 2017801), and included staff, faculty, and students from all three partnering entities.

### **Farms**

Farms were surveyed in September and October 2017. More farms were able to provide price data for smaller volumes than for larger volumes. A limited number of responses and similar prices reported by individual respondents across their high volumes suggested the use of a single category for volumes above 100 pounds. Thus, 1-10, 11-50, and 51-100 pound volume ranges are reported individually while the four volume categories above 101 pounds were combined. When fewer than 3 farms provided prices for a volume category, it was excluded from the analysis to preserve farmer confidentiality.

Farm prices were remarkably stable across the growing season. Because seasonality did not affect prices, each farm's high and low prices for each volume category were taken from its seasonal maximum and minimum values across that volume. Any notable differences in seasonal production are noted in the text of the results.

When fewer than three farms provided prices for a volume category, it was excluded from the analysis to preserve respondent confidentiality. This occurred for lettuce, broccoli, and sweet potatoes. In fact, sweet potato data was only publishable for the 1-10 pound volume. This indicates that sweet potatoes may be harder to obtain in bulk.

Median prices are reported because they are less subject to the influence of sometimes extreme outliers. The median upper indicates the median of the high price farms reported for a vegetable in a given volume category while the median lower prices indicates the median of the lower prices received. Maximum and minimum prices are also reported to demonstrate the full range of responses, but these values are subject to outliers and should be regarded accordingly.

### **Buyers**

Buyers in Central Texas were surveyed in September, October, and November 2017 to gauge their current purchasing patterns, prices, and interest in purchasing additional local products. While respondents were asked to categorize their purchase prices by volume purchased (e.g., \$1.50/lb when purchasing 51-100 pounds), respondents rarely noted volumes. Furthermore, price differences were not substantially different based on volume in the available data. This differed from the previous farm price study, where volumes were important to setting prices. However, all respondents typically purchase large quantities so it is reasonable that their purchases would fall within a smaller range of volumes and prices.

On the other hand, while seasonality was less important to farm pricing, buyers reported seasonal price differences. Therefore, median high and low prices respondents reported for each vegetable in each season were calculated. For example, carrots commanded higher median prices in the winter and spring (\$1.08/lb) as in the fall (\$0.98/lb). As with farm prices, median prices are reported because they are less subject to the influence of outliers. The median upper and lower prices have the same definition as for farm responses. In addition to seasonal variation, differences between the high and low prices paid within a season are of interest.



Some reviewers suggested that when buyers are schools with outsourced meals instead of an internal child nutrition department, child nutrition may become less important than profitability.

### **Comparing Farm and Buyer Responses**

Wholesale buyers tend to buy at larger volumes so farm data for volumes greater than 100 pounds is most often used in comparing prices. Prices for the 51-100 lb volume are included in tabular and graphic representations to provide additional information that may be of use to farms considering scaling up their operation to serve wholesale markets as well as for wholesale buyers who may be interested in accessing smaller volumes. Prices for combined 1-10 and 11-50 lb volumes are included in the graphic presentation of data to show the difference between smaller volume and larger volume prices for each vegetable.

In the price differential data, the basis of comparison is the farm median lower price for the 101+ lb volume. The farm lower median price reflects the median of the low prices farms reported, which are expected to be representative of their breakeven prices. Farms' minimum prices may be unsustainable for both farms and buyers in the long run. On the other hand, farms' high prices are often beyond the prices buyers reported paying their current suppliers. Farms' median lower prices are subtracted from buyers' median lower and upper prices to estimate a potential range of increased or decreased prices farms might receive for their vegetables. The median upper price in the highest priced season is also compared to the farm median lower price to see if farms might compete in the wholesale market in seasons when buyers offer higher prices. Each price difference is calculated as a percent of the farm median lower price to show the relative effect of the dollar-value difference.

## Characterization of Respondents

### Farmers

A total of 16 farmers were surveyed, usually at their place of business, with 15 providing usable data. While this sample is small, it is similar to that of a 2015 survey of 11 vegetable farms in Minnesota.<sup>5</sup> Farm sizes ranged between 5 and 200 acres with cultivated vegetable acres ranging from less than an acre to more than 150 acres. Median farm size was 40 acres, and median 10 cultivated acres. Although five respondents indicated that they did not have the capacity to expand their operations, remaining respondents were willing to expand by one to 45 acres (median = 4 acres). Midsize farms of about 10 to 80 acres indicated the most available land for production. The largest farms of more than 80 acres had almost no expansion capacity.

Farmers were asked to state their farm revenue in seven income classes ranging from less than \$25,000 to more than \$5 million. Most farms were clustered in the income classes between \$25,000 and \$500,000 and trended toward having less than \$250,000 in sales. In fact, 40% had sales under \$100,000.

Almost all farms sold directly to consumers, and 11 sold to restaurants. Six reported selling to food or meal delivery services. Nine farms reported serving wholesale markets, usually grocery stores, brokers, or distributors but also schools, universities and corporate cafeterias. All respondents sold to at least two markets (most often consumers and restaurants, with grocery stores ranked third). However, respondents were not asked to break down their sales by market; thus, prices by market are not available.

Seven farms reported having organic certification. Farmers with certification tended to grow all their vegetables organically. There were no systematic price differences between certified organic and non-organic produce. Farms that did not have organic certification generally reported using sustainable growing practices, which, when combined with locally grown status, may be similarly valued by consumers.

Farmers were asked to provide the range of prices received for each of 12 vegetables across four seasons and seven volume categories ranging from 1-10 pounds sold to more than 4,000 pounds sold. In other words, farmers were asked to provide a high and low price for each vegetable they produced in each season and in each volume category. Vegetables discussed included summer squash, okra, cucumbers, carrots, bell peppers, tomatoes, eggplant, lettuce, cabbage, broccoli, red potatoes (or Yukon Gold), and sweet potatoes. Of course, not all farmers produce all crops in all seasons or sell in all volume categories. Nevertheless, the effort of the farmers in constructing this detailed data set is greatly appreciated.

### Buyers

Six buyer surveys were completed. This survey coincided with a Texas Department of Agriculture audit of school districts, which was the major focus of buyers during this timeframe, thus limiting the number of schools available to complete our survey. Additionally, several buyers expressed reluctance to discuss prices. The current sample is expected to be representative of other buyers, and this will be verified as additional responses (i.e., late respondents) are compared to early respondents, which is a standard statistical practice.

Among the respondents are three Pre-K through Grade 12 school districts, a distributor, and a corporate cafeteria. School districts exhibit structures, values, and buying patterns that differ from buyers passing costs onto consumers. School districts reported more locations and meals served per week than other

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<sup>5</sup> Pesch, Ryan and Brigid Tuck. "Financial Benchmarks and Economic Impact of Local Food Operations." University of Minnesota Extension Center for Community Vitality, December 2015.

entities, ranging from 28,000 to 400,000 meals served weekly. School buyers consistently ranked price as the most important factor affecting their purchasing decisions, followed by availability. One buyer noted that the Texas Department of Agriculture monitors compliance with the USDA requirement that price be a primary determinant in purchasing decisions.

When asked about general importance of sustainable and organic to purchasing decisions, school buyers indicated positive interest. About half indicated a willingness to “pay slightly more for locally (grown) sourced foods” if they had a reliable source. However, when asked to rate attribute importance on a five-point Likert scale, organic, sustainable, and local attributes were consistently at a 3 or lower, indicating these factors are not more than moderately important to school buyers. One school buyer added that reducing the number of deliveries by reducing the number of vendors is an additional important concern. School buyers specifically noted their price sensitivity in their responses.

Respondents were generally interested in purchasing additional local produce. However, interest was product-specific. Respondents overwhelmingly were interested in purchasing more local carrots, broccoli, cabbage, and red potatoes. Most were also interested in summer squash, cucumbers, lettuce, sweet potatoes, and tomatoes. However, most were unable or unwilling to estimate how much more they would be willing to pay a reliable local source for a given vegetable. Packaging and processing preferences may provide farmers an avenue to cultivate local buyers, if farmers are willing to meet those needs. Economic development partnerships might facilitate on- or off-farm processing centers or food hubs. Another concern is whether Central Texas farmers have a competitive advantage in growing the crops most demanded.

## **General Findings Related to Vegetable Pricing**

### **Farms**

Farm prices were remarkably stable across the growing season. For example, many farms reported the same price range for all seasons in which a crop was grown. Because seasonality did not affect prices, each farm's high and low prices for each volume category were taken from its seasonal maximum and minimum values across that volume. Furthermore, organic status did not have a systematic effect on the prices reported by respondents and is therefore not discussed in this report.

Due to the limited number of responses and similar prices reported by individual respondents across their high volumes, 1-10, 11-50, and 51-100 pound volume ranges are reported individually while the four volume categories above 100 pounds were combined. The largest farms were more likely to report high volume sales and sales to institutional markets and also tended to report some of the lowest prices at those high sales volumes. Even at low sales volumes, farms with high volume sales generally reported lower prices than farms without high volume sales. However, the largest farms were also less likely to indicate an ability to expand.

Median prices are reported in the table below because they are less subject to the influence of sometimes extreme outliers. In general, prices were lower and less variable (less distance between the minimum and maximum) at higher volumes. The median upper price indicates the median of the high prices farms reported for a vegetable in a given volume category while the median lower price indicates the median of the low prices reported. When fewer than 3 farms provided prices for a volume category, it was excluded from the analysis to preserve farmer confidentiality.

With only 16 respondents and 15 usable responses, farm price data should be considered with caution. The data are intended to show price trends and demonstrate general price ranges. These prices serve as a guide in considering which vegetables might warrant further research regarding wholesale market potential. While researchers attempted to reach a variety of farm sizes and types, prices presented in this report should not be taken as fully representative of all Central Texas farms.

Median Farm Prices at Upper and Lower Ranges by Vegetable and Volume Category (in Pounds), \$/lb.

Product	Volume by Weight	Median Upper Price	Median Lower Price	Product	Volume by Weight	Median Upper Price	Median Lower Price
<b>Summer Squash</b>	1-10	\$2.50	\$2.00	<b>Eggplant</b>	1-10	\$3.25	\$2.90
	11-50	\$2.00	\$1.81		11-50	\$2.74	\$2.13
	51-100	\$1.70	\$1.25		51-100	\$2.18	\$1.81
	101+	\$1.41	\$1.20		101+	\$1.75	\$1.75
<b>Okra</b>	1-10	\$4.00	\$4.00	<b>Lettuce (Mixed Greens, washed)</b>	1-10	\$6.50	\$6.50
	--	--	--		--	--	--
	--	--	--		--	--	--
	--	--	--		--	--	--
	11-50	\$2.75	\$2.75		11-50	\$5.40	\$5.40
51-100	\$3.25	\$2.75	51-100	\$4.82	\$4.82		
101+	\$2.50	\$2.50	101+	--	--		
<b>Cucumbers</b>	1-10	\$2.50	\$2.00	<b>Cabbage</b>	1-10	\$2.38	\$1.95
	11-50	\$1.82	\$1.73		11-50	\$1.65	\$1.65
	51-100	\$1.50	\$1.50		51-100	\$2.00	\$2.00
	101+	\$1.44	\$1.43		101+	\$1.27	\$1.13
<b>Carrots</b>	1-10	\$3.00	\$3.00	<b>Broccoli</b>	1-10	\$3.00	\$2.70
	11-50	\$2.38	\$2.25		11-50	\$2.25	\$2.25
	51-100	\$2.00	\$2.00		51-100	--	--
	101+	\$1.75	\$1.61		101+	\$1.98	\$1.65
<b>Bell Peppers</b>	1-10	\$4.00	\$3.50	<b>Potatoes (Red)</b>	1-10	\$2.88	\$2.25
	11-50	\$3.00	\$2.80		11-50	\$2.00	\$1.93
	51-100	\$2.15	\$1.75		51-100	\$1.80	\$1.80
	101+	\$2.25	\$1.50		101+	\$1.64	\$1.52
<b>Tomatoes</b>	1-10	\$4.00	\$3.00	<b>Sweet Potatoes</b>	1-10	\$2.00	\$2.00
	11-50	\$3.30	\$2.60		11-50	--	--
	51-100	\$2.65	\$2.06		51-100	--	--
	101+	\$2.50	\$1.90		101+	--	--

**Buyers**

Unlike farms, wholesale buyers reported seasonal price differences. The table below lists the median upper and lower prices respondents reported for each vegetable in each season. Carrots, eggplant, broccoli, potatoes, and sweet potatoes also showed sizeable seasonable variation in pricing. Seasonal variation may provide windows for farms to supply wholesale markets even when overall prices across the year are below farm breakeven values.

Cucumbers, broccoli, and eggplant exhibited wider variation between high and low median prices within a season. This may reflect differences in buyers' quality, processing, and/or packaging requirements. Evidence for this possibility was provided by information volunteered by buyers about the form in which they preferred to purchase a given vegetable (e.g., diced bell peppers). Price differences may also reflect an uneven market and opportunities for farms to provide a consistent product supply.

Median Buyer Prices at Upper and Lower Ranges by Vegetable and Season, All Buyers, \$/lb.

Product	Season	Median Upper Price	Median Lower Price	Product	Season	Median Upper Price	Median Lower Price
<b>Summer Squash</b>	Winter	--	--	<b>Eggplant</b>	Winter	0.80	0.43
	Spring	1.33	0.88		Spring	0.57	0.56
	Summer	1.29	0.73		Summer	2.31	1.04
	Fall	1.06	0.69		Fall	2.29	1.02
<b>Okra</b>	Winter	--	--	<b>Lettuce (Mixed Greens, washed)</b>	Winter	1.40	1.05
	Spring	--	--		Spring	2.21	1.19
	Summer	2.40	2.40		Summer	1.51	1.19
	Fall	2.95	2.95		Fall	1.51	1.19
<b>Cucumbers</b>	Winter	1.21	1.09	<b>Cabbage</b>	Winter	0.75	0.52
	Spring	1.43	0.77		Spring	0.75	0.40
	Summer	1.43	0.77		Summer	0.89	0.39
	Fall	1.19	0.57		Fall	0.88	0.67
<b>Carrots</b>	Winter	1.08	1.08	<b>Broccoli</b>	Winter	3.07	0.95
	Spring	1.08	1.08		Spring	2.73	0.96
	Summer	0.48	0.46		Summer	1.47	1.02
	Fall	0.98	0.81		Fall	2.09	1.70
<b>Bell Peppers</b>	Winter	0.94	0.77	<b>Potatoes (Red)</b>	Winter	0.58	0.49
	Spring	1.27	0.56		Spring	1.41	0.99
	Summer	0.79	0.71		Summer	0.44	0.77
	Fall	1.31	0.88		Fall	0.77	0.46
<b>Tomatoes</b>	Winter	1.32	0.96	<b>Sweet Potatoes</b>	Winter	1.60	1.25
	Spring	1.19	0.99		Spring	1.03	0.86
	Summer	1.47	1.00		Summer	0.46	0.46
	Fall	1.34	0.97		Fall	0.65	0.51

Interestingly, despite requirements that schools weight price most heavily, schools did not consistently pay less for fresh vegetables, as shown in the table below. Schools seemed to be more price-sensitive to tomatoes and potatoes. The school high median price was lower than the overall median high, and all reported upper prices were lower for schools than for other wholesale buyers. However, schools, both at the median and individually, consistently paid more for cabbage and bell peppers. It seems likely that schools are working to get the lowest price possible for the processing and packaging they want. Differences between reported fall prices and the reference price, a comparable price from a regional wholesale distributor for a single week in fall 2017, also suggest that schools (and others) may be willing to pay more for carrots that are pre-sliced, for example. The ability of local farmers to provide desired processing and packing may be an important factor in building market share. At the same time, this study considers only fresh vegetable purchases, and schools are also using canned vegetables and flaked potatoes to maximize their nutrition budgets. This presents additional competition to local farmers.

Overall purchasing patterns also exhibited strong seasonal trends. For example, no wholesale buyer reported purchasing summer squash in winter or Okra in winter or spring. This was especially true for schools, which reported purchasing several types of fresh food in only the spring or fall. Schools didn't purchase summer squash in summer or cucumbers in spring or summer, and they only purchased fresh broccoli in the fall.

Median School Prices at Upper and Lower Ranges by Vegetable and Volume Category, All Buyers, \$/lb.

Product	Season	Median Upper Price	Median Lower Price	Product	Season	Median Upper Price	Median Lower Price
<b>Summer Squash</b>	Winter	--	--	<b>Eggplant</b>	Winter	--	--
	Spring	1.65	0.99		Spring	--	--
	Summer	--	--		Summer	--	--
	Fall	0.96	0.64		Fall	--	--
<b>Okra</b>	Winter	--	--	<b>Lettuce (Mixed Greens, washed)</b>	Winter	0.90	0.84
	Spring	--	--		Spring	2.60	1.19
	Summer	--	--		Summer	1.29	1.19
	Fall	--	--		Fall	1.29	1.19
<b>Cucumbers</b>	Winter	1.65	1.65	<b>Cabbage</b>	Winter	1.40	0.52
	Spring	--	--		Spring	1.26	0.40
	Summer	--	--		Summer	1.32	0.36
	Fall	1.15	0.57		Fall	0.88	0.67
<b>Carrots</b>	Winter	1.08	1.08	<b>Broccoli</b>	Winter	--	--
	Spring	1.08	1.08		Spring	--	--
	Summer	--	--		Summer	--	--
	Fall	0.98	0.81		Fall	2.09	1.70
<b>Bell Peppers</b>	Winter	1.24	1.12	<b>Potatoes (Red)</b>	Winter	0.55	0.39
	Spring	1.68	0.69		Spring	0.56	0.38
	Summer	--	--		Summer	0.44	0.44
	Fall	2.05	1.00		Fall	0.55	0.40
<b>Tomatoes</b>	Winter	1.30	0.76	<b>Sweet Potatoes</b>	Winter	2.46	2.04
	Spring	1.19	1.09		Spring	--	--
	Summer	1.08	1.08		Summer	--	--
	Fall	1.30	1.03		Fall	0.65	0.46

As in the farm survey, buyer data should be considered with caution. The data are intended to show general price ranges and inform consideration of what vegetables might warrant further research. Prices presented in this report should not be taken as fully representative of all Central Texas wholesale buyers.

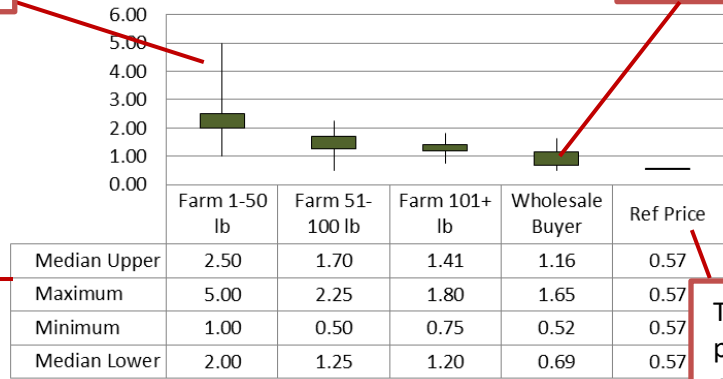


## Understanding the Individual Vegetable Data

Thin bars show the maximum and minimum prices reported by respondents.

Wider blocks show the range from the median of the lower prices reported by respondents and the median of the higher prices they reported.

### Summer Squash



The data table shows the median upper price and lower prices as well as the maximum and minimum prices reported by respondents.

The reference price is the price of a comparable product from a regional wholesale distributor in a single week in fall 2017.

The charts on the following pages show the relative price ranges of farms selling orders less than 50 lb, 51-100 lb, and 101+ lb and wholesale buyers. Farm respondents were asked to report the low and high prices they received or would be willing to accept at applicable sales volumes. Wholesale buyer respondents reported the high and low prices they paid. Thus, median upper reflects the median of the high price responses, and lower medians reflect the median of low price responses. The median values provide an estimate of effects on farms in the middle of the price distribution, and the buyers' median high and low values are well below reported farm prices. When there is a steady continuum from the minimum to the maximum, those values demonstrate a more complete range of prices over which farms and buyers might settle on a mutual price. However, outliers, which can be particularly problematic with a small sample size, can overemphasize positive or negative potential. Buyers' seasonality is not considered in these charts and calculations, although seasonal price and demand changes are discussed in accompanying text where relevant.

#### Summer Squash Price Differential (\$/lb and % of farm median lower price)

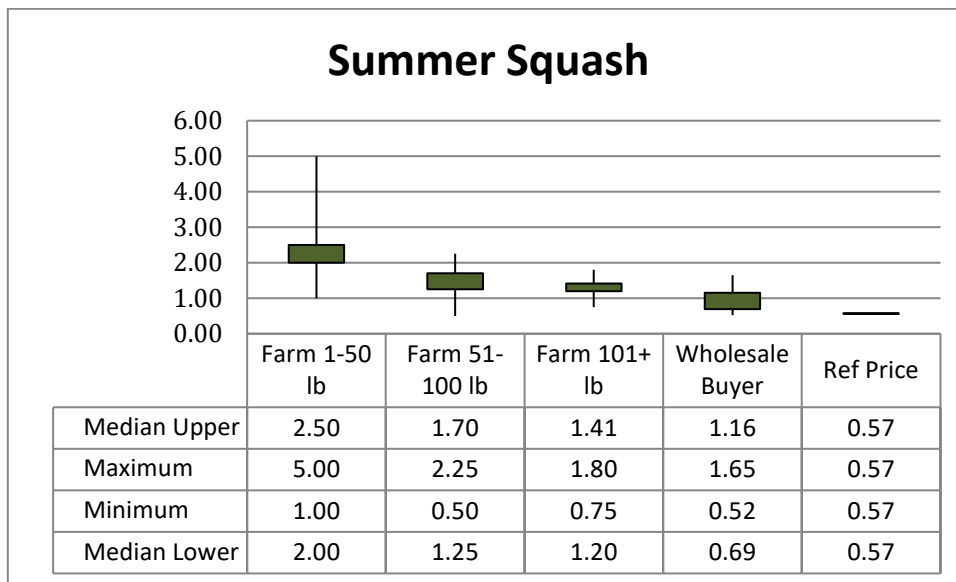
<b>Buyer median lower price - farm median lower price</b>	-\$0.51	-42.5%
<b>Buyer median upper price - farm median lower price</b>	-\$0.04	-3.6%
<b>Buyer seasonal high median upper price - farm median lower price</b>	\$0.13	10.8%

In the price differential data, the farm median lower price is used as the base. Farms often command prices above what wholesale buyers currently pay. However, focusing on farms' minimum prices may be unsustainable for both farms and buyers in the long run. On the other hand, considering the median low price may better serve the goals of this study, which include supporting local farms through sustainable prices and markets and building rural economies. Considering buyers' median lower and upper prices provides a potential range of increased or decreased prices for farms. Because buyers' prices sometimes varied seasonally, the median upper price in the highest priced season is also considered. The reader can view seasonal prices in the preceding median buyer prices in the table on page 23 called "Median Buyer Prices at Upper and Lower Ranges by Vegetable and Season, All Buyers, \$/lb."

## Summer Squash

Most farm respondents report growing summer squash. While no buyers reported winter purchases of summer squash, most Central Texas farms do not grow these squashes in the winter, at least at commercial quantities. Thus, purchasing patterns are aligned with regional supply windows, which could facilitate local purchasing.

Farms selling more than 100 lb of squash reported a median lower price of \$1.20/lb, which is 4 cents above buyers' median upper price. While the median farmer might make slightly less per pound at the buyer median upper price, there is space along buyers' price distribution in which to find a mutually acceptable price. Buyers reported paying the highest upper median price in the spring (\$1.33), and that seasonally higher price could provide farms a window to take advantage of a positive 13-cent price differential. Farms selling 51-100 lb quantities might also meet prices required to serve wholesale buyers. Farms selling at this smaller volume have a higher median lower price of \$1.25. Therefore, they stand to lose more revenue per pound at wholesale buyers' prices, but they may be able to offset lower prices with a greater sales volume.



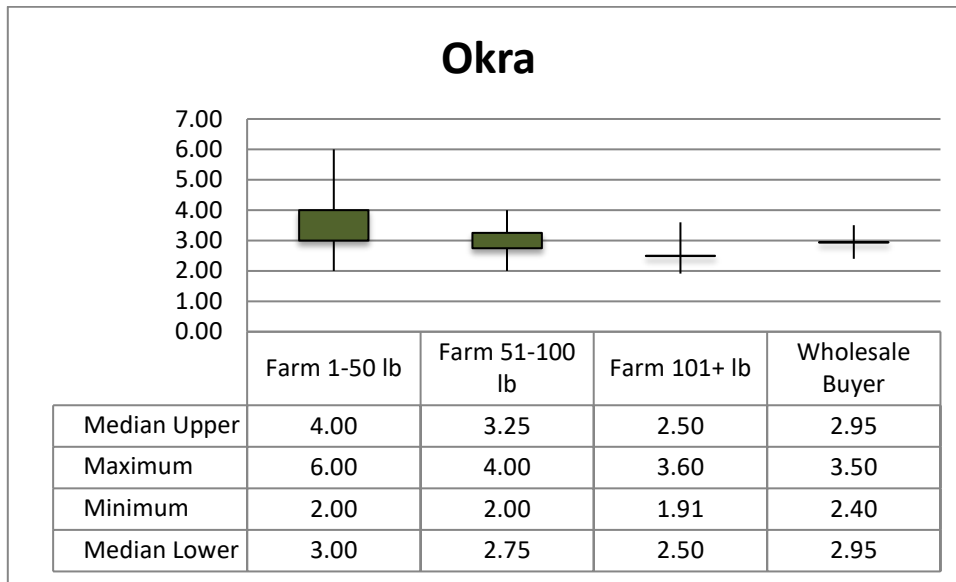
Summer Squash Price Differential (\$/lb and % of farm median lower price)

<b>Buyer median lower price - farm median lower price</b>	-\$0.51	-42.5%
<b>Buyer median upper price - farm median lower price</b>	-\$0.04	-3.6%
<b>Buyer seasonal high median upper price - farm median lower price</b>	\$0.13	10.8%

## Okra

Many farms grow okra, but it is demanded by fewer buyers, and no schools purchased okra. Okra is both grown and purchased primarily in the summer and fall. Farms surveyed reported difficulty in hiring labor to harvest this labor-intensive and prickly crop, which affects pricing and limits interest in growing additional okra. At volumes above 100 pounds, Central Texas farms were firm in their pricing. Buyers did report variation in high and low prices paid, although demand was low. No reference price was available for okra, perhaps further indicating a lack of demand, at least as perceived by a regional distributor.

Both wholesale buyers and farms selling more than 100 lb of okra reported firm prices, resulting in an identical upper and lower median of \$2.95/lb. Buyers paid a higher median upper price in fall than in summer, and that price also happened to be \$2.95. Farms selling any volume of okra may find themselves competitive in the wholesale market. Farms selling more than 100 lb at a median lower price of \$2.50 could make an additional 45 cents per pound at the wholesale median upper price. The differential for smaller volumes would be less. Still weak demand, seasonality, and intensive labor requirements may limit the potential of this crop for wholesale markets.



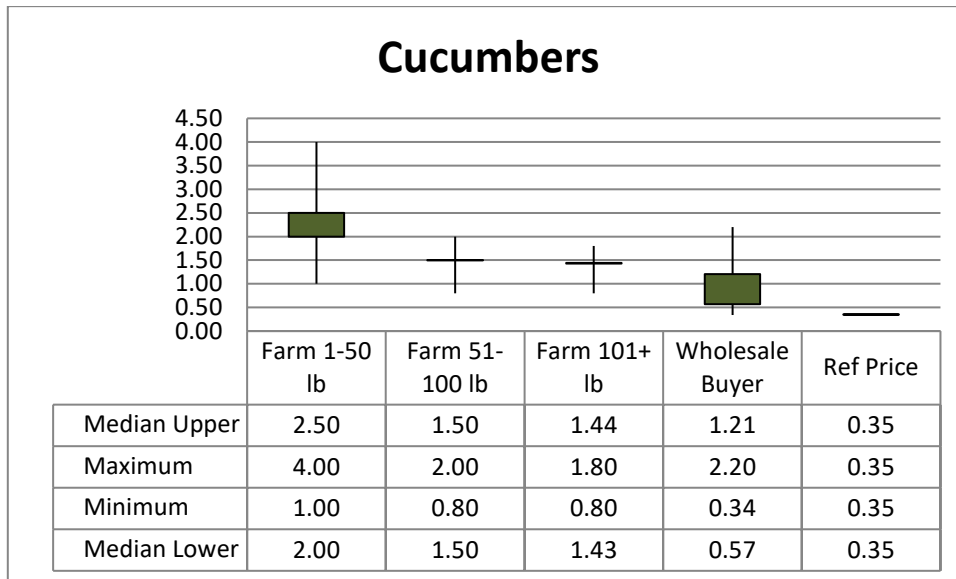
Okra Price Differential (\$/lb and % of farm median lower price)

<b>Buyer median lower price - farm median lower price</b>	\$0.45	18.0%
<b>Buyer median upper price - farm median lower price</b>	\$0.45	18.0%
<b>Buyer seasonal high median upper price - farm median lower price</b>	\$0.45	18.0%

## Cucumbers

Many farm respondents report growing cucumbers spring through fall. Cucumbers are also available from some Central Texas farms in winter, although quantities may be limited. Buyers currently demand cucumbers year-round. Local farms are likely able to serve demand more easily outside winter months. Hoop houses could extend this window if the investment was justified by demand.

Wholesale buyers reported a wide range of cucumber prices. In fact, the maximum price they reported paying for cucumbers was higher than the maximum prices reported by farm selling either 51-100 lb or 101+ lb. Still, the wholesale buyer median upper price was below the median low prices reported by farms at all sales volumes. Farmer selling 101+ lb of cucumbers at \$1.43 would receive 22 cents less at the buyer median upper and would just meet current price levels even when wholesale buyers are paying their highest medians (\$1.43) in the spring and summer. Pressure from low-cost cucumbers available outside the region remains strong as evidenced by the \$0.35 reference price.



Cucumber Price Differential (\$/lb and % of farm median lower price)

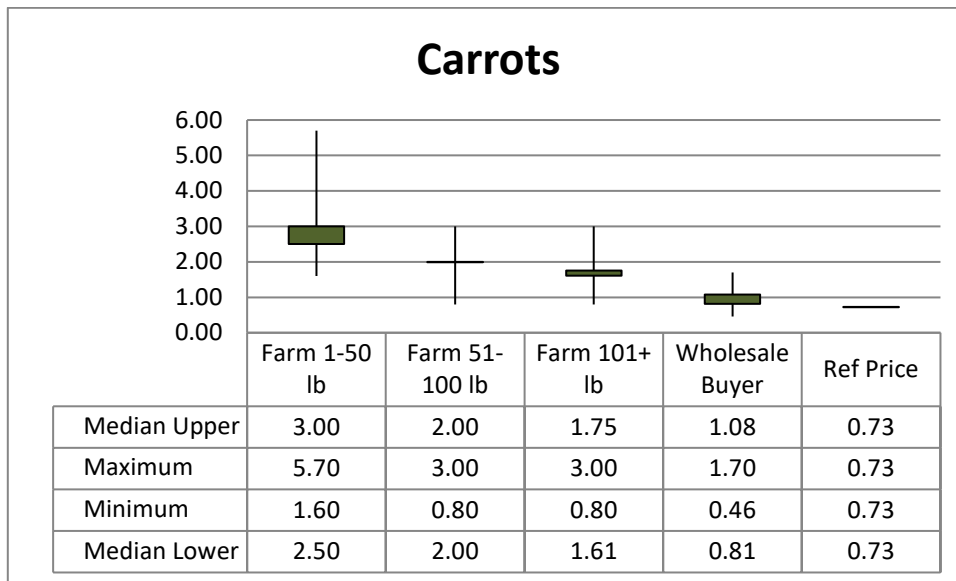
<b>Buyer median lower price - farm median lower price</b>	-\$0.86	-60.0%
<b>Buyer median upper price - farm median lower price</b>	-\$0.22	-15.4%
<b>Buyer seasonal high median upper price - farm median lower price</b>	\$0.00	0.2%

## Carrots

Many Central Texas farms grow carrots. Carrots are often popular among kids and can be prepared many ways, including slices and sticks. Many buyers volunteered that they were interested in purchasing products that have been processed to meet these preferences. Such processing may provide a value added strategy for some farms, but not all farms will have the interest or resources to do this safely and cost-efficiently.

Price data suggest that Central Texas farms will struggle to meet the price needs of local buyers. Farms selling more than 100 lb of carrots reported a median lower price of \$1.61/lb, which is 53 cents above buyers' median upper price. In fact, most of the wholesale buyers' price distribution falls under the distribution of farms' median upper and lower prices, suggesting a limited range over which farms and buyers can find a mutually acceptable price. Buyers' median upper price of \$1.08 also represents the median upper price of the seasons (winter and spring) when buyers report paying more for carrots so there is little opportunity for farms to compete seasonally. In fact, farms may face lower prices in the summer and fall.

Of course, farm price data do not reflect additional costs farms would incur if they were to further process carrots to provide buyers with ready-to-serve carrot sticks. Buyers will pay more for these processed carrots, but it is not clear that they will pay enough to overcome both the local price difference and the additional processing costs.



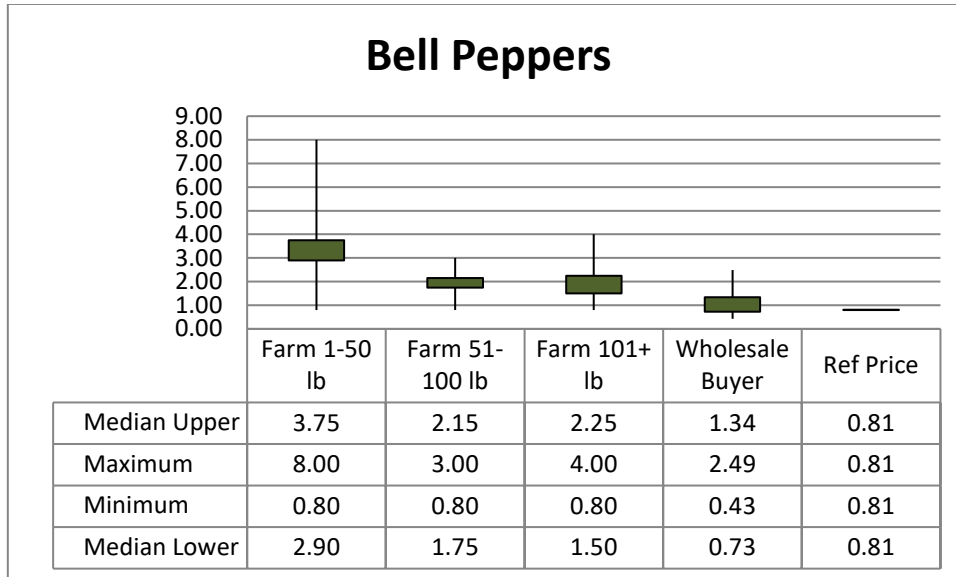
Carrot Price Differential (\$/lb and % of farm median lower price)

<b>Buyer median lower price - farm median lower price</b>	-\$0.79	-49.5%
<b>Buyer median upper price - farm median lower price</b>	-\$0.53	-32.7%
<b>Buyer seasonal high median upper price - farm median lower price</b>	-\$0.53	-32.7%

## Bell Peppers

Bell peppers are desired year-round by buyers, but very few are grown in Central Texas in winter. Central Texas farms are able to command high prices for their products, but they tend to grow mixed peppers and not necessarily green bell peppers. These peppers are also smaller than the green bell peppers often seen in grocery stores. Schools were less likely to purchase whole bell peppers and preferred diced bell peppers.

Central Texas farms reported that consumers and restaurants paid higher median prices for their bell peppers than buyers are paying their current suppliers. Only farms willing to accept less than their median lower price of \$1.50/lb for sales greater than 100 lb and buyers willing to pay more than their median upper price of \$1.34 are likely to strike a deal. Buyers reported paying the highest upper median price in the fall (\$1.31), which was less than the overall median due to a greater number of fall responses relative to other seasons, as well as relatively large variation in fall prices. Buyers' median lower price of \$0.73 is below the reference price of \$0.81, which may present Central Texas bell pepper farms with an additional competition hurdle. Farms would incur processing costs in meeting demand for diced bell peppers.



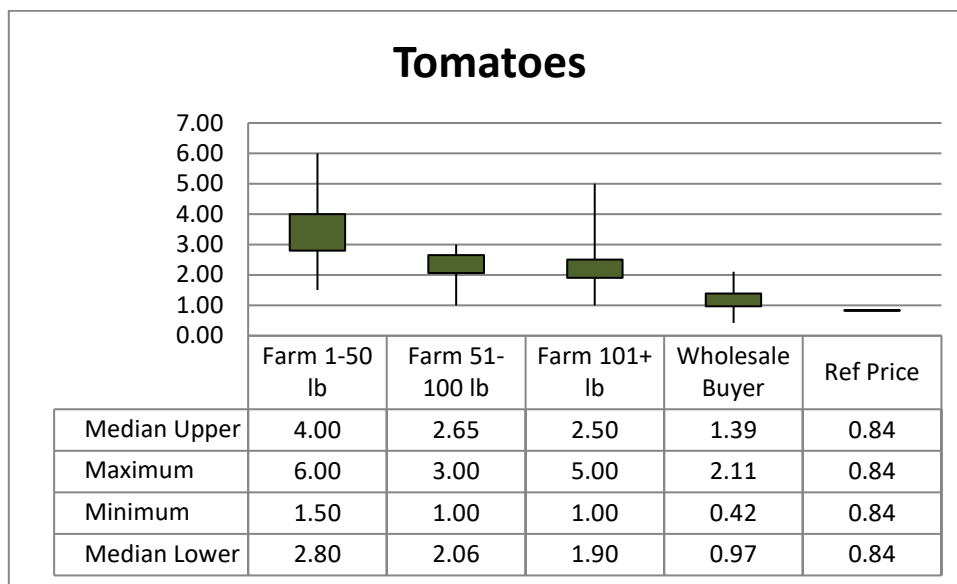
Bell Pepper Price Differential (\$/lb and % of farm median lower price)

<b>Buyer median lower price - farm median lower price</b>	-\$0.77	-51.5%
<b>Buyer median upper price - farm median lower price</b>	-\$0.16	-10.7%
<b>Buyer seasonal high median upper price - farm median lower price</b>	-\$0.20	-13.0%

## Tomatoes

People often think of tomatoes when they think of local food. Buyers demand tomatoes year-round. Central Texas is able to grow both a spring and a fall tomato crop. While tomatoes are grown year-round, no respondent reported filling orders greater than 100 lb in winter. Furthermore, respondents did not report higher prices in winter. All respondents grew tomatoes in soil; no respondents had hydroponic tomatoes.

The entire range of wholesale buyers' median upper and lower tomato prices falls below farms' median ranges for all volumes. Farms selling more than 100 lb of tomatoes reported a median lower price of \$1.90/lb, which is 51 cents above buyers' median upper price. Even in summer, when buyers reported paying the highest upper median price (\$1.47), their price is still 44 cents lower than the prices farms could receive from households and restaurants. There is room in the bottom third of farms' high volume price distribution to find a mutually agreeable price. However, wholesale buyers reported a narrow price range, and the majority of the farm sale distribution is outside the wholesale buyer distribution.



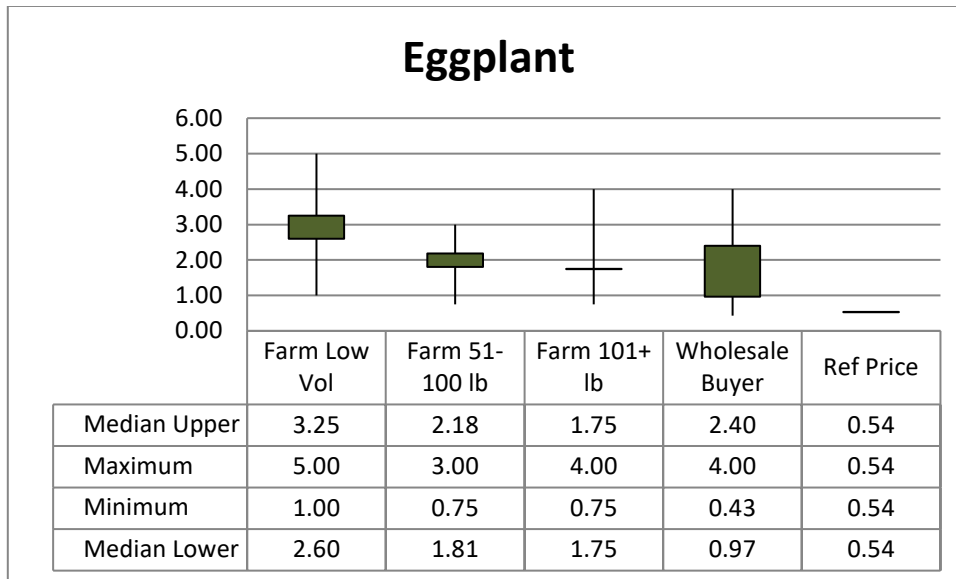
Tomato Price Differential (\$/lb and % of farm median lower price)

<b>Buyer median lower price - farm median lower price</b>	-\$0.93	-49.2%
<b>Buyer median upper price - farm median lower price</b>	-\$0.51	-26.8%
<b>Buyer seasonal high median upper price - farm median lower price</b>	-\$0.44	-22.9%

## Eggplant

Many farm respondents reported selling eggplant, which is easily grown in Central Texas. Eggplant was not popular among institutional buyers. Only two buyers reported eggplant purchases: a distributor and a cafeteria making ethnic dishes. Buyers reported higher prices in summer and fall. Summer and fall are also the seasons most Central Texas farms reported growing that crop. While eggplant is a viable crop both in terms of cultivation and price, demand would need to grow for production to be expanded.

Wholesale buyers reported a wide range between their median lower price of \$0.97/lb and median upper price of \$2.40 for eggplant. Farms selling more than 100 lb of eggplant reported a median lower price of \$1.75/lb, which is 65 cents below buyers' median upper price, presenting a possibility for increased revenue if demand for eggplant can be expanded. Inadequate data rendered a seasonal price comparison inappropriate. Farms may also be competitive serving the wholesale eggplant market with smaller volumes. On the other hand, wholesale buyers' median lower prices are well below farms' lower median prices for eggplant.



Eggplant Price Differential (\$/lb and % of farm median lower price)

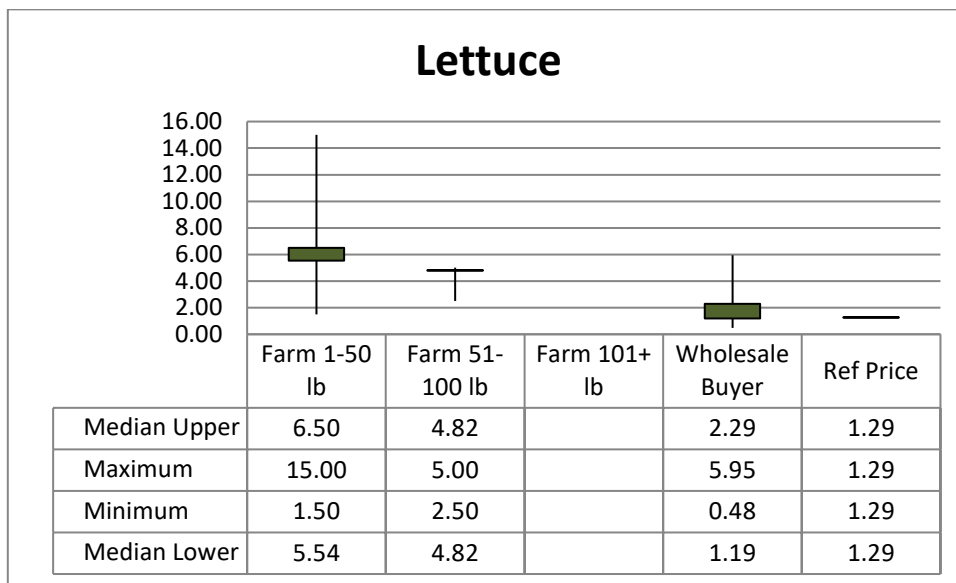
<b>Buyer median lower price - farm median lower price</b>	<b>-\$0.79</b>	<b>-44.9%</b>
<b>Buyer median upper price - farm median lower price</b>	<b>\$0.65</b>	<b>37.1%</b>



## Lettuce

Lettuce is a high value crop with a wide range of prices influenced by a variety of types and packaging methods. This survey asked farmers and buyers about bagged lettuce, which is common in direct sales and which is the only way arugula and spinach are sold. However, most wholesale buyers purchased heads. While researchers converted heads to pounds, bagged and head lettuces are really two distinct product types.

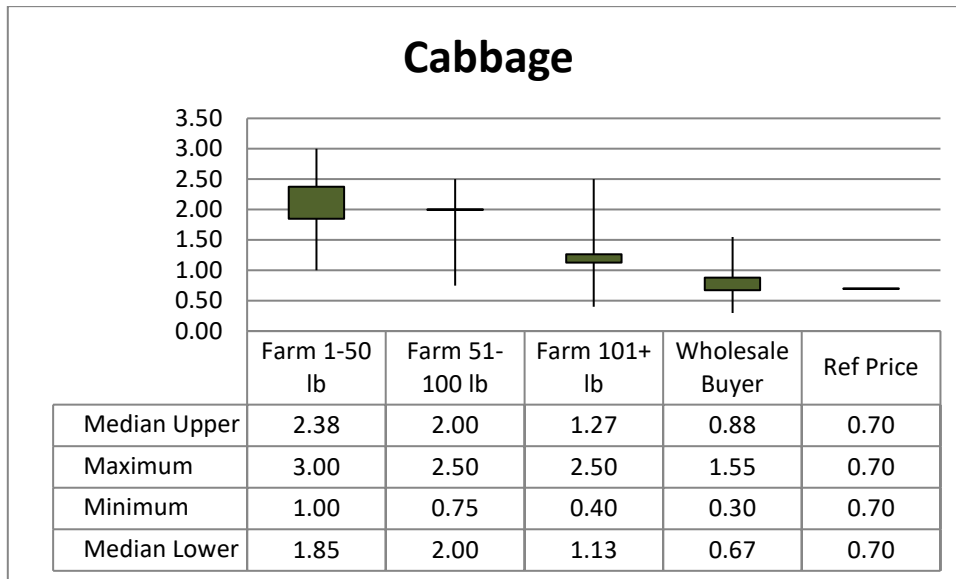
No lettuce price differential is shown because not enough farms sold lettuce at quantities greater than 100 pounds for the researchers to calculate statistics above 100 pounds . If prices for volumes greater than 50 lb are used, farms' lower median price was at least \$2.53/lb above, the wholesale price. While there appears to be a wide wholesale buyer price distribution, the maximum is a likely outlier, leaving questions about the thickness of the market at the top of the buyers' price distribution.



## Cabbage

Like lettuce, wholesale cabbage is purchased by the head and not by weight, and researchers converted buyers' head counts into pounds. Cabbage is harvested by the head, which makes farms' harvest less labor intensive than for lettuce.

Farms selling more than 100 lb of cabbage reported a median lower price of \$1.13/lb, which is 25 cents above buyers' median upper price. While the median farmer might make slightly less per pound at the buyer median upper price, there is space along buyers' price distribution in which to find a mutually acceptable price. Buyers reported paying the highest upper median price in the summer (\$0.89), but this price is still below the farm median lower price. In fact, buyers' minimum low prices are above farms' minimum reported lows most of the year (except in the spring), indicating that some farms willing to work at the lower end of the price distribution may improve profitability through institutional sales.



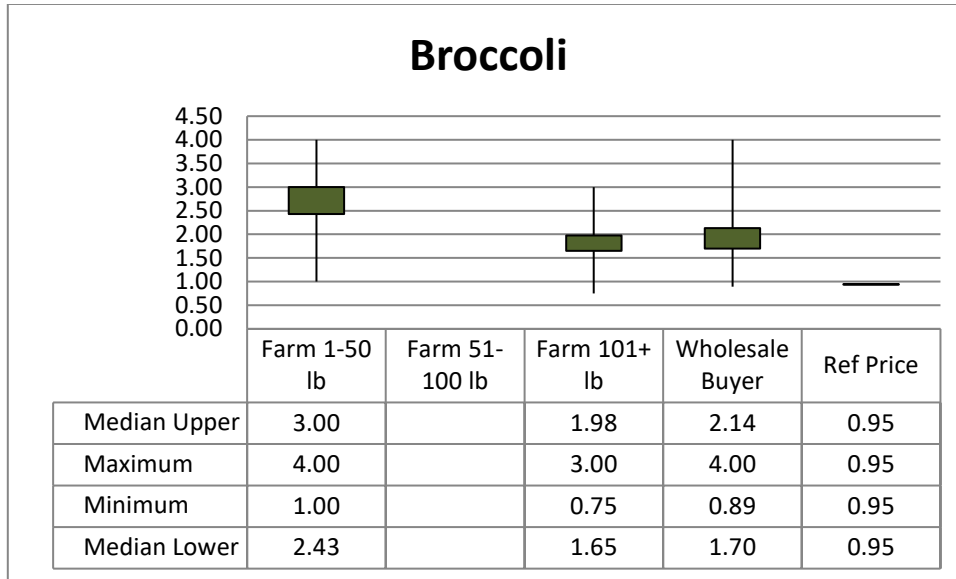
Cabbage Price Differential (\$/lb and % of farm median lower price)

<b>Buyer median lower price - farm median lower price</b>	-\$0.45	-40.2%
<b>Buyer median upper price - farm median lower price</b>	-\$0.25	-21.9%
<b>Buyer seasonal high median upper price - farm median lower price</b>	-\$0.24	-20.9%

## Broccoli

Broccoli grows well in the winter, spring, and fall in Central Texas. While broccoli is demanded year-round, demand is reduced in summer when schools have fewer students. Farms tend to sell full heads while wholesale buyers prefer florets, and this processing cost is not included in the prices farms reported. Some institutional buyers may be able to use stalks in other recipes, such as broccoli slaw, so they do not lose the weight of stalks they purchase from farms.

Broccoli appears to have strong potential for Central Texas farms serving wholesale markets. Wholesale buyers consistently reported paying broccoli prices above the reference price, which likely reflects their preference for broccoli processed into florets. Both the wholesale upper and lower median prices are above the farm median lower price of \$1.65/lb for more than 100 lb of broccoli. At this volume, farms could make an additional \$0.49/lb. At buyers' median lower price, farms could make an additional 5 cents. The winter months, when buyers may be willing to pay higher prices, could be even more profitable. Farms with smaller volumes may also be able to find buyers in the broccoli wholesale market.



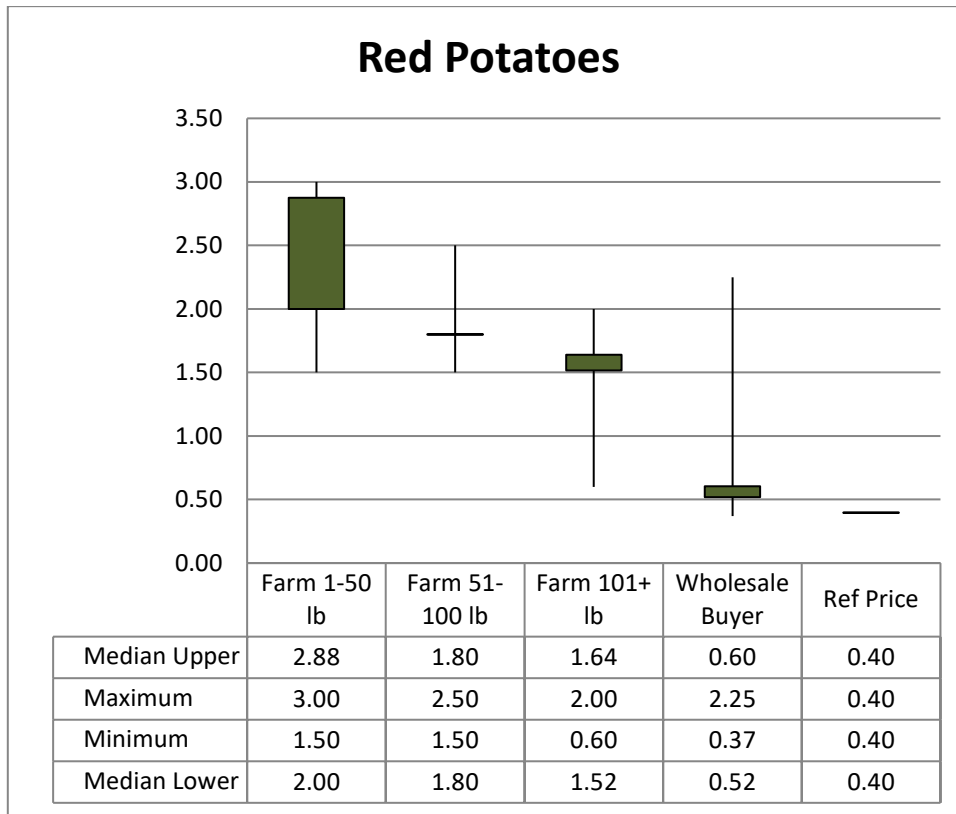
Broccoli Price Differential (\$/lb and % of farm median lower price)

<b>Buyer median lower price - farm median lower price</b>	\$0.05	3.0%
<b>Buyer median upper price - farm median lower price</b>	\$0.49	29.4%
<b>Buyer seasonal high median upper price - farm median lower price</b>	\$1.42	85.9%

## Red Potatoes

While this survey asked about red potatoes, many Central Texas farmers and survey respondents are growing Yukon Gold instead. Farms were more likely to report growing potatoes in the summer and especially the spring. Potatoes can be difficult to harvest and hard to clean, especially in the region’s clay soils. Because they require additional labor, they often have a lower margin. Several farm respondents noted that potatoes do not grow well on their farm.

There does not appear to be a clear path for farms to meet wholesale buyers’ price expectations. Farms reported a median lower price of \$1.52/lb for orders of more than 100 lb of red potatoes, which is \$0.91 above buyers’ median upper price. There may be space along both farms’ and buyers’ wide price distributions in which to find a mutually acceptable price, although buyers’ maximum appears to be an outlier. Buyers reported paying the highest median upper price in the spring (\$1.41), which coincides with the peak Central Texas growing season.

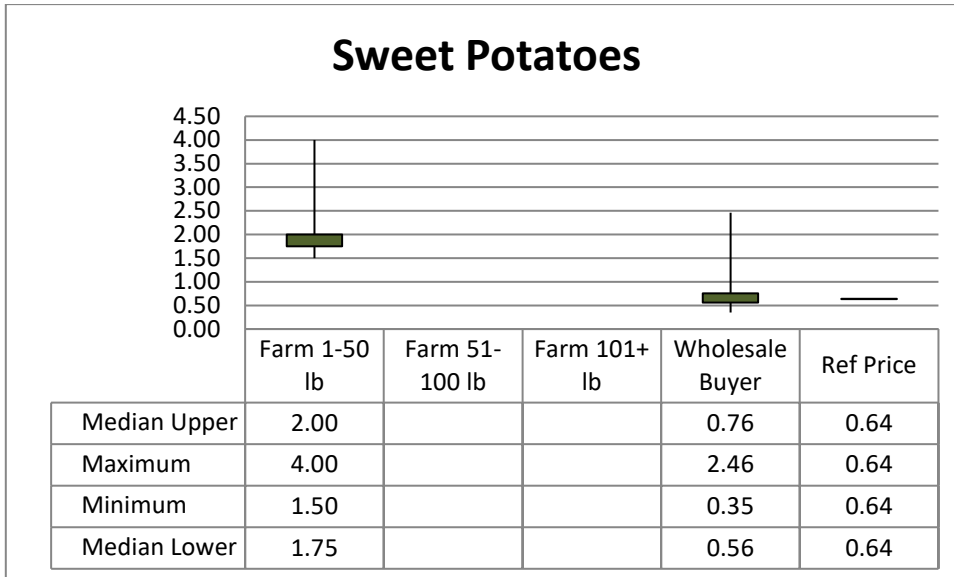


Red Potato Price Differential (\$/lb and % of farm median lower price)

<b>Buyer median lower price - farm median lower price</b>	-\$1.00	-65.8%
<b>Buyer median upper price - farm median lower price</b>	-\$0.91	-60.1%
<b>Buyer seasonal high median upper price - farm median lower price</b>	-\$0.11	-7.3%

## Sweet Potatoes

Relatively few respondents grew sweet potatoes. Like red potatoes, sweet potatoes are difficult to harvest and clean, especially in clay soils. In fact, there were not enough farms growing the crop for orders greater than 50 lb to calculate statistics. Excluding the maximum buyer high price, almost the entire wholesale buyer distribution lies under the farm price distribution for orders less than 50 lb. There is a sense that demand for sweet potatoes may be growing. However, most Central Texas respondents are currently growing smaller volumes at a higher price point than most wholesale buyers appear willing to pay. More exploration of this market may be needed if demand continues to develop.



## **Limitations**

Results of the farm and buyer surveys provide general guidelines in considering which Central Texas vegetables might warrant further research regarding wholesale market potential. Given the very small sample sizes (15 farms and 6 buyers), extreme caution should be taken in generalizing specific pricing results to broader populations, even with the Central Texas region.

The data should be used to start discussions, not to make final decisions. For example, a farm or buyer might use the data to see if their business's or institution's prices fall within the price ranges identified in this study, but no entity should conclude that they can or cannot participate in a wholesale market of local products based on their price levels and this study's findings.

Distribution costs may be minimized if farmers could deliver directly to wholesale outlets rather than deliver produce through brokers and distributors. For example, rural farms would likely incur very low distribution costs in providing vegetables for local schools. At the same time, some buyers indicated a desire to minimize the number of deliveries, which is why they ordered from a single distributor. This study didn't address the challenges of distribution and logistics except anecdotally during interviews.

Farm prices were also for washed but unprocessed vegetables. Many wholesale buyers reported buying processed products like broccoli florets and diced peppers. Farms would incur additional costs in processing their vegetables, but they might also be able to command higher prices for products in the form demanded by wholesale buyers.

## **Glossary**

High price – the price reported by respondents as the highest price they would receive or pay for a specified vegetable, volume, and season

Low price – the price reported by respondents as the lowest price they would receive or pay for a specified vegetable, volume, and season

Maximum – the highest high price reported by respondents

Minimum – the lowest low price reported by respondents

Median lower price – the median of the low prices reported by respondents

Median upper price – the median of the high prices reported by respondents

Price differential – the difference between a wholesale buyer median price and the median lower price reported by farms for orders of more than 100 pounds (the farm median lower price); positive when the wholesale price is greater than the farm 101+ median lower

Reference price – the price of a comparable product from a regional wholesale distributor in a single week in fall 2017

Seasonal high median upper price – buyers' highest median upper price across seasons

Wholesale buyer – a buyer such as a school, cafeteria, or distributor purchasing vegetables at wholesale prices; does not include restaurants





Appendix A  
Farmer Survey

Assigned ID:   
 Farm Interviewee: [leave blank]  
 Farm Location Zip code:  
 County:

Interviewer:  
 Date:

Farm contact for follow up and fact check only: Name: [leave blank]  
 Phone: [leave blank]  
 Email: [leave blank]

**Markets** To which markets do you currently sell and how much of your sales?

	Do you sell to this market? (Y/N)	if Yes, what percent of all farm sales? (show as %)
Wholesale - Grocers and/or Brokers, Distributors		
Wholesale - Corporate Cafeteria, Concessionaires, and Catering		
Wholesale - Schools Pre-K through 12		
Wholesale - Universities		
Wholesale - Hospitals		
Food and/or meal delivery services, farm-to-work		
Restaurants		
Direct to customer (farmers market, farm stand, CSA)		
Other _____		
TOTAL MUST EQUAL 100%		0%

**Farm Size** Farm Acres:  
 Cultivated Acres:  
 How much more acreage would you be willing to use for vegetable production if it were the best financial decision for your farm?  
 \_\_\_\_\_

Comments:

**Farm Revenue**

Less than \$25,000	<input type="text"/>
\$25,000 to \$99,999	<input type="text"/>
\$100,000 to \$249,999	<input type="text"/>
\$250,000 to \$499,999	<input type="text"/>
\$500,000 to \$999,999	<input type="text"/>
\$1,000,000 to \$4,999,999	<input type="text"/>
\$5,000,000 or more	<input type="text"/>

**Vegetable: Summer Squash (zucchini, yellow straight and crookneck, etc.)**

**General** Do you currently grow this vegetable?  Yes  No  
 - If yes, about how much do you grow now?  Pounds/year **Comments:** \_\_\_\_\_  
 - If no, would you grow this vegetable if you had a satisfactory market?  Yes  No  Maybe  
 - If you had a satisfactory market, how much would you grow?  Pounds/year **Comments:** \_\_\_\_\_

Is this vegetable certified organic?  Yes  No  
 What are your growing practices for this vegetable?  Organic  Sustainable  Conventional  Other

**Prices and Quantities by Season**

- 1 - For each quantity, include your highest expected price and lowest acceptable price for each quantity. (for #1 quality products)
- 2 - Add notes as needed such as order size or your need to contract for entire season for large orders.
- 3 - Use pounds as unit of measure please.
- 4 - If you won't or can't sell a certain quantity, ok to leave blank or use N/A.

Pounds (in a single order)		Winter (Dec-Feb)	Spring (Mar-May)	Summer (June-Aug)	Fall (Sept-Nov)	Notes HERE
1-10	High					
	Low					
11-50	High					
	Low					
51-100	High					
	Low					
101-500	High					
	Low					
501-1000	High					
	Low					
1001-4000	High					
	Low					
4000+	High					
	Low					

Food Study Series 1 Vegetables Commonly Grown

**Okra**

**General**

Do you currently grow this vegetable?  Yes  No

- If yes, about how much do you grow now?  Pounds/year

- If no, would you grow this vegetable if you had a satisfactory market?  Yes  No  Maybe

- If you had a satisfactory market, how much would you grow?  Pounds/year

Comments: \_\_\_\_\_

Comments: \_\_\_\_\_

Is this vegetable certified organic?  Yes  No

What are your growing practices for this vegetable?  Organic  Sustainable  Conventional  Other

Yes  No

Organic  Sustainable

Conventional

Other

**Prices and Quantities by Season**

1 - For each quantity, include your highest expected price and lowest acceptable price for each quantity. (for #1 quality products)

2 - Add notes as needed such as order size or your need to contract for entire season for large orders.

3 - Use pounds as unit of measure please.

4 - If you won't or can't sell a certain quantity, ok to leave blank or use N/A.

Pounds (in a single order)		Winter (Dec-Feb)	Spring (Mar-May)	Summer (June-Aug)	Fall (Sept-Nov)	Notes HERE
1-10	High					
	Low					
11-50	High					
	Low					
51-100	High					
	Low					
101-500	High					
	Low					
501-1000	High					
	Low					
1001-4000	High					
	Low					
4000+	High					
	Low					

Food Study Series 1 Vegetables Commonly Grown  
**Cucumbers**

**General** Do you currently grow this vegetable?  Yes  No  
 - If yes, about how much do you grow now?  Pounds/year **Comments:** \_\_\_\_\_  
 - If no, would you grow this vegetable if you had a satisfactory market?  Yes  No  Maybe  
 - If you had a satisfactory market, how much would you grow?  Pounds/year **Comments:** \_\_\_\_\_

Is this vegetable certified organic?  Yes  No  
 What are your growing practices for this vegetable?  Organic  Sustainable  Conventional  Other

**Prices and Quantities by Season**

- 1 - For each quantity, include your highest expected price and lowest acceptable price for each quantity. (for #1 quality products)
- 2 - Add notes as needed such as order size or your need to contract for entire season for large orders.
- 3 - Use pounds as unit of measure please.
- 4 - If you won't or can't sell a certain quantity, ok to leave blank or use N/A.

Pounds (in a single order)		Winter (Dec-Feb)	Spring (Mar-May)	Summer (June-Aug)	Fall (Sept-Nov)	Notes HERE
1-10	High					
	Low					
11-50	High					
	Low					
51-100	High					
	Low					
101-500	High					
	Low					
501-1000	High					
	Low					
1001-4000	High					
	Low					
4000+	High					
	Low					

Food Study Series 1 Vegetables Commonly Grown

**Carrots**

**General**

Do you currently grow this vegetable?  Yes  No

- If yes, about how much do you grow now?  Pounds/year

- If no, would you grow this vegetable if you had a satisfactory market?  Yes  No  Maybe

- If you had a satisfactory market, how much would you grow?  Pounds/year

Comments: \_\_\_\_\_

Comments: \_\_\_\_\_

Is this vegetable certified organic?  Yes  No

What are your growing practices for this vegetable? \_\_\_\_\_

Organic  Sustainable  Conventional  Other

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Prices and Quantities by Season**

1 - For each quantity, include your highest expected price and lowest acceptable price for each quantity. (for #1 quality products)

2 - Add notes as needed such as order size or your need to contract for entire season for large orders.

3 - Use pounds as unit of measure please.

4 - If you won't or can't sell a certain quantity, ok to leave blank or use N/A.

Pounds (in a single order)		Winter (Dec-Feb)	Spring (Mar-May)	Summer (June-Aug)	Fall (Sept-Nov)	Notes HERE  <i>e.g. smaller draws higher price</i> <i>e.g. This summer price applies to early summer only</i> <i>e.g. Need contract for season to grow this quantity.</i> <i>e.g. pickler demand higher price and than slicer</i>
1-10	High					
	Low					
11-50	High					
	Low					
51-100	High					
	Low					
101-500	High					
	Low					
501-1000	High					
	Low					
1001-4000	High					
	Low					
4000+	High					
	Low					

Food Study Series 1 Vegetables Commonly Grown  
**Bell Peppers (green)**

**General** Do you currently grow this vegetable?  Yes  No  
 - If yes, about how much do you grow now?  Pounds/year **Comments:** \_\_\_\_\_  
 - If no, would you grow this vegetable if you had a satisfactory market?  Yes  No  Maybe  
 - If you had a satisfactory market, how much would you grow?  Pounds/year **Comments:** \_\_\_\_\_

Is this vegetable certified organic?  Yes  No  
 What are your growing practices for this vegetable?  Organic  Sustainable  Conventional  Other

**Prices and Quantities by Season**

- 1 - For each quantity, include your highest expected price and lowest acceptable price for each quantity. (for #1 quality product
- 2 - Add notes as needed such as order size or your need to contract for entire season for large orders.
- 3 - Use pounds as unit of measure please.
- 4 - If you won't or can't sell a certain quantity, ok to leave blank or use N/A.

Pounds (in a single order)		Winter (Dec-Feb)	Spring (Mar-May)	Summer (June-Aug)	Fall (Sept-Nov)	<b>Notes HERE</b>          <i>e.g. Would not sell wholesale b/c retail demand and price is good.</i>
1-10	High					
	Low					
11-50	High					
	Low					
51-100	High					
	Low					
101-500	High					
	Low					
501-1000	High					
	Low					
1001-4000	High					
	Low					
4000+	High					
	Low					

Food Study Series 1 Vegetables Commonly Grown

**Tomatoes**

**General**

Do you currently grow this vegetable?  Yes  No

- If yes, about how much do you grow now?  Pounds/year Comments: \_\_\_\_\_

- If no, would you grow this vegetable if you had a satisfactory market?  Yes  No  Maybe

- If you had a satisfactory market, how much would you grow?  Pounds/year Comments: \_\_\_\_\_

Is this vegetable certified organic?  Yes  No

What are your growing practices for this vegetable?  Organic  Sustainable  Conventional  Other

**Prices and Quantities by Season**

- 1 - For each quantity, include your highest expected price and lowest acceptable price for each quantity. (for #1 quality product)
- 2 - Add notes as needed such as order size or your need to contract for entire season for large orders.
- 3 - Use pounds as unit of measure please.
- 4 - If you won't or can't sell a certain quantity, ok to leave blank or use N/A.

Pounds (in a single order)		Winter (Dec-Feb)	Spring (Mar-May)	Summer (June-Aug)	Fall (Sept-Nov)	Notes HERE
1-10	High					<i>e.g. Would not sell wholesale b/c retail demand and price is good.</i>
	Low					
11-50	High					
	Low					
51-100	High					
	Low					
101-500	High					
	Low					
501-1000	High					
	Low					
1001-4000	High					
	Low					
4000+	High					
	Low					



Food Study Series 1 Vegetables Commonly Grown

**Eggplant**

**General** Do you currently grow this vegetable?  Yes  No  
 - If yes, about how much do you grow now?  Pounds/year Comments: \_\_\_\_\_  
 - If no, would you grow this vegetable if you had a satisfactory market?  Yes  No \_\_\_\_ Maybe  
 - If you had a satisfactory market, how much would you grow?  Pounds/year Comments: \_\_\_\_\_

Is this vegetable certified organic?  Yes  No  
 What are your growing practices for this vegetable?  Organic  Sustainable  Conventional  Other

**Prices and Quantities by Season**

- 1 - For each quantity, include your highest expected price and lowest acceptable price for each quantity. (for #1 quality product
- 2 - Add notes as needed such as order size or your need to contract for entire season for large orders.
- 3 - Use pounds as unit of measure please.
- 4 - If you won't or can't sell a certain quantity, ok to leave blank or use N/A.

Pounds (in a single order)		Winter (Dec-Feb)	Spring (Mar-May)	Summer (June-Aug)	Fall (Sept-Nov)	Notes HERE     <i>e.g. Would not sell wholesale b/c retail demand and price is good.</i>
1-10	High					
	Low					
11-50	High					
	Low					
51-100	High					
	Low					
101-500	High					
	Low					
501-1000	High					
	Low					
1001-4000	High					
	Low					
4000+	High					
	Low					

Food Study Series 1 Vegetables Commonly Grown

**Lettuce (mixed greens WASHED) 1 LB bag**

**General**

Do you currently grow this vegetable?  Yes  No

- If yes, about how much do you grow now?  Pounds/year Comments: \_\_\_\_\_

- If no, would you grow this vegetable if you had a satisfactory market?  Yes  No  Maybe

- If you had a satisfactory market, how much would you grow?  Pounds/year Comments: \_\_\_\_\_

Is this vegetable certified organic?  Yes  No

What are your growing practices for this vegetable?  Organic  Sustainable  Conventional  Other

**Prices and Quantities by Season**

- 1 - For each quantity, include your highest expected price and lowest acceptable price for each quantity. (for #1 products)
- 2 - Add notes as needed such as order size or your need to contract for entire season for large orders.
- 3 - Use pounds as unit of measure please.
- 4 - If you won't or can't sell a certain quantity, ok to leave blank or use N/A.

Pounds (in a single order)		Winter (Dec-Feb)	Spring (Mar-May)	Summer (June-Aug)	Fall (Sept-Nov)	Notes HERE
1-10	High					
	Low					
11-50	High					
	Low					
51-100	High					
	Low					
101-500	High					
	Low					
501-1000	High					
	Low					
1001-4000	High					
	Low					
4000+	High					
	Low					

Food Study Series 1 Vegetables Commonly Grown

**Cabbage**

**General**

Do you currently grow this vegetable?  Yes  No

- If yes, about how much do you grow now?  Pounds/year Comments: \_\_\_\_\_

- If no, would you grow this vegetable if you had a satisfactory market?  Yes  No  Maybe

- If you had a satisfactory market, how much would you grow?  Pounds/year Comments: \_\_\_\_\_

Is this vegetable certified organic?  Yes  No

What are your growing practices for this vegetable?  Organic  Sustainable  Conventional  Other

**Prices and Quantities by Season**

- 1 - For each quantity, include your highest expected price and lowest acceptable price for each quantity. (for #1 products)
- 2 - Add notes as needed such as order size or your need to contract for entire season for large orders.
- 3 - Use pounds as unit of measure please.
- 4 - If you won't or can't sell a certain quantity, ok to leave blank or use N/A.

Pounds (in a single order)		Winter (Dec-Feb)	Spring (Mar-May)	Summer (June-Aug)	Fall (Sept-Nov)	Notes HERE
1-10	High					
	Low					
11-50	High					
	Low					
51-100	High					
	Low					
101-500	High					
	Low					
501-1000	High					
	Low					
1001-4000	High					
	Low					
4000+	High					
	Low					

Food Study Series 1 Vegetables Commonly Grown  
**Broccoli (whole crowns)**

**General** Do you currently grow this vegetable?  Yes  No  
 - If yes, about how much do you grow now?  Pounds/year **Comments:** \_\_\_\_\_  
 - If no, would you grow this vegetable if you had a satisfactory market?  Yes  No  Maybe  
 - If you had a satisfactory market, how much would you grow?  Pounds/year **Comments:** \_\_\_\_\_

Is this vegetable certified organic?  Yes  No  
 What are your growing practices for this vegetable?  Organic  Sustainable  Conventional  Other

**Prices and Quantities by Season**

- 1 - For each quantity, include your highest expected price and lowest acceptable price for each quantity. (for #1 products)
- 2 - Add notes as needed such as order size or your need to contract for entire season for large orders.
- 3 - Use pounds as unit of measure please.
- 4 - If you won't or can't sell a certain quantity, ok to leave blank or use N/A.

Pounds (in a single order)		Winter (Dec-Feb)	Spring (Mar-May)	Summer (June-Aug)	Fall (Sept-Nov)	<b>Notes HERE</b>  <i>e.g. whole crowns</i>
1-10	High					
	Low					
11-50	High					
	Low					
51-100	High					
	Low					
101-500	High					
	Low					
501-1000	High					
	Low					
1001-4000	High					
	Low					
4000+	High					
	Low					

Food Study Series 1 Vegetables Commonly Grown

**Potatoes (red)**

**General**

Do you currently grow this vegetable?  Yes  No

- If yes, about how much do you grow now?  Pounds/year Comments: \_\_\_\_\_

- If no, would you grow this vegetable if you had a satisfactory market?  Yes  No  Maybe

- If you had a satisfactory market, how much would you grow?  Pounds/year Comments: \_\_\_\_\_

Is this vegetable certified organic?  Yes  No

What are your growing practices for this vegetable?  Organic  Sustainable  Conventional  Other

**Prices and Quantities by Season**

- 1 - For each quantity, include your highest expected price and lowest acceptable price for each quantity. (for #1 products)
- 2 - Add notes as needed such as order size or your need to contract for entire season for large orders.
- 3 - Use pounds as unit of measure please.
- 4 - If you won't or can't sell a certain quantity, ok to leave blank or use N/A.

Pounds (in a single order)		Winter (Dec-Feb)	Spring (Mar-May)	Summer (June-Aug)	Fall (Sept-Nov)	Notes HERE
1-10	High					
	Low					
11-50	High					
	Low					
51-100	High					
	Low					
101-500	High					
	Low					
501-1000	High					
	Low					
1001-4000	High					
	Low					
4000+	High					
	Low					

Food Study Series 1 Vegetables Commonly Grown

**Sweet Potatoes**

**General**

Do you currently grow this vegetable?  Yes  No

- If yes, about how much do you grow now?  Pounds/year

- If no, would you grow this vegetable if you had a satisfactory market?  Yes  No  Maybe

- If you had a satisfactory market, how much would you grow?  Pounds/year

Comments: \_\_\_\_\_

Comments: \_\_\_\_\_

Is this vegetable certified organic?  Yes  No

What are your growing practices for this vegetable?  Organic  Sustainable  Conventional  Other

Yes  No

Organic  Sustainable

Conventional

Other

**Prices and Quantities by Season**

1 - For each quantity, include your highest expected price and lowest acceptable price for each quantity. (for #1 products)

2 - Add notes as needed such as order size or your need to contract for entire season for large orders.

3 - Use pounds as unit of measure please.

4 - If you won't or can't sell a certain quantity, ok to leave blank or use N/A.

Pounds (in a single order)		Winter (Dec-Feb)	Spring (Mar-May)	Summer (June-Aug)	Fall (Sept-Nov)	Notes HERE
1-10	High					
	Low					
11-50	High					
	Low					
51-100	High					
	Low					
101-500	High					
	Low					
501-1000	High					
	Low					
1001-4000	High					
	Low					
4000+	High					
	Low					

## Appendix B Buyer Survey

**Buyer's Name:**

**Buyer's Interviewee:**

**Buyer's Location**

**Zip code:**

**County:**

**Interviewer:**

**Date:**

**Buyer's contact for follow up and fact check only:**

Name:

Phone:

Email:

**Markets** Of the options below, please select the one that best best categorizes your business/organization's food expenditures

**Expenditures on food**

Grocers and/or Brokers, Distributors	Under \$100,000	\$100,000-\$499,999	\$500,000-\$999,999	\$1M-\$5M	More than \$5M
Corporate Cafeteria, Concessionaires, and Catering	Under \$100,001	\$100,000-\$499,999	'\$500,000-\$999,999	\$1M-\$5M	More than \$5M
Schools Pre-K through 12	Under \$100,002	'\$100,000-\$499,999	'\$500,000-\$999,999	\$1M-\$5M	More than \$5M
Universities	Under \$100,003	'\$100,000-\$499,999	'\$500,000-\$999,999	\$1M-\$5M	More than \$5M
Hospitals	Under \$100,004	'\$100,000-\$499,999	'\$500,000-\$999,999	\$1M-\$5M	More than \$5M
Food and/or meal delivery services, farm-to-work	Under \$100,000	'\$100,000-\$499,999	'\$500,000-\$999,999	\$1M-\$5M	More than \$5M
Other _____					

**Ownership by Texas residents**

All owners are Texans  Most  Half or less  None  Don't know

**Buyer Size/Scope** We want to understand the size of your company/organization

Grocers and/or Brokers, Distributors	# stores or sales outlets _____		Geographic range		
Corporate Cafeteria, Concessionaires, and Catering	# locations served _____	meals served weekly _____	Central Texas only	Texas only	National
Schools Pre-K through 12	# locations served _____	meals served weekly _____	Central Texas only	Texas only	National
Universities	# locations served _____	meals served weekly _____	Central Texas only	Texas only	National
Hospitals	# locations served _____	meals served weekly _____	Central Texas only	Texas only	National
Food and/or meal delivery services, farm-to-work	# locations served _____	clients served weekly _____	Central Texas only	Texas only	National
Other _____	# locations served _____	clients served weekly _____	Central Texas only	Texas only	National

**Expenditures by type of Food (annual)**

Expenditure on all food \_\_\_\_\_

Expenditure on fresh food \_\_\_\_\_



**Vegetable: Summer Squash (zucchini, yellow straight and crookneck, etc.)**

**General** Do you currently buy this vegetable?  Yes  No  
 - If yes, about how much do you buy now from combined non-local and local sources?  Pounds/year  Comments: \_\_\_\_\_

**Locally Sourced** Do you ever buy this vegetable from a local source (locally grown)?  Yes  No  
 - If yes, about how much do you buy now?  Pounds/year  Comments: \_\_\_\_\_  
 - If no, would you buy this vegetable from a local (Texas grown) source if you had a satisfactory market?  Yes  No  Maybe  
 - If you had a satisfactory local market source, how much would you buy?  Pounds/year  Comments: \_\_\_\_\_  
 - If you had a satisfactory local market source would you commit to seasonal contracts with a Farmer?  Yes  No

Rank the following in order of importance in your decision to buy Texas grown vegetables? (Assume quality meets your standards)  
 Price  Availability  Organic  Sustainable  Other: \_\_\_\_\_ Comments: \_\_\_\_\_

Would you be willing to pay slightly more for locally (grown) sourced foods if you had a reliable source?  Yes  No How much more per pound or unit would you be willing to pay if you had a reliable source?  
 How much more would you be willing to pay if you had a reliable source? (per pound or unit; or as percent) \_\_\_\_\_  
 On a scale of 1-5 with 1 being least important and 5 being most important, how important are **sustainably** grown foods to your buying decisions? 1 2 3 4 5  
 On a scale of 1-5 with 1 being least important and 5 being most important, how important are **organically** grown foods to your buying decisions? 1 2 3 4 5  
 On a scale of 1-5 with 1 being least important and 5 being most important, how important are **locally, Texas** grown foods to your buying decisions? 1 2 3 4 5

**Prices and Quantities by Season**

- 1 - For each quantity, include the highest and lowest current price you pay for this vegetable. (for #1 products)
- 2 - Add notes as needed such as order size or your need to contract with a farmer for the entire season for large orders.
- 3 - Use pounds as unit of measure please.
- 4 - If you won't or can't buy a certain quantity, ok to leave blank or use N/A.

Pounds (in a single order)		Winter (Dec-Feb)	Spring (Mar-May)	Summer (June-Aug)	Fall (Sept-Nov)	Notes HERE
1-10	High					
	Low					
11-50	High					
	Low					
51-100	High					
	Low					
101-500	High					
	Low					
501-1000	High					
	Low					
1001-4000	High					
	Low					
4000+	High					
	Low					

Food Study Series 1 Vegetables Commonly Grown

Vegetable: **Okra**

**General** Do you currently buy this vegetable?  Yes  No  
 - If yes, about how much do you buy now from combined non-local and local sources?  Pounds/year Comments: \_\_\_\_\_

**Locally Sourced** Do you ever buy this vegetable from a local source (locally grown)?  Yes  No  
 - If yes, about how much do you buy now?  Pounds/year Comments: \_\_\_\_\_  
 - If no, would you buy this vegetable from a local (Texas grown) source if you had a satisfactory market?  Yes  No  Maybe  
 - If you had a satisfactory local market source, how much would you buy?  Pounds/year Comments: \_\_\_\_\_  
 - If you had a satisfactory local market source would you commit to seasonal contracts with a Farmer?  Yes  No

Rank the following in order of importance in your decision to buy Texas grown vegetables? (Assume quality meets your standards)  
 Price  Availability  Organic  Sustainable Other: \_\_\_\_\_ Comments: \_\_\_\_\_

Would you be willing to pay slightly more for locally (grown) sourced foods if you had a reliable source?  Yes  No How much more per pound or unit would you be willing to pay if you had a reliable source?

How much more would you be willing to pay if you had a reliable source? (per pound or unit; or as per cent)

On a scale of 1-5 with 1 being least important and 5 being most important, how important are **sustainably** grown foods to your buying decisions? 1 2 3 4 5

On a scale of 1-5 with 1 being least important and 5 being most important, how important are **organically** grown foods to your buying decisions? 1 2 3 4 5

On a scale of 1-5 with 1 being least important and 5 being most important, how important are **locally, Texas** grown foods to your buying decisions? 1 2 3 4 5

**Prices and Quantities by Season**

- 1 - For each quantity, include the highest and lowest current price you pay for this vegetable. (for #1 products)
- 2 - Add notes as needed such as order size or your need to contract with a farmer for the entire season for large orders.
- 3 - Use pounds as unit of measure please.
- 4 - If you won't or can't buy a certain quantity, ok to leave blank or use N/A.

Pounds (in a single order)		Winter (Dec-Feb)	Spring (Mar-May)	Summer (June-Aug)	Fall (Sept-Nov)	Notes HERE
1-10	High					
	Low					
11-50	High					
	Low					
51-100	High					
	Low					
101-500	High					
	Low					
501-1000	High					
	Low					
1001-4000	High					
	Low					
4000+	High					
	Low					

Food Study Series 1 Vegetables Commonly Grown

Vegetable: **Cucumbers**

**General** Do you currently buy this vegetable?  Yes  No  
 - If yes, about how much do you buy now from combined non-local and local sources?  Pounds/year Comments: \_\_\_\_\_

**Locally Sourced** Do you ever buy this vegetable from a local source (locally grown)?  Yes  No  
 - If yes, about how much do you buy now?  Pounds/year Comments: \_\_\_\_\_  
 - If no, would you buy this vegetable from a local (Texas grown) source if you had a satisfactory market?  Yes  No  Maybe  
 - If you had a satisfactory local market source, how much would you buy?  Pounds/year Comments: \_\_\_\_\_  
 - If you had a satisfactory local market source would you commit to seasonal contracts with a Farmer?  Yes  No

Rank the following in order of importance in your decision to buy Texas grown vegetables? (Assume quality meets your standards)  
 Price  Availability  Organic  Sustainable Other: \_\_\_\_\_ Comments: \_\_\_\_\_

Would you be willing to pay slightly more for locally (grown) sourced foods if you had a reliable source?  Yes  No How much more per pound or unit would you be willing to pay if you had a reliable source?  
 How much more would you be willing to pay if you had a reliable source? (per pound or unit; or as percent) \_\_\_\_\_

On a scale of 1-5 with 1 being least important and 5 being most important, how important are <b>sustainably</b> grown foods to your buying decisions?	1	2	3	4	5
On a scale of 1-5 with 1 being least important and 5 being most important, how important are <b>organically</b> grown foods to your buying decisions?	1	2	3	4	5
On a scale of 1-5 with 1 being least important and 5 being most important, how important are <b>locally, Texas</b> grown foods to your buying decisions?	1	2	3	4	5

**Prices and Quantities by Season**

- 1 - For each quantity, include the highest and lowest current price you pay for this vegetable. (for #1 products)
- 2 - Add notes as needed such as order size or your need to contract with a farmer for the entire season for large orders.
- 3 - Use pounds as unit of measure please.
- 4 - If you won't or can't buy a certain quantity, ok to leave blank or use N/A.

Pounds (in a single order)		Winter (Dec-Feb)	Spring (Mar-May)	Summer (June-Aug)	Fall (Sept-Nov)	Notes HERE
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	Low					
11-50	High					
	Low					
51-100	High					
	Low					
101-500	High					
	Low					
501-1000	High					
	Low					
1001-4000	High					
	Low					
4000+	High					
	Low					

Food Study Series 1 Vegetables Commonly Grown

Vegetable: **Carrots**

**General** Do you currently buy this vegetable?  Yes  No  
 - If yes, about how much do you buy now from combined non-local and local source:  Pounds/year Comments: \_\_\_\_\_

**Locally Sourced** Do you ever buy this vegetable from a local source (locally grown)?  Yes  No  
 - If yes, about how much do you buy now?  Pounds/year Comments: \_\_\_\_\_  
 - If no, would you buy this vegetable from a local (Texas grown) source if you had a satisfactory market?  Yes  No  Maybe  
 - If you had a satisfactory local market source, how much would you buy?  Pounds/year Comments: \_\_\_\_\_  
 - If you had a satisfactory local market source would you commit to seasonal contracts with a Farmer?  Yes  No

Rank the following in order of importance in your decision to buy Texas grown vegetables? (Assume quality meets your standards)  
 Price  Availability  Organic  Sustainable Other: \_\_\_\_\_ Comments: \_\_\_\_\_

Would you be willing to pay slightly more for locally (grown) sourced foods if you had a reliable source?  Yes  No How much more per pound or unit would you be willing to pay if you had a reliable source?

How much more would you be willing to pay if you had a reliable source? (per pound or unit; or as per \_\_\_\_\_)

On a scale of 1-5 with 1 being least important and 5 being most important, how important are <b>sustainably</b> grown foods to your buying decisions?	1	2	3	4	5
On a scale of 1-5 with 1 being least important and 5 being most important, how important are <b>organically</b> grown foods to your buying decisions?	1	2	3	4	5
On a scale of 1-5 with 1 being least important and 5 being most important, how important are <b>locally, Texas</b> grown foods to your buying decisions?	1	2	3	4	5

**Prices and Quantities by Season**

- 1 - For each quantity, include the highest and lowest current price you pay for this vegetable. (for #1 products)
- 2 - Add notes as needed such as order size or your need to contract with a farmer for the entire season for large orders.
- 3 - Use pounds as unit of measure please.
- 4 - If you won't or can't buy a certain quantity, ok to leave blank or use N/A.

Pounds (in a single order)		Winter (Dec-Feb)	Spring (Mar-May)	Summer (June-Aug)	Fall (Sept-Nov)	Notes HERE
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	Low					
11-50	High					
	Low					
51-100	High					
	Low					
101-500	High					
	Low					
501-1000	High					
	Low					
1001-4000	High					
	Low					
4000+	High					
	Low					

Food Study Series 1 Vegetables Commonly Grown

Vegetable: **Bell Peppers (green)**

**General** Do you currently buy this vegetable?  Yes  No  
 - If yes, about how much do you buy now from combined non-local and local sources?  Pounds/year Comments: \_\_\_\_\_

**Locally Sourced** Do you ever buy this vegetable from a local source (locally grown)?  Yes  No  
 - If yes, about how much do you buy now?  Pounds/year Comments: \_\_\_\_\_  
 - If no, would you buy this vegetable from a local (Texas grown) source if you had a satisfactory market?  Yes  No  Maybe  
 - If you had a satisfactory local market source, how much would you buy?  Pounds/year Comments: \_\_\_\_\_  
 - If you had a satisfactory local market source would you commit to seasonal contracts with a Farmer?  Yes  No

Rank the following in order of importance in your decision to buy Texas grown vegetables? (Assume quality meets your standards)  
 Price  Availability  Organic  Sustainable Other: \_\_\_\_\_ Comments: \_\_\_\_\_

Would you be willing to pay slightly more for locally (grown) sourced foods if you had a reliable source?  Yes  No How much more per pound or unit would you be willing to pay if you had a reliable source?

How much more would you be willing to pay if you had a reliable source? (per pound or unit; or as per cent \_\_\_\_\_)

On a scale of 1-5 with 1 being least important and 5 being most important, how important are <b>sustainably</b> grown foods to your buying decisions?	1	2	3	4	5
On a scale of 1-5 with 1 being least important and 5 being most important, how important are <b>organically</b> grown foods to your buying decisions?	1	2	3	4	5
On a scale of 1-5 with 1 being least important and 5 being most important, how important are <b>locally, Texas</b> grown foods to your buying decisions?	1	2	3	4	5

**Prices and Quantities by Season**

- 1 - For each quantity, include the highest and lowest current price you pay for this vegetable. (for #1 products)
- 2 - Add notes as needed such as order size or your need to contract with a farmer for the entire season for large orders.
- 3 - Use pounds as unit of measure please.
- 4 - If you won't or can't buy a certain quantity, ok to leave blank or use N/A.

Pounds (in a single order)		Winter (Dec-Feb)	Spring (Mar-May)	Summer (June-Aug)	Fall (Sept-Nov)	Notes HERE
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	Low					
11-50	High					
	Low					
51-100	High					
	Low					
101-500	High					
	Low					
501-1000	High					
	Low					
1001-4000	High					
	Low					
4000+	High					
	Low					

Food Study Series 1 Vegetables Commonly Grown

Vegetable: **Tomatoes**

**General** Do you currently buy this vegetable?  Yes  No  
 - If yes, about how much do you buy now from combined non-local and local sources?  Pounds/year Comments: \_\_\_\_\_

**Locally Sourced** Do you ever buy this vegetable from a local source (locally grown)?  Yes  No  
 - If yes, about how much do you buy now?  Pounds/year Comments: \_\_\_\_\_  
 - If no, would you buy this vegetable from a local (Texas grown) source if you had a satisfactory market?  Yes  No  Maybe  
 - If you had a satisfactory local market source, how much would you buy?  Pounds/year Comments: \_\_\_\_\_  
 - If you had a satisfactory local market source would you commit to seasonal contracts with a Farmer?  Yes  No

Rank the following in order of importance in your decision to buy Texas grown vegetables? (Assume quality meets your standards)  
 Price  Availability  Organic  Sustainable Other: \_\_\_\_\_ Comments: \_\_\_\_\_

Would you be willing to pay slightly more for locally (grown) sourced foods if you had a reliable source?  Yes  No How much more per pound or unit would you be willing to pay if you had a reliable source?

How much more would you be willing to pay if you had a reliable source? (per pound or unit; or as percentage) \_\_\_\_\_

On a scale of 1-5 with 1 being least important and 5 being most important, how important are **sustainably** grown foods to your buying decisions? 1 2 3 4 5

On a scale of 1-5 with 1 being least important and 5 being most important, how important are **organically** grown foods to your buying decisions? 1 2 3 4 5

On a scale of 1-5 with 1 being least important and 5 being most important, how important are **locally, Texas** grown foods to your buying decisions? 1 2 3 4 5

**Prices and Quantities by Season**

- 1 - For each quantity, include the highest and lowest current price you pay for this vegetable. (for #1 products)
- 2 - Add notes as needed such as order size or your need to contract with a farmer for the entire season for large orders.
- 3 - Use pounds as unit of measure please.
- 4 - If you won't or can't buy a certain quantity, ok to leave blank or use N/A.

Pounds (in a single order)		Winter (Dec-Feb)	Spring (Mar-May)	Summer (June-Aug)	Fall (Sept-Nov)	Notes HERE
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	Low					
11-50	High					
	Low					
51-100	High					
	Low					
101-500	High					
	Low					
501-1000	High					
	Low					
1001-4000	High					
	Low					
4000+	High					
	Low					

Food Study Series 1 Vegetables Commonly Grown

Vegetable: **Eggplant**

**General** Do you currently buy this vegetable?  Yes  No  
 - If yes, about how much do you buy now from combined non-local and local sources?  Pounds/year Comments: \_\_\_\_\_

**Locally Sourced** Do you ever buy this vegetable from a local source (locally grown)?  Yes  No  
 - If yes, about how much do you buy now?  Pounds/year Comments: \_\_\_\_\_  
 - If no, would you buy this vegetable from a local (Texas grown) source if you had a satisfactory market?  Yes  No  Maybe  
 - If you had a satisfactory local market source, how much would you buy?  Pounds/year Comments: \_\_\_\_\_  
 - If you had a satisfactory local market source would you commit to seasonal contracts with a Farmer?  Yes  No

Rank the following in order of importance in your decision to buy Texas grown vegetables? (Assume quality meets your standards)  
 Price  Availability  Organic  Sustainable Other: \_\_\_\_\_ Comments: \_\_\_\_\_

Would you be willing to pay slightly more for locally (grown) sourced foods if you had a reliable source?  Yes  No How much more per pound or unit would you be willing to pay if you had a reliable source?  
 How much more would you be willing to pay if you had a reliable source? (per pound or unit; or as percent) \_\_\_\_\_

On a scale of 1-5 with 1 being least important and 5 being most important, how important are <b>sustainably</b> grown foods to your buying decisions?	1	2	3	4	5
On a scale of 1-5 with 1 being least important and 5 being most important, how important are <b>organically</b> grown foods to your buying decisions?	1	2	3	4	5
On a scale of 1-5 with 1 being least important and 5 being most important, how important are <b>locally, Texas</b> grown foods to your buying decisions?	1	2	3	4	5

**Prices and Quantities by Season**

- 1 - For each quantity, include the highest and lowest current price you pay for this vegetable. (for #1 products)
- 2 - Add notes as needed such as order size or your need to contract with a farmer for the entire season for large orders.
- 3 - Use pounds as unit of measure please.
- 4 - If you won't or can't buy a certain quantity, ok to leave blank or use N/A.

Pounds (in a single order)		Winter	Spring	Summer	Fall	Notes HERE
		(Dec-Feb)	(Mar-May)	(June-Aug)	(Sept-Nov)	
1-10	High					
	Low					
11-50	High					
	Low					
51-100	High					
	Low					
101-500	High					
	Low					
501-1000	High					
	Low					
1001-4000	High					
	Low					
4000+	High					
	Low					

Food Study Series 1 Vegetables Commonly Grown  
 Vegetable: **Lettuce (mixed greens WASHED) 1 LB bag**

**General** Do you currently buy this vegetable?  Yes  No  
 - If yes, about how much do you buy now from combined non-local and local sources:  Pounds/year **Comments:** \_\_\_\_\_

**Locally Sourced** Do you ever buy this vegetable from a local source (locally grown)?  Yes  No  
 - If yes, about how much do you buy now?  Pounds/year **Comments:** \_\_\_\_\_  
 - If no, would you buy this vegetable from a local (Texas grown) source if you had a satisfactory market?  Yes  No  
 - If you had a satisfactory local market source, how much would you buy?  Pounds/year **Comments:** \_\_\_\_\_  
 - If you had a satisfactory local market source would you commit to seasonal contracts with a Farmer?  Yes  No

Rank the following in order of importance in your decision to buy Texas grown vegetables? (Assume quality meets your standards)  
 Price  Availability  Organic  Sustainable **Other:** \_\_\_\_\_ **Comments:** \_\_\_\_\_

Would you be willing to pay slightly more for locally (grown) sourced foods if you had a reliable source?  Yes  No **How much more per pound or unit would you be willing to pay if you had a reliable source?**  
 How much more would you be willing to pay if you had a reliable source? (per pound or unit; or as percent)

On a scale of 1-5 with 1 being least important and 5 being most important, how important are <b>sustainably</b> grown foods to your buying decisions?	1	2	3	4	5
On a scale of 1-5 with 1 being least important and 5 being most important, how important are <b>organically</b> grown foods to your buying decisions?	1	2	3	4	5
On a scale of 1-5 with 1 being least important and 5 being most important, how important are <b>locally, Texas</b> grown foods to your buying decisions?	1	2	3	4	5

**Prices and Quantities by Season**

- 1 - For each quantity, include the highest and lowest current price you pay for this vegetable. (for #1 products)
- 2 - Add notes as needed such as order size or your need to contract with a farmer for the entire season for large orders.
- 3 - Use pounds as unit of measure please.
- 4 - If you won't or can't buy a certain quantity, ok to leave blank or use N/A.

Pounds (in a single order)		Winter	Spring	Summer	Fall	Notes HERE
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	Low					
51-100	High					
	Low					
101-500	High					
	Low					
501-1000	High					
	Low					
1001-4000	High					
	Low					
4000+	High					
	Low					



Food Study Series 1 Vegetables Commonly Grown

Vegetable: **Cabbage**

**General** Do you currently buy this vegetable?  Yes  No  
 - If yes, about how much do you buy now from combined non-local and local sources?  Pounds/year Comments: \_\_\_\_\_

**Locally Sourced** Do you ever buy this vegetable from a local source (locally grown)?  Yes  No  
 - If yes, about how much do you buy now?  Pounds/year Comments: \_\_\_\_\_  
 - If no, would you buy this vegetable from a local (Texas grown) source if you had a satisfactory market?  Yes  No  Maybe  
 - If you had a satisfactory local market source, how much would you buy?  Pounds/year Comments: \_\_\_\_\_  
 - If you had a satisfactory local market source would you commit to seasonal contracts with a Farmer?  Yes  No

Rank the following in order of importance in your decision to buy Texas grown vegetables? (Assume quality meets your standards)  
 Price  Availability  Organic  Sustainable Other: \_\_\_\_\_ Comments: \_\_\_\_\_

Would you be willing to pay slightly more for locally (grown) sourced foods if you had a reliable source?  Yes  No How much more per pound or unit would you be willing to pay if you had a reliable source?

How much more would you be willing to pay if you had a reliable source? (per pound or unit; or as percent) \_\_\_\_\_

On a scale of 1-5 with 1 being least important and 5 being most important, how important are **sustainably** grown foods to your buying decisions? 1 2 3 4 5

On a scale of 1-5 with 1 being least important and 5 being most important, how important are **organically** grown foods to your buying decisions? 1 2 3 4 5

On a scale of 1-5 with 1 being least important and 5 being most important, how important are **locally, Texas** grown foods to your buying decisions? 1 2 3 4 5

**Prices and Quantities by Season**

- 1 - For each quantity, include the highest and lowest current price you pay for this vegetable. (for #1 products)
- 2 - Add notes as needed such as order size or your need to contract with a farmer for the entire season for large orders.
- 3 - Use pounds as unit of measure please.
- 4 - If you won't or can't buy a certain quantity, ok to leave blank or use N/A.

Pounds (in a single order)		Winter (Dec-Feb)	Spring (Mar-May)	Summer (June-Aug)	Fall (Sept-Nov)	Notes HERE
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	Low					
51-100	High					
	Low					
101-500	High					
	Low					
501-1000	High					
	Low					
1001-4000	High					
	Low					
4000+	High					
	Low					

Food Study Series 1 Vegetables Commonly Grown

Vegetable: **Broccoli (whole crowns)**

**General** Do you currently buy this vegetable?  Yes  No  
 - If yes, about how much do you buy now from combined non-local and local sources?  Pounds/year Comments: \_\_\_\_\_

**Locally Sourced** Do you ever buy this vegetable from a local source (locally grown)?  Yes  No  
 - If yes, about how much do you buy now?  Pounds/year Comments: \_\_\_\_\_  
 - If no, would you buy this vegetable from a local (Texas grown) source if you had a satisfactory market?  Yes  No  Maybe  
 - If you had a satisfactory local market source, how much would you buy?  Pounds/year Comments: \_\_\_\_\_  
 - If you had a satisfactory local market source would you commit to seasonal contracts with a Farmer?  Yes  No

Rank the following in order of importance in your decision to buy Texas grown vegetables? (Assume quality meets your standards)  
 Price  Availability  Organic  Sustainable Other: \_\_\_\_\_ Comments: \_\_\_\_\_

Would you be willing to pay slightly more for locally (grown) sourced foods if you had a reliable source?  Yes  No How much more per pound or unit would you be willing to pay if you had a reliable source?  
 How much more would you be willing to pay if you had a reliable source? (per pound or unit; or as per cent \_\_\_\_\_)

On a scale of 1-5 with 1 being least important and 5 being most important, how important are **sustainably** grown foods to your buying decisions? 1 2 3 4 5  
 On a scale of 1-5 with 1 being least important and 5 being most important, how important are **organically** grown foods to your buying decisions? 1 2 3 4 5  
 On a scale of 1-5 with 1 being least important and 5 being most important, how important are **locally, Texas** grown foods to your buying decisions? 1 2 3 4 5

**Prices and Quantities by Season**

- 1 - For each quantity, include the highest and lowest current price you pay for this vegetable. (for #1 products)
- 2 - Add notes as needed such as order size or your need to contract with a farmer for the entire season for large orders.
- 3 - Use pounds as unit of measure please.
- 4 - If you won't or can't buy a certain quantity, ok to leave blank or use N/A.

Pounds (in a single order)		Winter	Spring	Summer	Fall	Notes HERE
		(Dec-Feb)	(Mar-May)	(June-Aug)	(Sept-Nov)	
1-10	High					
	Low					
11-50	High					
	Low					
51-100	High					
	Low					
101-500	High					
	Low					
501-1000	High					
	Low					
1001-4000	High					
	Low					
4000+	High					
	Low					

Food Study Series 1 Vegetables Commonly Grown

Vegetable: **Potato (red)**

**General** Do you currently buy this vegetable?  Yes  No  
 - If yes, about how much do you buy now from combined non-local and local sources?  Pounds/year Comments: \_\_\_\_\_

**Locally Sourced** Do you ever buy this vegetable from a local source (locally grown)?  Yes  No  
 - If yes, about how much do you buy now?  Pounds/year Comments: \_\_\_\_\_  
 - If no, would you buy this vegetable from a local (Texas grown) source if you had a satisfactory market?  Yes  No  
 - If you had a satisfactory local market source, how much would you buy?  Pounds/year Comments: \_\_\_\_\_  
 - If you had a satisfactory local market source would you commit to seasonal contracts with a Farmer?  Yes  No

Rank the following in order of importance in your decision to buy Texas grown vegetables? (Assume quality meets your standards)  
 Price  Availability  Organic  Sustainable Other: \_\_\_\_\_ Comments: \_\_\_\_\_

Would you be willing to pay slightly more for locally (grown) sourced foods if you had a reliable source?  Yes  No  
 How much more would you be willing to pay if you had a reliable source? (per pound or unit; or as percent) \_\_\_\_\_  
 On a scale of 1-5 with 1 being least important and 5 being most important, how important are **sustainably** grown foods to your buying decisions? 1 2 3 4 5  
 On a scale of 1-5 with 1 being least important and 5 being most important, how important are **organically** grown foods to your buying decisions? 1 2 3 4 5  
 On a scale of 1-5 with 1 being least important and 5 being most important, how important are **locally, Texas** grown foods to your buying decisions? 1 2 3 4 5

**Prices and Quantities by Season**

- 1 - For each quantity, include the highest and lowest current price you pay for this vegetable. (for #1 products)
- 2 - Add notes as needed such as order size or your need to contract with a farmer for the entire season for large orders.
- 3 - Use pounds as unit of measure please.
- 4 - If you won't or can't buy a certain quantity, ok to leave blank or use N/A.

Pounds (in a single order)		Winter	Spring	Summer	Fall	Notes HERE
		(Dec-Feb)	(Mar-May)	(June-Aug)	(Sept-Nov)	
1-10	High					
	Low					
11-50	High					
	Low					
51-100	High					
	Low					
101-500	High					
	Low					
501-1000	High					
	Low					
1001-4000	High					
	Low					
4000+	High					
	Low					

Food Study Series 1 Vegetables Commonly Grown

Vegetable: **Sweet Potatoes**

**General** Do you currently buy this vegetable?  Yes  No  
 - If yes, about how much do you buy now from combined non-local and local sources?  Pounds/year Comments: \_\_\_\_\_

**Locally Sourced** Do you ever buy this vegetable from a local source (locally grown)?  Yes  No  
 - If yes, about how much do you buy now?  Pounds/year Comments: \_\_\_\_\_  
 - If no, would you buy this vegetable from a local (Texas grown) source if you had a satisfactory market?  Yes  No  
 - If you had a satisfactory local market source, how much would you buy?  Pounds/year Comments: \_\_\_\_\_  
 - If you had a satisfactory local market source would you commit to seasonal contracts with a Farmer?  Yes  No

Rank the following in order of importance in your decision to buy Texas grown vegetables? (Assume quality meets your standards)  
 Price  Availability  Organic  Sustainable Other: \_\_\_\_\_ Comments: \_\_\_\_\_

Would you be willing to pay slightly more for locally (grown) sourced foods if you had a reliable source?  Yes  No  
 How much more would you be willing to pay if you had a reliable source? (per pound or unit; or as percent) \_\_\_\_\_  
 On a scale of 1-5 with 1 being least important and 5 being most important, how important are **sustainably** grown foods to your buying decisions? 1 2 3 4 5  
 On a scale of 1-5 with 1 being least important and 5 being most important, how important are **organically** grown foods to your buying decisions? 1 2 3 4 5  
 On a scale of 1-5 with 1 being least important and 5 being most important, how important are **locally, Texas** grown foods to your buying decisions? 1 2 3 4 5

**Prices and Quantities by Season**

- 1 - For each quantity, include the highest and lowest current price you pay for this vegetable. (for #1 products)
- 2 - Add notes as needed such as order size or your need to contract with a farmer for the entire season for large orders.
- 3 - Use pounds as unit of measure please.
- 4 - If you won't or can't buy a certain quantity, ok to leave blank or use N/A.

Pounds (in a single order)		Winter	Spring	Summer	Fall	Notes HERE
		(Dec-Feb)	(Mar-May)	(June-Aug)	(Sept-Nov)	
1-10	High					
	Low					
11-50	High					
	Low					
51-100	High					
	Low					
101-500	High					
	Low					
501-1000	High					
	Low					
1001-4000	High					
	Low					
4000+	High					
	Low					

Appendix C  
Lessons Learned About Survey Process

## Lessons Learned About Survey Process

1. It was difficult to schedule appointments with school district purchasers, especially small districts. Upon meeting with them, participants were very accommodating and worked hard to supply as much data as they could. Although the survey research team members were kind and persistent, it still required multiple in-person attempts to reach most schools and get their interview completed. The delays and failures to return calls and emails seemed due to a variety of factors including: (i) at the time of the survey, schools were undergoing a time consuming audit by the Texas Department of Agriculture, (ii) food service staff shared that they are understaffed, particularly in rural areas where funds are limited, (iii) food service staff aren't accustomed to or comfortable being contacted directly by people outside the district. **Takeaway:** (i) Consider communicating through the Superintendents' offices in the future. (ii) Avoid scheduling the survey when the Texas Department of Agriculture audit will be conducted and the 2 weeks before and after any multiple-day holiday periods.
2. When surveying school districts, it was challenging for them to determine a high and a low price for each season. They do not maintain month-to-month pricing/expenditure information in an easy to access format. We were provided a weekly price sheet from a produce distributor that delivers to many schools in Central Texas, and this price sheet did contain an approximation of a high and a low for the semester-to-date. Some schools shared their current velocity reports, which were very useful, but only contained data for the school-year-to-date. It would be more helpful if reports could be run for at least the past year of purchasing data showing pricing over multiple seasons. **Takeaway:** School districts use a variety of software but, where possible, work to obtain/have reports written showing historical food purchase data by product, volume, price, source, and provenance. This may help school districts and potential funders better understand expenditures and historical purchasing patterns. In the long term, this could enable buyers to target products for local purchasing and enable funders to select products for incentives. Detailed data tracking is essential for discovering opportunities to bring more local products into the institutional food setting in an economically feasible manner.
3. Dealing with multiple distributors and deliveries is problematic, especially for large school districts with many campuses. They are already taxed with a great deal of responsibility and logistics including ordering from approved vendors, staff availability, delivery coordination, shortage of storage space, and redistribution to each school in the district. In general, these logistical issues create barriers to entry for local farms, and it may be that small school districts could reduce these barriers by purchasing from just one or two local farms. **Takeaway:** Schools don't want to increase cost of ordering and delivery. They want to deal with the fewest number of vendors possible and have the fewest number of deliveries possible. Development of a local food hub could streamline ordering and deliveries making use of local produce more economically viable for school districts and other institutions. The Sustainable Food Center in Austin is currently leading a regional project to explore the feasibility of a Central Texas food hub.
4. There were differences in use and interpretation of the terminology. One interviewee thought the term "sustainable" meant a product would always be available for ordering. Others thought the term "local" meant the product was purchased from a local distributor. In those cases, local distributors were thought to be offering only local (Texas) produce, which is not true. **Takeaway:** (i) Change the survey to include definitions of these terms. (ii) Educate buyers about what sustainable and locally

produced means in the context of the survey. (iii) In the long term, it might be useful to educate institutional buyers about what sustainability means and how locally grown products benefit our Texas economy.

5. Overall, the format of the survey at first glance was overwhelming to participants due to the amount of information that was asked. This may have been a slight turn-off to some about participating in the survey. For both farmers and buyers, the survey required a minimum of thirty minutes to gather the data necessary and complete the survey. For future surveys it may be helpful to streamline and not repeat any questions. This would improve the survey visually and may contribute to increased participation.
6. On the farmer's survey, two questions were repeated on each vegetable page and both questions can be asked once on the first survey page. Those questions were: "Is this vegetable certified organic?" and "What are your growing practices for this vegetable? \_\_\_Organic, \_\_\_Sustainable, \_\_\_Conventional, \_\_\_Other". It was found that these growing preference questions could have just been asked once on the first page because all farms were growing all vegetables under the same strategies and/or certifications.
7. A question on each vegetable page in the buyers survey asks the participant to rank price, availability, organic, sustainable, or other in order of importance in the decision to buy Texas grown vegetables assuming quality meets standards. Answers for this question proved to be the same for all purchases by that buyer and therefore should only be asked once on the introductory page.
8. The questions ranking importance of sustainably, organically, or locally grown produce on a scale of 1-5 proved to be repetitive and should only be asked once on the introductory page. It was found that the information collected was the same regardless of the vegetable. When asked about total food expenditures versus expenditures on fresh food, it was difficult for the school district buyers to differentiate their trends in this area. Most only had figures for expenditures on all food.
9. Two of the buyer's questions asked them to estimate whether they would buy that vegetable if there was a satisfactory local market source and, if so, how much would they purchase. This question was not answerable for schools because ultimately cost is their bottom line. They will typically choose the most economical source. Some purchasers said if the cost was competitive and they did not have to coordinate with too many distributors/deliveries they would most likely buy the same amount they are currently buying but from local producers instead of imported.
10. When asking about price and quantity for each season it was deemed necessary to clarify how we asked for the information. Question number 1 on the buyers survey was changed and approved by the IRB for future surveys to be: "For each quantity, include the highest and lowest current price you pay for this vegetable. (for #1 products)"
11. We asked the wrong question about lettuce. We had lettuce bagged by the pound on the survey, which for buyers was not the common way they purchase it. Most lettuce is bought and sold by the head by both farms and institutional buyers.
12. We should ask about delivery price. Many responses were discussing selling to consumer markets, which include delivery; for other markets, it would be helpful if we had asked whether the price included delivery or was pick-up.