

Local Food Enterprise Mix Assessment for Lincoln County, NV



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Introduction

A group of producers in Lincoln County Nevada recognized the need to collaborate to distribute and sell their local foods. High quality local food production has started in the region as a result of a series of producer to chef activities and the results of studies educating production techniques and a strong demand for local food in Las Vegas, Nevada (Cowee, et.al, 2009; Curtis et.al, 2010). The producers recognize that the transportation costs are high since the Las Vegas market is 150 miles away and that local markets were limited due to the sparse population in their rural area (5300 people in 10,000 sq. miles). Producers working together are a means to remain viable but it was unclear what markets to target to make the best use of the required infrastructure for those markets.

The Lincoln County Regional Development Authority (LCRDA) hired University of Nevada, Reno consultants to provide assistance in assessing the feasibility of a variety of potential value-added enterprises to determine the most efficient enterprise mix for Lincoln County agriculture producers. This was accomplished through the assessment of supply and demand presented here, which was used to comprehensively evaluate the economic, market, technical, financial, and management feasibility characteristics of each enterprise mix.

Consideration of processing opportunities will include cutting and packaging of raw products using commercially approved HACCP plan, high acid canning in water bath processes, dehydration, and chopping and mixing of products into refrigeration stable products. Studies show that consumers pay nearly the same price for small packages of produce compared to large bulk volume sales. A commercial kitchen and process is required to gain the value. During the peak growing season, product losses from 20% to 60% have been from not getting the ripe product to market in addition to losses incurred via products that do not meet the aesthetic properties necessary for premium pricing (Gatzke, 2012). By processing these surplus products locally, losses will be turned into higher priced specialty products which have been selling at premium prices in similar markets (three to five times the cost of the ingredients). Value-added products can also be sold year-round, generating cash flow during the slower off-season months.

The enterprises under consideration are a mobile slaughter unit; a value-added café and storefront in Lincoln County to sell locally produced food products; a commercial kitchen that could offer processing, co-packing, and/or a selection of educational classes; the potential for a Community Supported Agriculture (CSA) program and/or regular sales of raw and further processed food products to residents of Lincoln County; and a CSA program and/or sales of further processed items at farmers markets to consumers in Las Vegas. The mission of the Lincoln County producers is to improve business for local small farmers through cooperative marketing of exceptional quality produce. This is to be accomplished through entering into a variety of enterprises locally and in Las Vegas.

Lincoln County Producers Overview

The Lincoln County producers group is currently comprised of four farms actively operating 36,000 square feet of growing space using season-extending hoop houses and 23,500 square feet of outdoor growing area (there are two additional members of the group who are currently working on their growing capacity). The active producers were surveyed to determine the types of crops grown, projected quantities, timing of availability, and special production practices used. While we were not able to obtain all of this information from each individual producer, we were able to determine what crops are being grown and used this information along with square footage and current pricing to estimate supply and project harvest value.

The producers are currently growing a variety of tomatoes, greens, onions, herbs, cut flowers, summer squashes, winter squash, melons, peppers, eggplant, artichokes, beets, cabbage, carrots, cucumbers, potatoes, radishes and sweet corn. The producers are currently experimenting and building capacity with fruits including apples, pears, and peaches; and berries including raspberries and strawberries.

Table 1. Crops grown by Lincoln County Producers

Tomatoes	Greens	Onions	Herbs	Summer squash
Early girl	Lettuce	Green	Basil varieties	Patty pan
Brandywine	Salad mix	Chive	Rosemary	Lemon squash
Roma	Romaine	Bulb	Parsley	Variety
Cherry	Arugula	Garlic	Cilantro	Winter squash
Heirloom	Spinach	Shallots		Acorn
Pear	Kale	Leeks	Flowers	
	Chards		Assorted	
				Capacity Building
Melons	Peppers	Artichokes	Beets	Fruits
Watermelons	Hot peppers	Cabbage	Carrots	Apples
Cantaloupe	Sweet peppers	Cucumbers	Potatoes	Pears
Honeydew		Radishes	Sweet corn	Peaches
	Eggplant	Turnips		Berries
	Asian			Raspberries
	Italian			Strawberries

Current and Projected Supply

The current square footage of growing space operated by the four active farms was used to estimate supply and crop value from 2013 through 2017. Production area for 2013 is based on currently established growing area as of September 2012. As the producers have plans to expand production, 2014 production area is based on individual expansion estimates that are expected to take place by the end of 2013. Production area from 2015 through 2017 are increased based on individuals plans for expansion taking into account available production area for each individual

operation. From 2015 on, we have estimated additional hoop house growing space to include new members to the collaborative group who do not currently have marketing systems established. It is assumed that if the collaborative group can prove itself to be successful, new members will want to join.

Production volume estimates are based on production rates published by Utah State University, which estimate that one 1,344 square foot hoop house structure can produce \$3.24 to \$5.09 crop value per square foot if considering berries, or \$2.53 per square foot if considering tomatoes (which can be rotated with another crop). University of Nevada Cooperative Extension has demonstrated production values up to \$6.47 per square foot for similar crops (Gatzke, 2012). A producer in the region has estimated the market value of products within their hoops houses to be \$2.00 to \$3.00 per square foot for general crops and \$4.00 per square foot for premium crops. Based on these regional crop value and production estimates, we used conservative values of \$3.00 per square foot for hoop house growing and \$1.50 per square foot for outside production.

Estimates indicate that the collaborative group could produce 77,100 pounds of produce in 2013 with total crop value of \$143,250. Assuming expansion occurs, by 2017 it is estimated the collaborative group could produce 168,000 pounds of produce with total crop value of \$312,750.

Table 2. Production capacity of producers in Lincoln County

	2013		2014		2015		2016		2017	
	Hoop House	Outside	Hoop House	Outside	Hoop House	Outside	Hoop House	Outside	Hoop House	Outside
Production area (sq. ft.)	36,000	23,500	42,000	55,500	60,000	55,500	70,000	50,500	78,000	52,500
Crop Value	\$143,250		\$209,250		\$263,250		\$273,750		\$312,750	
Produce weight (lbs.)										
June to Oct.	45,000	14,100	52,000	33,300	75,000	33,300	87,250	30,300	97,500	31,500
Nov. to May	18,000		21,000		30,000		35,000		39,000	
Total weight per year		77,100		106,800		138,300		152,800		168,000

A survey of producers in Lincoln County administered in September 2012 sought to determine the sales and marketing channels these producers would like to see the collaborative group pursue. Seventy percent (70%) of respondents who answered this question thought the collaborative group should sell to whatever market provides the best return. This indicates a willingness to pursue markets based on demand, an attitude that will be helpful for the collaborative group moving forward. We can infer from the remaining responses what producers believe will provide the best returns. Farmers markets and sales to Las Vegas grocery stores were preferred by more than half of the respondents, and half the respondents were interested in a local café, engaging in marketing and promotion of Lincoln County, and collaborating on

transportation. A local storefront, sales to high-end chefs, and sales to other restaurants were preferred by less than half. CSA programs and agritourism were the least preferred options.

Table 3. Preferences for selling avenues by producer respondents

Which of the following sales and marketing channels would you be interested in pursuing as part of the cooperative?	Response Percent	Response Count
Selling to whatever market provides the best return	70%	7
Farmers market	60%	6
Retail sales to grocery stores in Las Vegas	60%	6
Local cafe featuring your ingredients	50%	5
Marketing and promotion of Lincoln County	50%	5
Collaborating on transportation	50%	5
Local storefront selling your raw and value-added products	40%	4
Sales to chefs	40%	4
Sales to restaurants	40%	4
Produce CSA	30%	3
Farm tours/agritourism	20%	2
Meat CSA/Meat-buying club	20%	2
Produce and meat CSA/buying club	20%	2

Respondents were asked whether they were interested in developing value-added products and 50% of respondents said they definitely were, while 8% said they might be. Respondents who expressed interest in value-added products were then asked what value-added products they would be interested in developing. Jelly/jam, baked goods, and cut and packaged fresh produce were preferred by more than half of these respondents. Canned produce and salsas were next, followed by sauces, marinades, dried herbs or herb mixes, and cut flowers. Dried and frozen produce and fruit syrups were least preferred.

Table 4. Interest in producing value added products by producer respondents

Are you interested in developing value-added products?	Response Percent	Response Count
Yes	50%	6
No	42%	5
Maybe	8%	1

Table 5. Value added products that producer respondents are interested in developing

Which of the following value-added produce products would you be interested in developing/selling?	Response Percent	Response Count
Jelly/Jam	57%	4
Baked goods	57%	4
Cut and packaged fresh produce (prepared salads, cut vegetables, etc.)	57%	4
Canned produce	43%	3
Salsas	43%	3
Sauces	29%	2
Marinades	29%	2
Dried herbs/herb mixes	29%	2
Cut flowers	29%	2
Dried produce (dried fruit, dried apples, etc.)	14%	1
Frozen produce	14%	1
Prepared frozen produce (frozen stir fry mixes, etc.)	0%	0
Fruit syrups	0%	0

Survey respondents were also asked what sort of fee-based services they would like to see the collaborative group offer to non-members to generate additional revenue. Bulk packaging purchases, marketing and sales activities were the three most preferred services. Labeling services for value-added products and distribution were also preferred by more than half of respondents. Commercial kitchen rental was preferred by 40% of respondents, and courses on commercial food safety were least preferred.

Table 6. Producer respondents' preferences for service from the collaborative group

What fee-based services would you like to see the cooperative offer to non-members?	Response Percent	Response Count
Purchasing bulk packaging products (jars, clamshells, trays)	80%	4
Marketing	80%	4
Sales	80%	4
Labeling services for value-added products	60%	3
Distribution	60%	3
Commercial kitchen rental (to cook/process value-added products)	40%	2
Courses about commercial food safety (how to make commercial products following USDA safety guidelines)	20%	1

Respondents were also asked how they felt the collaborative group should cover the start-up costs of any enterprise mix as a percent of total costs. On average, membership dues (i.e. member equity) were given a rate of about 50%, as were percentage of individual sales through the collaborative group. Time was given an average allotment of 25%, community donations were given an average of 12.5%, and corporate donations and philanthropy were viewed as something that should cover about 5% of costs.

Table 7. Producer respondents’ preferences for fees to support the collaborative group

How would you like the cooperative to cover its costs?	Percent of Costs
	Covered
Membership dues	48.60%
Percentage of individual sales through cooperative	47.60%
Time	24.70%
Community donations	12.50%
Corporate donations	5%
Philanthropy	5%

Perceptions of Local Foods and Current Grocery Spending in Lincoln County

A paper survey and link to an online survey was sent to a random sampling of 853 residents of Lincoln County in September 2012. A total of 224 surveys were returned and considered complete for analysis, a response rate of 26.2%.

To assess Lincoln County residents’ opinion of local foods, they were asked to define “local,” which presently is an unregulated term with varying uses. The greatest number of respondents considered local foods to be those grown in their region, while just more than a quarter of the population defined local foods as those grown by a farmer or rancher they know. A similar question in a different study was asked on to a random sampling of residents throughout Nevada and only 4% of that population defined local as being grown/raised by a farmer or rancher they knew. Lincoln County residents’ overall definition is much tighter than that of residents across the state.

Table 8. Lincoln County respondents’ definition of local food

When considering food products, what do you consider "local"?	Response Percent	Response Count
Grown/raised in my region	38%	87
Grown/raised by a farmer or rancher I know	26%	59
Grown/raised within 150 miles of the area I live	15%	35
Grown/raised within a day's drive of the area I live	9%	20
Grown/raised in my state	4%	9
Grown/raised myself	2%	5
Whatever is available at stores	2%	4
Grown/raised in my county	1%	3
Don't consider	<1%	1
None of the above	<1%	1

Survey respondents were asked to rate how important it is to them to purchase local foods on a scale of one to 10, with one indicating that it is not important and 10 indicating that it is extremely important. Approximately 46% of respondents assigned purchasing local foods a value

of 5 or less, while the remaining 54% of respondents rated it a value of 6 or higher. These ratings are consistent with a recent statewide survey of Nevada residents.

Table 9. Importance in buying local food to Lincoln County respondents

How important is it to you to purchase local food products?	Response Percent	Response Count
1 (not important)	5%	12
2	4%	10
3	9%	21
4	8%	18
5	20%	44
6	5%	11
7	16%	37
8	13%	30
9	4%	9
10 (extremely important)	13%	29
Average rating		5.99
Median rating		6.00

Survey respondents were asked how much their household spends on groceries during an average month. Eighty percent (80%) of respondents spent between \$201 and \$600 on groceries each month. Using the midpoints of the ranges that were provided to respondents, average household grocery spending is approximately \$384 per month.

Table 10. Average monthly grocery expenditures by Lincoln County respondents

During the average month, how much does your household spend on groceries?	Response Percent	Response Count
Less than \$200	8%	19
\$201-\$400	52%	116
\$401-\$600	28%	63
\$601-\$800	8%	17
More than \$800	2%	5
Prefer not to answer	0%	0

Survey respondents were asked how often their households consume meat products during the day. Eighty-five percent (85%) of respondents eat meat between 1 and 10 times per week, or up to once per day.

Table 11. Frequency of meat consumption by Lincoln County respondents

How often does your household consume meat products?	Response Percent	Response Count
1 to 4 times per week (less than once per day)	34%	76
5 to 10 times per week (at least once per day)	52%	114
11 to 14 times per week (one to two times per day)	10%	22
15 to 20 times per week (at least twice per day)	1%	3
More than 20 times per week (more than twice per day)	1%	3
My household does not consume meat products	1%	3

Respondents were asked how much their household spends on meat products during the average month. Seventy percent (70%) spends up to \$120 per month. Using the midpoints of the ranges that were provided to respondents, average monthly spending on meat products is estimated as \$110 per household.

Table 12. Average monthly meat expenditures by Lincoln County respondents

During the average month, how much does your household spend on meat products?	Response Percent	Response Count
Less than \$80	35%	76
\$81-\$120	35%	75
\$121-\$160	18%	39
\$161-\$200	7%	16
More than \$200	4%	8
Prefer not to answer	0%	1

Respondents were asked how often their household consumes produce. Sixty-eight percent (68%) consume produce between once and twice per day, with another 23% indicating that they consume produce at least twice per day.

Table 13. Frequency of produce consumption by Lincoln County respondents

How often does your household consume produce?	Response Percent	Response Count
1 to 4 times per week (less than once per day)	10%	22
5 to 10 times per week (at least once per day)	44%	95
11 to 14 times per week (one to two times per day)	24%	52
15 to 20 times per week (at least twice per day)	12%	26
More than 20 times per week (more than twice per day)	11%	23
My household does not consume produce	0%	0

Respondents were asked how much their household spends on produce in the average month. Eighty percent (80%) indicated that they spend less than \$120 per month, while 29% indicated that they spend more than \$121 per month on produce. Using the midpoints of the ranges that were provided to respondents, average monthly spending on produce is estimated as \$110 per household.

Table 14. Average monthly produce expenditures by Lincoln County respondents

During the average month, how much does your household spend on produce?	Response Percent	Response Count
Less than \$80	34%	74
\$81-\$120	36%	78
\$121-\$160	19%	41
\$161-\$200	6%	13
More than \$200	4%	9
Prefer not to answer	1%	2

Demographic information collected from survey respondents was compared to the U.S. Census Bureau’s QuickFacts for 2011. The survey sample differs from the county population in several ways which were expected with survey data. There were a greater proportion of female respondents and those aged 65 and older, while reported annual income and educational attainment rates were both higher than the county statistics. These are common results with surveys. The proportion of survey respondents who are employed was slightly lower than the county statistic, however 43% of the survey sample reported that they were retired which is likely related to the greater proportion of people over age 65 who responded to the survey. The average household size of the survey sample was slightly lower than the county statistic, but again this could be related to the greater proportion of individuals age 65 and older.

Table 15. Demographics of Lincoln County respondents compared to residents

Demographic	Lincoln County	Survey
Female	45.9%	60.9%
Age 65 and older	18.7%	30.2%
HH income \$50,000 and greater	45.6%	60.7%
Caucasian	93.0%	92.6%
High school	83.0%	95.6%
Four-year degree or higher	15.8%	33.3%
Employed	48.9%	43.2%
Unemployed	3.30%	2.2%
Persons per household	2.69	2.46

Zip codes provided by survey respondents indicate that they were distributed throughout Lincoln County. The greatest number of surveys were returned by individuals residing in Caliente, with 29% of total responses. According to the U.S. Census Bureau, Caliente accounts for approximately 20% of Lincoln County’s population. Twenty-five percent (25%) of respondents were from Pioche, which was also overrepresented relative to its 19% population concentration. Alamo and Panaca contributed about 20% of responses each, which is about consistent with the population distribution, as was the 2% contributed by Hiko. It is recommended that the producers’ collaborative group further examine this data in the future to look for respondent differences based on resident location to better target market their efforts.

Table 16. Residence location of Lincoln County respondents compared to residents

Region	Percent of Lincoln County population	Percent of survey respondents
Alamo	20%	18%
Caliente	20%	29%
Hiko	2%	2%
Panaca	18%	21%
Pioche	19%	25%

Café, Storefront, and Commercial Kitchen in Lincoln County

The Lincoln County Producers Collaborative group is interested in obtaining commercial space they could use as a café with a limited menu based on their own fresh, local ingredients and a storefront where they could sell raw, unprocessed and value-added and further processed food products. Another key aspect of this plan would be a commercial kitchen, which would be a necessary component for the café and would provide the opportunity for value-added production. The commercial kitchen could also be rented out to third parties or could be used to host fee-based food processing and cooking courses for community members. It is believed that it would be prudent to combine these three aspects together to increase the number of potential customers through diversification of services offered.

Start-Up Costs

Quotes for a 65-foot by 15-foot pre-fabricated modular buildings were obtained from two sources. For a pre-fabricated building, the only site improvement necessary before installation would be pouring a concrete slab, estimated to cost \$4,400. The modular building itself would contain a combination café and retail store area in the front of the building, with the prep area and commercial kitchen and two cooler areas in the rear. This would include a shelved 5-foot by 15-foot 0⁰ freezer unit and a shelved 10-foot by 15-foot 35⁰ refrigerator unit, with the remaining 50-foot by 15-foot area cooled via a dry unit air conditioner. The building would have forklift access and a large access door for deliveries. Cost quotes for utility inputs for the commercial kitchen were variable, but have been estimated at a conservative rate of \$10,000. All together, costs for purchase and installation of the modular building are \$179,191.

Prep equipment that would be necessary for cut and packaged products (such as salad mixes and pre-cut vegetables) would include a triple-wash station, two sinks, and five stainless steel tables. These equipment costs are estimated at \$2,980.

Commercial kitchen equipment includes a convection oven, gas range, hood, refrigerator, food processor, microwave, deep fryer, juicer, 5-quart mixer, meat slicer, and other small equipment. Including installation, commercial kitchen costs are estimated at \$28,185. Total costs for

purchase, outfitting, and installation of the café, storefront, and commercial kitchen are \$214,746.

Table 17. Estimated cost of commercial kitchen

Concrete Slab			
	Concrete, Delivery, Grading, etc.	\$4,400	
			\$4,400
Building (not including utilities/hook-ups for commercial kitchen)			
	Modular Building 65' x 15':		
	freezer unit 0°F 5'x15', refrigerator unit 35°F 10'x15', dry unit-air conditioned 50'x15'	\$111,331	
	Shelving		
	inside freezer unit and refrigerator unit	\$4,245	
	Forklift Access	\$18,000	
	Door larger than 36"	\$2,500	
	Tax	\$8,928	
	Utility Inputs for Commercial Kitchen	\$10,000	
	Installation	\$24,187	
			\$179,191
Prep Equipment (commercial grade - cut and package)			
	Triple Wash Station	\$980	
	Sink x 2	\$1,000	
	Stainless Steel Table x 5	\$1,000	
			\$2,980
Kitchen Equipment (commercial grade - kitchen)			
	Convection Oven	\$7,000	
	Gas Range	\$2,900	
	Hood	\$2,500	
	Refrigerator	\$2,600	
	Food Processor	\$1,290	
	Microwave	\$320	
	Deep Fryer	\$675	
	Juicer	\$200	
	5 Quart Mixer	\$2,190	
	Meat Slicer	\$500	
	Other Small Equipment	\$5,000	
	Installation	\$3,000	
			\$28,175
	Grand Total		\$214,746

Regional Market

Respondents to the Lincoln County resident survey were asked to describe the attributes they would like to see in a regional facility offering the services of a café, a storefront, or a commercial kitchen, or all or some combination of these services. It was emphasized that this facility would provide fresh, healthy, local ingredients. Additionally, customers at the Bet on the Farm farmers market in Las Vegas were asked if they would visit such a facility on a day trip to

Lincoln County and how likely they would be to make such a trip, and whether they would be interested in purchasing value-added products at farmers markets in Las Vegas.

Lincoln County Residents

Examining just the café options, just over half of survey respondents were interested in a limited café menu featuring healthy breakfast and lunch options, while about 40% were interested in a full or more extensive menu and once-per-week take-out dinner special. About 30% were interested in a café offering a variety of take-out dinners offered on a daily basis, and 22% were interested in a facility that would provide catering or special events services. It should be again noted that a café could not exist without the commercial kitchen.

Table 18. Respondents’ interest in different café services

Café only	Response Percent	Response Count
Limited cafe menu featuring healthy options (breakfast and lunch items such as sandwiches, soups, salads)	55.7%	117
More extensive/full menu	38.1%	80
Take-out dinner special (fixed menu) offered once per week	37.6%	79
Variety of take-out dinners offered daily	31.9%	67
Catering or special events services	22.4%	47

The attributes for a storefront only would include sales of fresh produce and sales of processed meat products, as any other value-added option would require access to a commercial kitchen. Sales of fresh produce was the most popular potential attribute with 87% of surveyed residents interested in fresh produce sales. Slightly fewer than 45% of respondents were interested in sales of fresh or processed meat products. It must be emphasized that additional permits would be required for sales of fresh meat; however processed or frozen meat could be sold in a stand-alone facility.

Table 19. Respondents’ interest in different storefront products

Storefront only	Response Percent	Response Count
Sales of fresh produce	86.7%	182
Sales of fresh or processed meat products such as sausage or jerky	44.3%	93

It would also be possible to operate just a commercial kitchen featuring educational courses to the public. This space could also be rented out to individuals interested in developing value-added products, although this option was not presented on the survey. About 30% of respondents were interested in educational cooking courses and educational courses in processed food production. Approximately 35% of respondents were interested in educational courses about agricultural food production, which would not necessarily need to be held in conjunction with a commercial kitchen.

Table 20. Respondents’ interest in different educational classes

Commercial kitchen only	Response Percent	Response Count
Educational courses about agricultural food production (ex. gardening, irrigation techniques)	34.8%	73
Educational cooking courses	31.9%	67
Educational courses in processed food production (ex. canning, jelly making, pickling)	27.6%	58

The possibility of a storefront with a commercial kitchen would allow the collaborative group to develop, process, and distribute value-added products directly from the storefront, expanding the market that could be reached in addition to diversifying product options.

Table 21. Respondents’ interest in products from a storefront and commercial kitchen

Storefront + Commercial kitchen	Response Percent	Response Count
Sales of fresh produce	86.7%	182
Sales of processed food items such as salsa, jelly	45.2%	95
Sales of fresh or processed meat products such as sausage or jerky	44.3%	93
Sales of pre-packaged produce such as salad mixes and cut vegetables	34.8%	73
Educational courses about agricultural food production (ex. gardening, irrigation techniques)	34.8%	73
Educational cooking courses	31.9%	67
Educational courses in processed food production (ex. canning, jelly making, pickling)	27.6%	58

Combining a commercial kitchen with both a storefront and limited café would allow the collaborative group to maximize both the number of customers they could reach and the diversity of products and services they could offer. In terms of market access and regional market supply, this is the best option for the producers.

Table 22. Respondents’ interest in products from all combined enterprises

Commercial Kitchen + Storefront + Café	Response Percent	Response Count
Sales of fresh produce	86.7%	182
Limited cafe menu featuring healthy options (breakfast and lunch items such as sandwiches, soups, salads)	55.7%	117
Sales of processed food items such as salsa, jelly	45.2%	95
Sales of fresh or processed meat products such as sausage or jerky	44.3%	93
More extensive/full menu	38.1%	80
Take-out dinner special (fixed menu) offered once per week	37.6%	79
Sales of pre-packaged produce such as salad mixes and cut vegetables	34.8%	73
Educational courses about agricultural food production (ex. gardening, irrigation techniques)	34.8%	73
Variety of take-out dinners offered daily	31.9%	67
Educational cooking courses	31.9%	67
Educational courses in processed food production (ex. canning, jelly making, pickling)	27.6%	58
Catering or special events services	22.4%	47

Because the populated areas of Lincoln County are geographically dispersed and feature their own unique characteristics, the following section outlines definitions of the term “local,” importance of purchasing local products, and preference for a café facility by zip code.

Alamo Residents

Relative to the whole survey sample, Alamo residents assigned a higher rating to “Grown/raised by a farmer or rancher I know,” and “Grown/raised in my state.” This may be an indication that it would be more difficult to earn a premium price for local products from Alamo residents without a personal connection or good marketing and labeling practices that demonstrate the producers’ Nevada origins.

Table 23. Alamo respondents’ definition of local food

When considering food products, what do you consider "local"? Alamo	Response Percent	Response Count
Grown/raised in my region	33%	13
Grown/raised by a farmer or rancher I know	30%	12
Grown/raised in my state	13%	5
Grown/raised within 150 miles of the area I live	10%	4
Grown/raised within a day's drive of the area I live	8%	3
Grown/raised in my county	3%	1
Grown/raise myself	3%	1
Don't consider	3%	1

Alamo residents’ assigned a slightly lower average rating to the importance of purchasing locally than the whole sample. A slightly higher proportion of respondents rated local importance a 1 or 2 while a lower proportion rated it as a 9 or 10.

Table 24. Importance of purchasing local foods for Alamo respondents

How important is it to you to purchase local food products? Alamo	Response Percent	Response Count
1 (not important)	7.7%	3
2	7.7%	3
3	7.7%	3
4	7.7%	3
5	17.9%	7
6	2.6%	1
7	25.6%	10
8	12.8%	5
9	0.0%	0
10 (extremely important)	10.3%	4
Average rating		5.67
Median rating		6.00

Compared to the full sample, a lower proportion of Alamo residents was interested in the sales of meat products, all of the menu options aside from the limited menu, and catering services. This is an indication that Alamo would not be the best location for a café.

Table 25. Alamo respondents’ preference for services from the enterprises

If a cafe or storefront was available in your area with a focus on serving fresh, local ingredients, which of the following attributes would you prefer the cafe or storefront to have? Alamo	Response Percent	Response Count
Sales of fresh produce	83%	33
Limited cafe menu featuring healthy options (breakfast and lunch items such as sandwiches, soups, salads)	55%	22
Sales of processed food items such as salsa, jelly	45%	18
Sales of fresh or processed meat products such as sausage or jerky	33%	13
Educational courses about agricultural food production (ex. gardening, irrigation techniques)	33%	13
Sales of pre-packaged produce such as salad mixes and cut vegetables	30%	12
Educational cooking courses	30%	12
Educational courses in processed food production (ex. canning, jelly making, pickling)	28%	11
More extensive/full menu	25%	10
Variety of take-out dinners offered daily	23%	9
Take-out dinner special (fixed menu) offered once per week	20%	8
Catering or special events services	15%	6

Caliente Residents

A much larger proportion of Caliente residents defined “local” as a product grown by a farmer they know than the full sample. Caliente is the nearest population center for the actively growing producers at this time, so this demonstrates an opportunity for them to market themselves in Caliente to build their relationship with residents there. Caliente residents also represented half of total survey respondents who indicated that they consider local to be whatever is offered in stores.

Table 26. Caliente respondents' definition of local food

When considering food products, what do you consider "local"? Caliente	Response Percent	Response Count
Grown/raised in my region	37%	24
Grown/raised by a farmer or rancher I know	34%	22
Grown/raised within 150 miles of the area I live	17%	11
Grown/raised within a day's drive of the area I live	9%	6
What is available in local stores	3%	2
Grown/raised myself	2%	1
Grown/raised in my state	2%	1

Caliente residents placed more importance on purchasing local products than any other geographic group, with a higher average rating than the full sample and a median rating one point greater than the full sample.

Table 27. Importance of purchasing local foods for Caliente respondents

How important is it to you to purchase local food products? Caliente	Response Percent	Response Count
1 (not important)	5%	3
2	2%	1
3	6%	4
4	11%	7
5	20%	13
6	2%	1
7	22%	14
8	17%	11
9	5%	3
10 (extremely important)	14%	9
Average rating		6.35
Median rating		7.00

A greater proportion of Caliente residents were interested in access to sales of meat products, sales of processed food items, and sales of pre-packaged produce than the full sample. There was also a greater proportion of residents interested in a take-out dinner special offered once per week, the more extensive or full menu option, and catering or special events services. The only café option that fewer Caliente residents were interested in was the variety of take-out dinners offered daily. Taken along with the higher rating for the importance of purchasing local foods among Caliente residents and their emphasis on “local” being from a farmer or rancher they know, Caliente would be a strong candidate for the facility’s location. The argument for Caliente is further strengthened by the fact that Caliente already serves as a central shopping location for residents of Lincoln County, so the facility would benefit from the existing consumer traffic.

Table 28. Caliente respondents’ preference for services from the enterprises

If a cafe or storefront was available in your area with a focus on serving fresh, local ingredients, which of the following attributes would you prefer the cafe or storefront to have? Caliente	Response Percent	Response Count
Sales of fresh produce	88%	57
Sales of fresh or processed meat products such as sausage or jerky	54%	35
Limited cafe menu featuring healthy options (breakfast and lunch items such as sandwiches, soups, salads)	52%	34
Sales of processed food items such as salsa, jelly	51%	33
Take-out dinner special (fixed menu) offered once per week	43%	28
More extensive/full menu	38%	25
Sales of pre-packaged produce such as salad mixes and cut vegetables	37%	24
Catering or special events services	31%	20
Educational cooking courses	31%	20
Educational courses in processed food production (ex. canning, jelly making, pickling)	29%	19
Educational courses about agricultural food production (ex. gardening, irrigation techniques)	28%	18
Variety of take-out dinners offered daily	26%	17

Panaca Residents

Panaca residents’ definition of the term “local” was very similar to the full sample, without many notable differences.

Table 29. Panaca respondents’ definition of local food

When considering food products, what do you consider "local"? Panaca	Response Percent	Response Count
Grown/raised in my region	33%	16
Grown/raised by a farmer or rancher I know	27%	13
Grown/raised within 150 miles of the area I live	17%	8
Grown/raised within a day's drive of the area I live	13%	6
Grown/raised in my state	2%	1
Grown/raised in my county	2%	1
Grown/raised myself	2%	1

Relative to the full sample, Panaca residents rated the importance of purchasing local half a point less than the full sample and the median rating was one point lower than the full sample. A greater proportion of respondents assigned purchasing local products a three or four, while a much lower proportion rated purchasing local as extremely important (10).

Table 30. Importance of purchasing local foods for Panaca respondents

How important is it to you to purchase local food products? Panaca	Response Percent	Response Count
1 (not important)	4%	2
2	6%	3
3	15%	7
4	15%	7
5	17%	8
6	4%	2
7	10%	5
8	17%	8
9	6%	3
10 (extremely important)	4%	2
Average rating		5.43
Median rating		5.00

A much larger proportion of Panaca residents were interested in a facility with an extensive or full menu and a variety of take-out dinners than the full sample. A greater proportion was also interested in a variety of take-out dinners offered daily. A lower proportion was interested in the limited café menu. These results indicate that Panaca residents are interested in having access to a full-service restaurant. However, given that Panaca residents placed less emphasis on the importance of purchasing local products and were slightly less interested in sales of fresh produce, Panaca is not recommended as the best site for the facility.

Table 31. Panaca respondents’ preference for services from the enterprises

If a cafe or storefront was available in your area with a focus on serving fresh, local ingredients, which of the following attributes would you prefer the cafe or storefront to have? Panaca	Response Percent	Response Count
Sales of fresh produce	81%	39
More extensive/full menu	52%	25
Limited cafe menu featuring healthy options (breakfast and lunch items such as sandwiches, soups, salads)	46%	22
Variety of take-out dinners offered daily	46%	22
Sales of processed food items such as salsa, jelly	46%	22
Educational courses about agricultural food production (ex. gardening, irrigation techniques)	44%	21
Take-out dinner special (fixed menu) offered once per week	42%	20
Sales of fresh or processed meat products such as sausage or jerky	42%	20
Sales of pre-packaged produce such as salad mixes and cut vegetables	31%	15
Educational cooking courses	29%	14
Educational courses in processed food production (ex. canning, jelly making, pickling)	25%	12
Catering or special events services	23%	11

Pioche Residents

Relative to the full sample, a greater proportion of Pioche residents defined local as grown in their region, while a lower proportion defined it as grown by someone they know personally.

Table 32. Pioche respondents' definition of local food

When considering food products, what do you consider "local"? Pioche	Response Percent	Response Count
Grown/raised in my region	46%	26
Grown/raised by a farmer or rancher I know	20%	11
Grown/raised within 150 miles of the area I live	18%	10
Grown/raised in my state	5%	3
Grown/raised within a day's drive of the area I live	5%	3
What is available in local stores	2%	1
None of the above	2%	1

Pioche residents assigned a much higher average rating to the importance of purchasing local food products than the full sample, although the median rating was the same. A much greater proportion of Pioche residents considered the importance of local purchases as extremely important (10) than the full sample.

Table 33. Importance of purchasing local foods for Pioche respondents

How important is it to you to purchase local food products? Pioche	Response Percent	Response Count
1 (not important)	5%	3
2	5%	3
3	9%	5
4	0%	0
5	20%	11
6	11%	6
7	14%	8
8	7%	4
9	4%	2
10 (extremely important)	23%	13
Average rating		6.38
Median rating		6.00

A lower proportion of Pioche residents were interested in sales of fresh produce than the full sample, although a greater proportion was interested in sales of pre-packaged produce. A greater proportion was interested in a limited café menu. The information from Pioche residents recommends it as a second option for locating the facility. If the producers locate the facility in Caliente instead, they should consider Pioche as a strong location for farmers market and CSA

sales. Perhaps value-added pre-packaged products or prepared café items could be sold at farmers markets in Pioche.

Table 34. Pioche respondents’ preference for services from the enterprises

If a cafe or storefront was available in your area with a focus on serving fresh, local ingredients, which of the following attributes would you prefer the cafe or storefront to have? Pioche	Response Percent	Response Count
Sales of fresh produce	77%	43
Limited cafe menu featuring healthy options (breakfast and lunch items such as sandwiches, soups, salads)	61%	34
Sales of pre-packaged produce such as salad mixes and cut vegetables	36%	20
Sales of fresh or processed meat products such as sausage or jerky	34%	19
More extensive/full menu	34%	19
Take-out dinner special (fixed menu) offered once per week	32%	18
Sales of processed food items such as salsa, jelly	32%	18
Variety of take-out dinners offered daily	30%	17
Educational cooking courses	29%	16
Educational courses about agricultural food production (ex. gardening, irrigation techniques)	29%	16
Educational courses in processed food production (ex. canning, jelly making, pickling)	21%	12
Catering or special events services	16%	9

Las Vegas Farmers Market Customers

A survey of 38 customers at the Bet on the Farm farmers market, which is located approximately 150 miles from Caliente, was conducted in-person during two markets in September 2012. Bet on the Farm was targeted for this study as the market has been specifically designed for and marketed to high-end chefs and Las Vegas “foodies,” or individuals with a particular interest in food. While this survey sample is too small to develop any solid business assumptions, it can shed some light on the preferences of this potentially lucrative target market.

Survey respondents were asked what sort of agriculture-related activities they would be interested in participating in if they took a day trip to Lincoln County. Nearly 80% of respondents were interested in dining at a café featuring locally grown food products, while 73% were interested in shopping at a store front featuring fresh, unprocessed locally grown products. These two results lend support to both the café and store front options. Seventy percent (70%) of survey respondents were interested in taking farm tours and 61% were interested in visiting farm stands. These are activities for the producers collaborative group to consider as they move forward. Just over half of respondents were interested in visiting a store front to purchase fresh local meat products, while 40% each of respondents were interested in shopping at a store front to purchase value-added local produce and value-added local meats. This may be an indication that meat products in general are less preferred than produce to this market, and value-added and processed products are less preferred than fresh.

Table 35. Las Vegas farmers market respondents’ interest in services in Lincoln County

If you were to travel to Lincoln County for a day trip, which of the following activities would you be interested in participating in?	Response Percent	Response Count
Dining at cafe featuring locally grown food products	78.8%	26
Shop at store front featuring fresh, unprocessed locally grown produce	72.7%	24
Farm tours	69.7%	23
Farm stand	60.6%	20
Shop at store front featuring fresh locally grown meats	51.5%	17
Shop at store front featuring value-added locally grown produce	39.4%	13
Shop at store front featuring value-added locally grown meats	39.4%	13

Survey respondents were asked how likely they would be to travel to Lincoln County for such a day trip. About a third of respondents said they would be likely, while 17% said they would be very likely. A market may exist among Las Vegas farmers’ market customers for Lincoln County agritourism, including visits to a café and storefront.

Table 36. Las Vegas farmers market respondents’ likeliness of traveling to Lincoln County

How likely would you be to travel to Lincoln County for such a trip?	Response Percent	Response Count
Not likely	14.3%	5
Possible	37.2%	13
Likely	31.4%	11
Very likely	17.2%	6

Recommendations

The surveys of Lincoln County residents and Las Vegas farmers market customers indicates strong demand for a storefront featuring sales of fresh produce, as well as a café featuring a limited menu of meals focused on healthy, locally grown ingredients. Based on the market results, the best option for the producers is to maximize their customer base and diversification of products and services offered by creating a facility that offers a café, storefront, and commercial kitchen.

Costs for purchase and installation of a modular building featuring all components of a café, storefront, and commercial kitchen are \$214,746 exclusive of operating costs. Survey results indicate strong interest on the part of Lincoln County residents in such a facility, with an emphasis on fresh produce sales and the limited menu café. Broken down by community responses, Panaca residents show a great deal of interest in a full-service restaurant; however they appear to be less interested in the type of locally-sourced café the producers are interested in pursuing. Alamo does not seem to be a good location for siting the facility, as the residents there do not appear very interested in access to a café. Hiko did not have enough response to draw any conclusions, although the size of the community in terms of population is not large enough for serious consideration of facility location.

Based on the survey results, locating the facility in Caliente appears to be the best option, based on resident perceptions of local products and the importance they place on purchasing local products, in addition to Caliente being more centrally located for Lincoln County residents and already serving as a central shopping location. Pioche would be a second location to consider based on strong interest in local products, although Pioche also appears to be a good candidate for farmers’ market sales, particularly of value-added pre-packed produce or café items.

Additional analyses were run on resident produce spending to further compare Caliente and Pioche. In the tables below, the left panel presents the distribution of responses from the survey for resident spending on produce in a typical month. The center panel takes the percent for each response and multiplies it by population for Caliente (1,080) and Pioche (1,002). If the survey was representative of the population, then “Resident Extrapolation” would be the number of Caliente residents who would fall into each of the individual spending categories. The panel on the right multiplies the number of projected customers by the midpoint of the spending range, with the lower end estimated as \$60 per month and the higher end estimated as \$250 per month. The last three columns on the right present scenarios where the collaborative group is able to retain 5%, 10% and 20% of each of these spending categories.

Using these methods, 5% of total Caliente produce spending is estimated at \$5,425; 10% is \$10,850; and 20% is \$21,700; while 5% of total Pioche spending is estimated at \$4,409; 10% is \$8,818; and 20% is \$17,635. A greater proportion of Caliente residents stated that they spend more than \$120 per month on produce than those in Pioche, which could result in greater local sales if the collaborative group was to locate the facility in Caliente.

These estimates should be regarded with an element of caution, as without additional information it is not possible to determine percent of total produce spending the collaborative group could hope to retain from regional residents. However, this information might provide some guidance as to whether any of these figures would be enough to help cover the costs of investment, operation, and production.

% of population	10% of Extrapolation	Extrapolation	2
17	35		
18	37		
12	25		
3	7		
1	2		
52	105		

**Table 37.
Extrapolations
of produce
spending
potentials in
Caliente and
Pioche**

% of population	10% of Extrapolation	20% Extrapolation
21	42	84
23	46	91
2	4	7
1	2	4
2	4	7
48	97	193

Lincoln County CSA

While the proposed café/storefront/commercial kitchen proposal would stand the chances of reaching the greatest number of customers in Lincoln County, a CSA program to residents in Lincoln County is another option to consider. A CSA would likely reach a small number of customers, however, given that the Lincoln County resident survey indicated strong demand for access to fresh produce, it could be quite popular from the start and provide the collaborative group with an opportunity to develop their reputation and build a customer base.

Start-up Costs

A. Lincoln County CSA With Access to Commercial Kitchen

The start-up costs of a CSA program could be fairly minimal depending on the model used. The costs outlined below assume that the collaborative group has access to the commercial kitchen to pre-wash produce and store it in a refrigerator. In that case, the collaborative group would need such supplies as produce bags, clamshells, twist ties, corrugated boxes, and a produce scale. Total start-up costs are estimated at \$1,858. Costs not included here include transportation costs to a central location for CSA members to pick up their shares, and the cost of assembling each weekly share, a task which is assumed to be undertaken by the producers themselves to begin with. Eventually hired labor would be necessary.

If the collaborative group were to operate the commercial kitchen, in addition to conducting pre-washing and produce prep at that location, the facility could be used as the pick-up site. This could reduce some of the individual transportation costs, and provides the added benefit of increasing traffic to the facility.

Table 38. Cost of startup supplies for a CSA

Supplies			
	Produce bags (case of 9,000)	\$150	
	Clamshells (case of 1,500)	\$390	
	Twist ties (case of 20,000)	\$180	
	Corrugated 25-lb boxes (case of 600)	\$988	
	Scale	\$150	
			\$1,858
		Grand Total	\$1,858

B. Lincoln County CSA Without Access to a Commercial Kitchen

Access to a commercial kitchen to pre-wash produce is a necessary requirement for sales of produce that is bundled or packaged prior to sale (ex. carrots bundled with a twist tie; cherry tomatoes in a clamshell; radishes placed together in a produce bag). If the producers collaborative group did not choose to build the commercial kitchen, the producers would need to

operate the CSA such that produce was not more than minimally separated and packaged in addition to standard post-harvest handling techniques. This could be accomplished by placing individual produce types within bulk bins and allowing CSA members to remove their share from the bins themselves.

Reusable grocery bags can be ordered with the collaborative group’s name and logo on the bags. Two of these bags could be given to each CSA member to bring with them each week to transport their share from the pick-up site back home. The cost of 60 such bags (assuming 30 members from the outset) is estimated at \$170. The collaborative group would want to start with about 25 bulk bins sized 25” by 26” by 8.5” constructed of materials which are FDA-approved for agricultural and food use. Used, 15 containers are estimated to cost \$1,350. The collaborative group would still want the corrugated boxes and a scale as mentioned in the previous example.

This model would likely require a dual-temperature refrigerator unit at \$9,050 to keep produce at the pick-up site cooled. Total start-up costs for this model are \$11,708. These costs do not include individual transportation costs to the pick-up site, utilities for the refrigerator, or any sorts of fees associated with renting or using the pick-up site. As mentioned in the previous example, eventually hired labor would be required.

Table 39. Cost of startup supplies and a cooler for a CSA

Supplies			
	Reusable grocery bags (60 bags)	\$170	
	2 bags per member for transporting share		
	Bulk bins (25 containers, <u>used</u>)	\$1,350	
	25" x 26" x 8.5", FDA-approved materials		
	Corrugated 25-lb boxes (case of 600)	\$988	
	Scale	\$150	
			\$2,658
Cooling			
	Dual-temperature refrigerator unit	\$9,050	
	(60 in wide)		
			\$9,050
	Grand Total		\$11,708

Regional Market

The survey of Lincoln County residents asked if they were familiar with the concept of community supported agriculture programs and if they would be interested in joining such a program if available.

Thirty-four percent of respondents indicated that they were familiar with CSA programs. If the survey sample is representative of the CSA familiarity of all Lincoln County residents, this is an indication that approximately two-thirds of the population is unfamiliar with CSAs and therefore the producers would need to provide education about such programs in the course of marketing efforts.

Table 40. Demographic and location indicators for being familiar with the term CSA

Lincoln County Resident likelihood of being familiar with CSA = 0.288 (28.8%)								
	Education	Income	Gender	Age	Alamo	Caliente	Panaca	Pioche
Change in Probability	0.096	-0.041	0.09	-0.005	0.272	0.18	-0.1	Omitted
Standard Errors	0.045	0.021	0.08	0.014	0.131	0.108	0.111	Omitted
Statistically Significant	YES	NO	NO	NO	YES	YES	NO	Omitted

A logit regression indicated that the likelihood of any Lincoln County resident being familiar with a CSA is only 28.8%. The results show the average resident of Caliente or Alamo has a higher probability of being familiar with a CSA than residents from Pioche or Panaca. The only statistically significant demographic indicator is education. Income, gender, age were not significant indicators for knowledge of CSA (Table 1.). Given that the survey population had higher levels of education and income than county averages, the proportion of residents unfamiliar with CSAs may be larger than two-thirds. Initial support for a CSA likely would come from higher educated residents.

Respondents were then asked whether they would be interested in joining a meat CSA, produce CSA, or CSA program featuring both meat and produce if it was available in their area.

Sixteen percent (16%) of respondents said they would definitely be interested in joining a produce only CSA. The previous extrapolation method was adjusted such that the Lincoln County population (5,311) was multiplied by 10% to capture those residents with a strong interest in local foods and agricultural issues, who would be interested in participating in a CSA program, which is expected to be less than the population interested in a café and storefront. Using this method, it is estimated that 84 individuals across Lincoln County have a definite interest in produce CSAs. Fifteen percent (15%) of respondents said they would definitely be interested in a meat only CSA, which could be 82 individuals across Lincoln County. Twenty-one percent (21%) of respondents said they were definitely interested in joining and meat and produce CSA, which could be 111 potential customers in Lincoln County.

Table 41. Interest in joining a CSA by respondents

If a produce CSA, a meat CSA, or a produce and meat CSA were available in your area, would you be interested in joining?	Yes, I would be interested in joining	
	Response Percent	Potential Lincoln County Customers
Produce only CSA or buying club	15.8%	84
Meat only CSA or buying club	15.4%	82
Produce and meat CSA or buying club	20.8%	111

The number of respondents who were potentially interested in joining CSA programs contingent upon having more information was greater than those definitely interested. Fifty percent (50%) of respondents said they might be interested in a produce CSA, with the potential to represent 266 Lincoln County residents. Forty-two percent (42%) of respondents were potentially interested in meat or produce CSAs, or 225 Lincoln County residents. Fifty-two percent (52%) of respondents were potentially interested in a meat and produce CSA program, or 278 Lincoln County residents.

Table 42. Interest in obtaining more information about joining a CSA by respondents

If a produce CSA, a meat CSA, or a produce and meat CSA were available in your area, would you be interested in joining?	Maybe, I would need more information	
	Response Percent	Potential Lincoln County Customers
Produce only CSA or buying club	50.0%	266
Meat only CSA or buying club	42.3%	225
Produce and meat CSA or buying club	52.3%	278

Recommendations

A small but strong market exists for CSA programs in Lincoln County featuring local products. While a produce only CSA or buying program held great interest to survey respondents, a program offering both produce and meat appealed to the greatest proportion of respondents. This provides an opportunity for collaboration and partnership with ranchers in the area, which could present a mutually beneficial relationship for all parties as well as Lincoln County residents. Depending on how the CSA is handled, it could be done for fairly low start-up costs, although there would be logistic issues for the producers and increased labor on their part. If the collaborative group pursues both the café/storefront/commercial kitchen facility and a CSA, it is recommended that produce prep take place within the facility and that the facility be used as the pick-up site for the convenience of the producers and also to increase traffic to the facility.

Mobile Slaughter

The start-up costs for a mobile slaughter unit include the cost to purchase the unit itself, the costs of a semi-truck to haul the unit, costs for livestock holding and stun facilities, and miscellaneous costs.

Mobile slaughter unit

Specifications for a 36-38 foot mobile slaughter unit (MSU) were derived from 2010 feasibility study for ranchers in the state of Nevada and are based on quotes from TriVan Truck Body of Ferndale, Washington. An MSU of this size can slaughter a maximum of 10 head of cattle per day when operating with two full-time butchers. Carcasses begin chilling immediately and are down to temperature the morning after slaughter. As the cooling area has room for 6,000 pounds of meat, the unit can operate for two days before it would need to unload and resupply. The unit in question would meet USDA inspection and licensing requirements and would not require additional furnishing or equipment. Each MSU created by TriVan includes a mechanical/storage area, slaughter area, refrigeration unit, and miscellaneous equipment including knives, saws, and scales.

Cost estimates for building a fully-equipped MSU from TriVan were \$190,000 in 2010. This figure was adjusted to \$192,000 to account for a 2.1% inflation adjustment. Sales tax for the MSU was calculated at 8.750%, the sales tax rate for Ferndale, WA as of September 2012. The total cost of the unit with sales tax was estimated as \$210,975.

Semi-truck

A semi-truck must be purchased separately to haul the unit, which weighs 25,000 pounds. A used truck can be purchased for \$30,000, while a new truck may cost as much as \$125,000. For this study, the price of a used truck was estimated as \$45,000. Sales tax for the truck was calculated at 7.100%, the Lincoln County sales tax rate for September 2012. The total cost of the truck with sales tax was then estimated as \$48,195.

Holding and Stun Facilities, Miscellaneous Supplies

USDA's Food Safety and Inspection Service (USDA-FSIS) requires that each MSU operational site provide an ante-mortem pen for live animals at rest and in motion. While this area may be provided by the livestock producer (i.e. this may be the area where animals are normally kept on the farm or ranch), \$5,000 dollars has been budgeted for this expense in the event that the MSU would want to provide some sort of non-permanent holding facility that could be set up at each location.

USDA-FSIS recommends a humane approach to livestock slaughter (meeting the requirements for humane slaughter is the responsibility of the MSU operator), and suggests that the stunning and bleeding areas be designed to minimize excitement, discomfort, and accidental injury when unloading or driving animals. FSIS recommends that animals be bled on a sloped concrete ramp with lines to a drain field, or over a gravel bed that allows blood and water to drain to prevent

pooling. In addition to creating insanitary conditions, pooling of blood and water can also result in the MSU getting stuck in mud. Five thousand dollars (\$5,000) was incorporated into this budget to offset some of the costs of concrete beds and/or gravel beds at operation sites. It should be noted that individual producers may need to undertake the costs of providing concrete or gravel beds at their facility, or this may be an additional cost the collaborative group would take on.

Although the MSU is built to include all supplies needed for slaughter, an additional \$5,000 was included in the start-up costs to cover any additional supplies not considered elsewhere in the budget.

Sales tax for these facilities and miscellaneous supplies was calculated at 7.100%, the sales tax in Lincoln County as of September 2012. The total cost of facilities and miscellaneous supplies with sales tax was estimated as \$16,065. The equipment costs below show the information that is found in the “Loan and Depreciation” tab of the Excel planning tool. Total start-up costs for a mobile slaughter unit are estimated at \$275,235.

Table 43. Startup costs for a mobile meat slaughter system

Start-up Costs and Loan Payment Calculation				
Item:	Cost:	Payment Period (yrs)	Interest rate	Annual Payment
Mobile Slaughter Unit	\$ 210,975	10	9%	\$ 32,071
Tandem Axel Truck, used	\$ 48,195	5	9%	\$ 12,006
Holding/Kill Facilities/Misc. Supplies	\$ 16,065	5	9%	\$ 4,002
Total start-up costs	\$ 275,235			

Regional Market for Slaughter & Processing

On a survey of residents of Lincoln County, respondents were asked if they would be interested in using a regional slaughter and processing facility for game, livestock or both if such a facility were available. While 59% of respondents (129 individuals) indicated that either they do not hunt or raise livestock, or would not be interested, 33% (74 individuals) said they would use such a facility to process game, and 31% (68 individuals) said they would use such a facility to slaughter and process livestock. This indicates that there may be a market for charging outside fees for such a service.

Table 44. Interest by respondents in using a meat slaughter system

If a small-scale meat slaughter and processing facility was available in your area, would you use it to slaughter/process game of livestock?

	Percent response	Number of individuals
Yes, game	33.6%	74
Yes, livestock	30.9%	68
No, I don't hunt or raise livestock	35.5%	78
No, this would not interest me	23.2%	51

The Census of Agriculture conducted by the National Agricultural Statistics Service in 2007 (most recent data available) estimated that there were 74 ranches producing beef cows in Lincoln County with approximately 9,500 head. Meat goats were raised on 4 ranches with an inventory of 15 head, and hogs and pigs and sheep and lambs were raised on two ranches each with an undisclosed number of head. This level of regional supply may not be enough to financially support a slaughter and processing facility.

Table 45. Livestock Inventory, 2007 (Census of Agriculture, National Agricultural Statistics Service)

	Farms	Head
Beef cattle	73	9,519
Hogs & pigs	2	Undisclosed
Sheep & lambs	2	Undisclosed
Meat goats	4	15

Agricultural producers in Lincoln County were surveyed to determine their interest in producing local foods with an emphasis on the enterprises the collaborative group is considering. Of the 10 livestock producers who responded, the majority currently sell their livestock at auction. While only one individual indicated that they sell meat processed through a USDA-inspected facility, two additional respondents indicated that they sell some meat custom exempt. However, none of the three are selling retail cuts; rather they are all selling either whole or half carcasses.

Table 46. How respondents sell their livestock

How do you sell your livestock?	Response Percent	Response Count
As meat slaughtered and processed at a USDA-inspected facility	10.0%	1
Unfinished young livestock	30.0%	3
Finished	10.0%	1
Fed and sold fat	10.0%	1
Livestock auction	80.0%	8
Other: private treaty	10.0%	1

When asked if they were interested in expanding their livestock production, only four individuals indicated that they were. They expressed the greatest amount of interest in lowering costs of

production, entering into local foods production, increasing market access, and increasing returns.

Table 47. Expansion direction for livestock production by respondents

Are you interested in expanding your livestock production, and if so, how?	Response Percent	Response Count
Lower production costs	25%	1
Increase production	0%	0
Increase herd size	0%	0
Incorporate a new livestock enterprise	25%	1
Incorporate a new produce enterprise	25%	1
Hire more labor	0%	0
Lower costs of transportation	50%	2
Supply products to local/regional customers (local foods production)	50%	2
Increase market access	50%	2
Increase returns	50%	2
Not interested	0%	0
Other (please specify)	25%	1

Past Research

Past UNR research has investigated alternative methods of USDA-inspected slaughter and processing for Nevada and has not yet found a financially and logistically feasible solution. A 2007 study outlined the economic feasibility of a mobile slaughter unit (MSU) to be owned and operated by a producer’s cooperative in northern Nevada (Curtis et al., 2007). Although the project was found to be economically feasible and potentially quite profitable under certain conditions, it was not pursued further. While the 2007 study yielded positive financial results, it is of note that in 2010, representatives of USDA’s Food Safety and Inspection Service (USDA-FSIS) deemed that this initial study had been overly optimistic in terms of two main assumptions, which were that producers would be willing to adjust their calving schedules to ensure a steady supply of livestock, and that the units would be able to travel on a constant and consistent basis. The opinions of the USDA-FSIS representatives were based on their experiences working with MSUs across the country, primarily in the west. The other main assumption of the 2007 study is also of particular note: that in order to be financially feasible, the collaborative group running the MSU would require access to a stationary processing facility.

A 2008 study examined the costs and feasibility of building a permanent livestock slaughter and processing facility in Silver Springs, Nevada, with a producer’s cooperative again serving as owner and operator (Curtis et al., 2008). Although this facility was found to be economically and logistically feasible under certain conditions, sensitivity analysis indicated that the profitability margins would be slim and it was recommended that the facility not be built. A 2011 study revisited the idea of mobile slaughter following a red meat mobile slaughter unit information sessions held in Carson City and sponsored by USDA’s Food Safety and Inspection Service

(USDA-FSIS). At this meeting, livestock producers made clear their continued interest in alternative slaughter and processing capacity, while USDA-FSIS representatives expressed concern that the previous mobile slaughter study had been overly optimistic. This study found that mobile slaughter was economically feasible under certain conditions, but was again highly sensitive to pricing, consumer demand, and willingness among producers to adjust calving times to deliver a consistent supply (Cowee and Harris, 2011).

Recommendations

In September 2012 we consulted Dr. Lauren Gwin, a faculty member in the Department of Agricultural and Resource Economics at Oregon State University and co-director of the nationwide Niche Meat Processor Assistance Network, in regards to her opinion on building small-scale facilities and investing in mobile slaughter. Dr. Gwin's opinion, based on her years of personal experience working with small producers and processors was that the collaborative group would be best-served by collaborating on transportation to an existing slaughter and processing facility to test both the supply of livestock and the market for the finished product. In Dr. Gwin's experience, the lack of a steady flow of livestock through small facilities is typically the biggest barrier to success. By securing a flow of livestock and a market for the finished product, the producer collaborative group will be in a better position if they decide to pursue a facility in the future.

With a relatively low number of beef cattle available within that region of the state and the majority of cattle being sold through auctions or unfinished, our recommendation is that the producers follow Dr. Gwin's advice and work together to secure supply and market access first. As the surveyed livestock producers expressed some interest in lowering transportation costs and increasing their market access, this option may be palatable to producers as well.

Las Vegas Markets

Las Vegas, approximately 150 miles from Caliente, offers several marketing options for the producers collaborative group, including sales to chefs, farmers market sales, and CSA sales. While the entire population of Lincoln County is just over 5,300, the Las Vegas area boasts a population of nearly two million individuals and hosted approximately 39 million visitors in 2011 (Las Vegas Convention and Visitors Authority, 2012). Beyond locating and marketing to interested chefs, the main barrier to entry to Las Vegas markets is transportation costs; for that reason it is recommended that the producers collaborative group consider combining sales to chefs with participation in farmers markets and CSA sales.

In recent years, Las Vegas has joined the ranks of San Francisco and Los Angeles as a premiere West Coast destination for high-end and gourmet restaurants. Concentrated mainly within the casinos on the Las Vegas Strip, these restaurants and their chefs present a lucrative, nearby and premium market for the producers to enter into. Producers and chefs have the opportunity to form mutually beneficial relationships, as chefs need access to fresh, flavorful, high-quality products; while producers benefit from the security and risk reduction of having a guaranteed market that is willing to pay premium prices and potentially allow for new growing opportunities.

Consumer interest in direct marketed local foods products is on the rise nationwide. USDA's Agricultural Marketing Service noted a 9.6% increase in the number of farmers markets in the U.S. between 2011 and 2012 from 7,175 to 7,864. The directory lists 13 markets in the Las Vegas area as of September 2012. CSA programs are increasing in popularity as well, and although more than a dozen CSA programs currently operate in northern Nevada, there are only three in the Las Vegas area.

Costs

1. Las Vegas Sales With Access to a Commercial Kitchen

The first example considers that the collaborative group has access to the commercial kitchen where produce could be prepared and stored prior to transport. Start-up costs in this case would include a refrigerated truck for transport to Las Vegas; and farmers market and CSA supplies including produce bags, clamshells, twist ties, corrugated boxes, a produce scale, and a banner. This example also considers that the CSA and farmers market programs would run for 20 weeks, requiring 20 round trips from Caliente to Las Vegas. An additional 50 round trips to encompass 10 round trips to service chefs during the farmers market/CSA season and another 20 weeks of twice-weekly round trips outside of the farmers market/CSA season. Total start-up costs are estimated to be \$48,070. These costs do not include maintenance or storage of the truck or labor. At the onset, it is assumed that the producers themselves would transport the produce, host the market, work with the chefs, and administer to CSA. However, this would require time away from growing and eventually would likely be replaced by hired labor.

Table 47. Cost for delivery and supplies to take product to Las Vegas

Trucking			
	Refrigerated Delivery Truck: <u>Used</u>	\$35,000	
	Commercial Insurance per Year	\$900	
	Commercial Drivers License	\$87	
	Gasoline: Caliente-Las Vegas, 20 rd trip 20 weeks of farmers markets & CSA	\$2,900	
	Gasoline: Caliente-Las Vegas, 50 rd trip 20 weeks of twice weekly chef sales	\$7,250	
			\$46,137
Supplies	Produce bags (case of 9,000)	\$150	
	Clamshells (case of 1,500)	\$390	
	Twist ties (case of 20,000)	\$180	
	Corrugated 25-lb boxes (case of 600)	\$988	
	Scale	\$150	
	Banners	\$75	
			\$1,933
	Grand Total		\$48,070

2. Las Vegas Sales Without Access to a Commercial Kitchen

If the collaborative group were to focus on sales to chefs, farmers markets, and CSAs without a dedicated building for pre-washing products or doing any value-added processing, they could lower costs but would need to follow the model previously outlined in terms of undergoing minimal separation and packaging of produce. This could be accomplished by placing individual produce types within bulk bins and allowing CSA members to remove their share from the bins themselves. In addition to the bulk bins, start-up costs in this case also include a refrigerated truck for transport to Las Vegas; reusable bags with the collaborative group’s name and logo, a produce scale, and a banner. This example also considers that the CSA and farmers market programs would run for 20 weeks, requiring 20 round trips from Caliente to Las Vegas. An additional 50 round trips to encompass 10 round trips to service chefs during the farmers market/CSA season and another 20 weeks of twice-weekly round trips outside of the farmers market/CSA season.

This model would likely require a dual-temperature refrigerator unit at \$9,050 to keep produce cooled during the time between when the producers dropped it off and when it was transported to Las Vegas. Reusable grocery bags can be ordered with the collaborative group’s name and logo on the bags. Two of these bags could be given to each CSA member to bring with them each week to transport their share from the pick-up site back home. The cost of 60 such bags (assuming 30 members from the outset) is estimated at \$170. The collaborative group would want to start with about 25 bulk bins sized 25” by 26” by 8.5” constructed of materials which are FDA-approved for agricultural and food use. Used, 20 containers are estimated to cost \$1,350. The collaborative group would still want the corrugated boxes and a scale as mentioned in the previous example. Total start-up costs are \$57,920.

These costs do not include maintenance or storage of the truck or labor. At the onset, it is assumed that the producers themselves would transport the produce, host the market, work with the chefs, and administer to CSA. However, this would require time away from growing and eventually would likely be replaced by hired labor.

If the producers planned to implement this model at a farmers market, they would want to ensure that their market booth provided them enough room for all the bulk bins necessary. They would also need to find a drop off and distribution site in Lincoln County to store the refrigerator and keep produce cool between drop off and transport to Las Vegas.

Table 48. Cost for delivery, supplies and a cooling unit to take product to Las Vegas

Trucking			
	Refrigerated Delivery Truck: <u>Used</u>	\$35,000	
	Commercial Insurance per Year	\$900	
	Commercial Drivers License	\$87	
	Gasoline: Caliente-Las Vegas, 20 rd trip 20 weeks of farmers markets & CSA	\$2,900	
	Gasoline: Caliente-Las Vegas, 50 rd trip 20 weeks of twice weekly chef sales	\$7,250	
			\$46,137
Cooling			
	Dual-temperature refrigerator unit (60 in wide)	\$9,050	
			\$9,050
Supplies			
	Reusable grocery bags (60 bags) 2 bags per member for transporting share	\$170	
	Bulk bins (25 containers, <u>used</u>) 25" x 26" x 8.5", FDA-approved material	\$1,350	
	Corrugated 25-lb boxes (case of 600)	\$988	
	Scale	\$150	
	Banners	\$75	\$2,733
	Grand Total		\$57,920

Regional Market: High-End Chefs

Developing relationships with Las Vegas chefs has been an ongoing project for Lincoln County agriculture. A 2009 study determined that when considering purchasing local products, chefs rated origin/freshness and consistent quality highest, and rated these two attributes and seasonal availability higher than price. These are the product characteristics producers should emphasize when approaching chefs about developing a relationship. These findings are derived from a 2009 UNCE fact sheet, “Developing Farmer and Gourmet Chef Partnerships” by Curtis, Entsminger, Gatzke, and Morris (UNCE Fact Sheet number FS-09-40).

Other key findings were that chefs are extremely busy and that producers will likely have to work around a chef's desired delivery schedule rather than setting a schedule that is convenient for the producer, and that chefs new to Nevada will likely be unfamiliar with the quality, availability and seasonality of regional products. Many chefs come to Nevada with the perception that agriculture in the high desert climate is limited or of low quality (Taylor, 2009).

Producers will need to communicate to chefs not only what products are available regionally, but any unique characteristics these products have, such as any impacts local conditions may have on flavor, quality, appearance and yields. Providing such information to chefs at the outset will provide producers with a competitive edge, and maintaining communication about seasonal availability of high quality products prior to harvest will facilitate good working relations. As the surveyed chefs were most concerned with product taste, flavor and freshness, they will in most cases prefer to purchase items at their peak and adapt menus based on seasonal availabilities.

The previous research conducted in Nevada and by the producers themselves on working with chefs has indicated that chefs are interested in buying fresh, flavorful, and unique products; that chefs prefer to have products delivered to them and will not pay delivery charges; and that producers must find a way to operate around the chef's schedule.

To expand on this existing work, a chef round table was held in September 2012 to discuss what products chefs are most interested in with an emphasis on further processed and value-added products. A list of products were rated on whether chefs would be interested in purchasing them or not. Results indicated that chefs are extremely interested in purchasing fresh, unprocessed items including fresh produce, fresh meat, and fresh herbs and are willing to pay a price premium for these items.

Extremely interested
Fresh produce
Fresh meat
Fresh herbs

Chefs also expressed a high level of interest in dried produce. Some chefs, particularly those working with pastries, will use extremely high volumes of dried fruits. However, they can pay commodity prices to purchase these items and are not willing to pay a premium for a local product. To enter into sales of dried produce to chefs, producers will need to pay able to generate a very high volume for a very low price. This is not likely to be a viable option for the producers' collaborative group.

Very interested
Dried produce

Chefs were potentially interested in several value-added items with some provisions. They weren't interested in local canned produce in general, as they purchase these items on a

commodity level. However, they might be interested in purchasing unique or specialty items such as green onions or pickled garlic scapes. Few chefs in Las Vegas are using edible flowers and said that they frequently end up throwing away the majority of the flowers they purchase but don't have an opportunity to use. They expressed interest in very small quantities of edible flowers. The producers' competitive advantage would come from the ability to supply a very small volume, which would not be likely to earn much profit, however, this is an item that could potentially be added on to other larger orders. Other items chefs would possibly be interested in under the right conditions were fruit syrups or concentrates, fresh mixed herb pesto, and herbed cheeses. All of these value-added products could be developed by the producers' collaborative group and should be examined further as they might have potential to increase sales and profits as a complement to fresh product sales to chefs.

Possibly interested
Canned produce
Edible flowers
Fruit syrups/concentrates
Fresh mixed herb pesto
Herbed cheese

Aside from the products already listed, chefs were not interested in any of the other value-added or further processed items the collaborative group has considered developing. This includes prepared fresh produce (such as salad mixes and cut vegetables), frozen produce, dried herbs, and frozen meat. Chefs are not interested in these items because they would rather purchase them fresh. Chefs were not interested in sauces, marinades, salsas, jams, baked goods, sausage, jerky, or pre-marinated meats because they would rather cook their own using fresh ingredients.

Not interested	
Prepared fresh produce	Marinades
Frozen produce	Pre-marinated meats
Sauces	Frozen meat
Jelly/Jam	Jerky
Salsas	Sausage
Dried herbs	Baked goods

Recommendations: High-End Chefs

High-end and gourmet chefs in Las Vegas present excellent market potential for the producers collaborative group and although chefs will not pay delivery charges, the costs of transportation may be mitigated by combining deliveries to chefs with deliveries to other markets, such as a CSA program or farmers markets. While chefs continue to be mainly interested in purchasing fresh, high-quality items, there are a few value-added and further processed items they might be interested in. We recommend that the producers continue to develop relationships with chefs in Las Vegas to sell them the fresh products they demand. We also recommend they test small

batches of the value-added products chefs expressed interest in to determine if a market truly exists among chefs for these items.

Regional Market: CSA and Farmers Market

A survey of farmers’ markets customers was conducted to assess the regional market for CSA and farmers market participation in Las Vegas. The survey was developed based on results of a 2008 farmers’ market survey in Las Vegas and was adjusted to address regional and nationwide changes in consumer preferences. The 2008 consumer preferences are not presented here due to the severe impact of the recession on Nevada, Clark County in particular. It was determined that these past results may be too affected by the recession to still be of relevance here.

Customers at the Bet on the Farm farmers market in Las Vegas were asked whether they would be interested in joining a CSA featuring Lincoln County products, and what sorts of products they would be interested in purchasing from Lincoln County producers at a farmers market. While the sample size of 37 respondents is not large enough to draw any solid conclusions, it can provide valuable marketing information about the Las Vegas market.

Profile of Farmers Market Customers

To assess Las Vegas farmers’ market customers’ opinion of local foods, they were asked to define “local.” The greatest number of respondents considered local foods to be those grown in their region, similar to the results for Lincoln County. However, the next most common responses were grown/raised within 150 miles of the area I live and grown/raised in my state, while only 16% defined local as being grown by a farmer or rancher they know. These results are quite different from those of the Lincoln County residents, who exhibited a much tighter definition of the term. While the sample size is small, this shows that there may be potential for Lincoln County crops to be accepted as local food products in Las Vegas, a key factor in earning price premiums.

Table 49. Las Vegas respondents’ definition of local food

When considering food products, what do you consider "local"?	Response Percent	Response Count
Grown/raised in my region	43%	16
Grown/raised within 150 miles of the area I live	22%	8
Grown/raised in my state	19%	7
Grown/raised by a farmer or rancher I know	16%	6
Grown/raised within a day's drive of the area I live	11%	4
Don't consider	5%	2

Survey respondents were asked to rate how important it is to them to purchase local foods on a scale of one to 10, with one indicating that it is not important and 10 indicating that it is

extremely important. Again, the results were quite different from Lincoln County with approximately 14% of respondents assigning local foods a value of 5 or less and 86% assigning a value of 6 or higher. The average and median ratings of 7.89 and 8.00 are much higher than in Lincoln County as well. This also lends support to marketing Lincoln County products as local at farmers markets.

Table 50. Importance of local food to Las Vegas respondents

How important is it to you to purchase local food products?	Response Percent	Response Count
1 (not important)	0%	0
2	0%	0
3	3%	1
4	5%	2
5	5%	2
6	3%	1
7	22%	8
8	22%	8
9	14%	5
10 (extremely important)	27%	10
Average rating		7.89
Median rating		8.00

Respondents were asked how much their household spends on groceries in an average month. The ranges presented to respondents were higher than those offered in the Lincoln County survey. The results show that 65% of respondents spend up to \$700 on groceries per month. Using the midpoints of the ranges that were provided to respondents, average household grocery spending is approximately \$587 per month.

Table 51. Expenditure on groceries by Las Vegas respondents

During the average month, how much does your household spend on groceries?	Response Percent	Response Count
Less than \$500	38%	14
\$501-\$700	27%	10
\$701-\$900	11%	4
\$901-\$1100	14%	5
More than \$1100	3%	1
Prefer not to answer	8%	3

Respondents were asked how often their household consumes produce during the day. These figures were also much higher than for Lincoln County. While 38% of respondents eat produce between 0 and one times per day, 33% eat produce at least once per day and 30% eat produce more than twice per day. This indicates that these consumers are a good market for produce growers.

Table 52. Frequency of consuming produce by Las Vegas respondents

How often does your household consume produce?	Response Percent	Response Count
1 to 4 times per week (less than once per day)	11%	4
5 to 10 times per week (at least once per day)	27%	10
11 to 14 times per week (one to two times per day)	22%	8
15 to 20 times per week (at least twice per day)	11%	4
More than 20 times per week (more than twice per day)	30%	11
My household does not consume produce	0%	0

Respondents were asked how much their household spends on produce during the average month. Approximately half of respondents spend less than \$120 per month (lower than Lincoln County), while nearly one-third spend more than \$200. Using the midpoints of the ranges that were provided to respondents, average monthly spending on produce is estimate as \$138 per household.

Table 53. Expenditure on produce by Las Vegas respondents

During the average month, how much does your household spend on produce?	Response Percent	Response Count
Less than \$80	11%	4
\$81-\$120	38%	14
\$121-\$160	8%	3
\$161-\$200	8%	3
More than \$200	32%	12
Prefer not to answer	3%	1

Respondents were asked where their households purchase produce most often. One half (50%) of respondents said they purchase 50% or more of their produce at farmers markets or directly from the farmer. Six percent (6%) said they would like to purchase produce directly from a farmer but that they believe this outlet is not available. These results lend support to the collaborative group participating in farmers markets in Las Vegas, and also indicate good demand for direct sales in the form of a CSA.

Table 54. Location of buying produce by Las Vegas respondents

Where does your household purchase produce most often?	More than half of total produce purchases	I would purchase produce from this outlet, but it is not available
Conventional grocery store (Raley's, Smith's, Safeway)	27%	0%
Discount grocery store (Grocery Outlet, WinCo)	13%	0%
All-in-one store (WalMart, Target)	16%	3%
Warehouse store (Costco, Sam's Club)	10%	0%
Natural foods store (Whole Foods, Trader Joe's)	40%	0%
Farmers market	27%	0%
Direct from farmer	23%	6%

Demographic information collected from survey respondents was compared to the U.S. Census Bureau's QuickFacts for 2011. The survey sample differs from Clark County in several ways, which have been found to be common results when examining farmers market customers. There

was a much greater proportion of female respondents and a lower proportion of individuals age 65 and older. There were also many fewer respondents who were employed than the county statistics. However, this was a daytime farmers market and 23% of respondents described themselves as homemakers. It is likely that many of these respondents were stay at home moms. Reported household income and individuals with a four-year degree or more education was higher than the county statistic, which is common among farmers market customers. Average household size was slightly lower than for the state, but this may not be statistically significant.

Table 55. Demographics of Las Vegas respondents

	Clark County	Survey
Female	49.7%	77.8%
Age 65 and older	11.7%	5.4%
HH income \$50,000 and greater	56.2%	68.0%
Caucasian	73.8%	62.2%
High school	83.5%	88.6%
Four-year degree or higher	21.7%	48.6%
Employed	61.8%	42.9%
Unemployed	6.10%	4.9%
Persons per household	2.69	2.53

CSA Potential

Survey respondents were asked whether they would be interested in joining a CSA featuring products grown or raised in Lincoln County. One-third of respondents (33%) said they would join, while another 42% said they would consider it but would need more information. Ten of these respondents did not provide further elaboration, while two respondents said they would need to know more about CSAs generally, and one respondent each would base their decision on the products offered and the cost. Twenty-five percent (25%) of respondents were not interested in joining a CSA. These statistics indicate that a CSA program marketed to farmers market attendants in Las Vegas may be a viable option for the collaborative group.

Table 56. Interest in joining a CSA by Las Vegas respondents

If a CSA providing products grown on farms in Lincoln County were available in your area, would you consider joining?	Response Percent	Response Count
Yes	33.3%	12
No	25.0%	9
Maybe, I would need more information	41.7%	15
Would need more information about CSAs	5.6%	2
Would depend on the products	2.8%	1
Would depend on cost	2.8%	1

Respondents were asked what attributes of such a Lincoln County CSA program would appeal to them. Access to organic and locally produced produce were the most preferred attributes, followed by price. Access to hormone-free, grass-fed, and organic meats were the next most preferred items. Although the producers collaborative group is not producing meat at this point,

this provides an opportunity for collaboration with Lincoln County ranchers who are providing such meats. Delivery location and time and the ability order only certain produce items were also highly desired.

Table 57. Interest areas in a CSA by Las Vegas respondents

If you were considering participating in a CSA providing produce and/or meat from Lincoln County, which of the following attributes would influence your participation?	Response Percent	Response Count
Access to organic produce	76.7%	23
Access to locally-grown produce	76.7%	23
Price	73.3%	22
Access to hormone-free meats	70.0%	21
Access to grass-fed meats	70.0%	21
Access to organic meats	70.0%	21
Delivery location and time	63.3%	19
Ability to place orders online	60.0%	18
Ability to order specific produce (ex. ability to order only tomatoes)	56.7%	17
Access to antibiotic-free meats	56.7%	17
Access to locally-produced meats	40.0%	12
Ability to order specific meat cuts (ex. ability to order only ground beef or only stew meat)	36.7%	11
Ability to purchase different types of meat (beef, goat, pork, lamb, etc.)	36.7%	11
Opportunity to interact with local growers and ranchers	36.7%	11
Ability to order a pre-determined "share" of different produce based on what is available	26.7%	8
Ability to purchase large quantities of produce (i.e. a 20-lb box of tomatoes)	20.0%	6
Ability to order a pre-determined "share" of different meat cuts based on what producers have available	16.7%	5
Ability to order a pre-determined "share" of produce and meats based on what producers have available	16.7%	5
Ability to purchase large quantities of meat (i.e. a half or quarter beef, etc.)	16.7%	5
Ability to purchase pre-cooked or marinated meat products	10.0%	3

Farmers Market Potential

The farmers market respondents were also asked what sorts of products they would like to see at the farmers market. Overall, fresh products were those more desired by the farmers market customers. In terms of value-added products, items such as salsas, marinades, and jellies and jams were more preferred to further processed products items such as canned, dried, frozen, and cut and prepared produce.

Table 58. Products of interest to purchase at farmers’ markets by Las Vegas respondents

If available, how interested would you be in purchasing the following types of products at farmers markets?	Very interested		Not interested/Don't purchase	
	Response Percent	Response Count	Response Percent	Response Count
Fresh produce	94%	33	0%	0
Fresh herbs	73%	27	5%	2
Dried herbs/herb mixes	64%	23	6%	2
Fresh meat	61%	22	17%	6
Plants	59%	22	14%	5
Salsas	54%	20	19%	7
Sauces	43%	16	19%	7
Marinades	43%	16	19%	7
Jelly/Jam	43%	16	24%	9
Baked goods	42%	15	28%	10
Sausage	42%	15	33%	12
Frozen meat	39%	14	28%	10
Cut flowers	36%	13	17%	6
Jerky	36%	13	31%	11
Canned produce	32%	12	32%	12
Dried produce	32%	12	14%	5
Cut and packaged fresh produce	24%	9	30%	11
Fruit syrups	24%	9	46%	17
Pre-marinated meats	22%	8	50%	18
Prepared frozen produce	19%	7	44%	16
Frozen produce	19%	7	32%	12

Recommendations: CSA and Farmers Markets

Results of the farmers market survey indicated that there is interest in a CSA featuring Lincoln County products, particularly organic and locally grown produce. These customers were also concerned with price, delivery location and time, and desired the ability to choose their own products and order them online. These factors should all be taken into consideration. A market may exist for the collaborative group to offer online ordering several days prior to a farmers market and deliver the products to customers at the market, reducing transportation costs and increasing ease of service to customers.

If the collaborative group is to pursue a commercial kitchen, they should consider developing value-added products such as sauces and marinades that can be tested through samples at a farmers market in Las Vegas. Further processed items such as canned and dried produce should perhaps be marketed to this segment once the collaborative group has established a reputation with this segment and has conducted further research into this market’s preferences. In the meantime, fresh produce and herbs not requiring any additional processing should be considered for sales at farmers markets in Las Vegas.

Summary and Recommendations

Enterprise Summaries

Café, Storefront and Commercial Kitchen in Lincoln County

The costs of establishing a pre-fabricated café, storefront, and commercial kitchen in one building would be approximately \$215,000. A survey of Lincoln County residents indicated strong local demand for a fresh produce sales outlet and a limited menu café featuring fresh local products. Numerous survey respondents indicated their displeasure with the produce currently available for sale in Lincoln County in terms of availability, quality, and price. A survey of farmers market customers in Las Vegas indicated that some demand exists among these individuals for day trips and agritourism activities in Lincoln County, including dining at a limited menu café with fresh, local ingredients, shopping at a store front featuring fresh, local products, and farm tours and farm stands.

While a regional market for this enterprise appears to exist, the start-up costs do not include any operating expenses. A table of estimated operating expenses for all considered enterprises is at the end of the conclusions section. However, without a full understanding of the services that would be provided through the facility (ex. specific menu items, how many meals per day would be served, how much regional customers are willing to pay for fresh produce) it is not possible to fully estimate operating costs or project revenues. Labor may be a strong component of the facility's costs and success, especially a manager with food service experience.

If the start-up and operating costs and operating logistics are considered reasonable to the collaborative group, the facility may serve a niche market in Lincoln County and provide a community resource currently absent.

Lincoln County CSA

The start-up costs of a CSA program to residents of Lincoln County are variable depending on what other resources are available to the producers. With access to the commercial kitchen and a location to cool produce and serve as a pick-up site, start-up costs are limited to packaging supplies and could be under \$2,000. There would be the additional benefit to the facility of increased traffic from CSA members each week. Without such access, costs are higher and logistics become more complicated. In this case, costs are estimated at approximately \$12,000 and include a dual-temperature refrigerator unit.

A survey of Lincoln County residents indicated that about two-thirds of them were not familiar with the CSA concept before it was introduced in the survey. Once the process was explained, about 16% were definitely interested in joining a produce-only CSA and 50% said they might be interested. CSA programs typically start small with a low number of members and then increase in volume as additional community members become interested in participating. This is likely

what would happen in Lincoln County, provided that the producers were able to meet their customers' expectations of quality and value. There was slightly more interest in a CSA offering both produce and meat; an option the collaborative group may want to consider in the future in partnership with regional livestock producers.

Regardless of whether access to a commercial kitchen is available or not, start-up costs do not take into account any operating costs. Many CSA programs rely on volunteers to help staff pick-up locations in exchange for a free or reduced-cost share, which is a model the collaborative group may want to employ, particularly at the outset. Starting a CSA will also require time and planning on the part of the producers. Collectively, the collaborative group will need to determine what they are producing for the CSA and project when each item will come available. This information will be needed to determine the value of each share, and how many shares will need to be sold to break even or earn a profit. Without access to a commercial kitchen, the price of CSA shares may end up lower than with access because the products will not have the added value of pre-washing.

Mobile Slaughter

Total start-up costs for a mobile slaughter unit are estimated at approximately \$276,000. About one-third of surveyed Lincoln County residents expressed interest in utilizing regional slaughter facilities for game, and about one-third expressed interest in utilizing regional slaughter facilities for livestock. A survey of agricultural producers in Lincoln County indicated that there is not currently great demand for regional slaughter access, as the majority of surveyed livestock producers are selling unfinished livestock or are selling at a livestock auction.

Past research on mobile slaughter in Nevada indicates that this option should be considered with a great deal of caution, as no model to date has found a financially and logistically feasible model for the state. Dr. Lauren Gwin, the co-director of the Niche Meat Processor Assistance Network, advised that producers first consider collaborating to reduce costs of transportation to an existing slaughter and processing facility and work on testing the supply of livestock available as well as the market for the finished product. Dr. Gwin cites a lack of steady flow of livestock as a key barrier to success in small facilities. The collaborative group should first determine whether a flow of livestock to cover costs and create supply are adequate, and ensure that demand exists for the supply.

Las Vegas Markets

The Las Vegas markets under consideration were a CSA, farmers markets, and sales to chefs. Given the distance from Lincoln County to Las Vegas, current fuel costs, and logistic concerns,

these enterprises were considered to operate together. The start-up costs of these sales would be variable depending on whether the collaborative group had access to a commercial kitchen and cold storage; however, the main costs of Las Vegas sales would be a refrigerated truck and fuel for transportation, and the time commitment involved in these enterprises.

In addition to the time spent traveling to Las Vegas, working a farmers market is a time consuming process that takes a producer away from the farm and other related activities. Additionally, farmers market sales can be variable from week to week, and the prices the collaborative group needs to earn may be less than other producers can offer. CSA sales would require the planning and logistics previously mentioned, however, the farmers market customers surveyed for this project indicated that they were interested in being able to order specific products online rather than purchasing a set share of items. An online tool could mitigate some of the uncertainty associated with CSA and farmers market sales and assist the producers in planning crops in the future. Chef sales will likely require that the collaborative group work with the chefs' schedules, rather than being able to fit these sales into their own existing schedule. Additionally, although chefs are willing to pay premium prices, these are premium wholesale prices, which are lower than retail prices and include delivery. These pricing issues should be taken into consideration when planning trips to Las Vegas to ensure that on average, prices earned are adequate to cover the additional costs of transportation.

However, as local foods continue to increase in popularity, premium prices for local foods may continue to increase, and/or more consumers may choose to shop at farmers market or use CSAs than at present. From a marketing perspective, this is a good time for the collaborative group to begin building a reputation in Las Vegas among existing local foods enthusiasts. To reduce the time commitment of the collaborative group's members, hiring an employee with a commercial driver's license who can transport the products and serve as sales and marketing on the Las Vegas end may be a worthwhile expenditure. Additionally, the producers may wish to examine the Las Vegas natural foods market, including sales to natural food stores.

Recommendations

While the costs of building a fully-equipped facility are estimated to be close to one-quarter of a million dollars, access to a triple-wash station, cold storage and a commercial kitchen is a lynchpin for the other enterprises under consideration (with the exception of mobile slaughter, which we recommend the collaborative group not pursue at this time). In this same vein, access to a refrigerated truck is a necessary component of sales to Las Vegas customers. While demand for the enterprises examined here ranges from moderate to strong, there are several financial and logistic considerations the collaborative group must still address.

One of the financial issues that must be addressed is operating costs. The tables on the following pages provide an estimate of potential operating costs. Capital expenditures on start-up costs if the collaborative group pursued all enterprises would total \$252,666 (page 39). With a 10-year loan at 6.00% interest, this would result in monthly payments of \$2,806 (page 40). The income

statement on page 41 provides an overview of operating costs the collaborative group would need to consider on a monthly and annual basis. This includes wages and salaries for a café/facility manager and two part-time employees, who may work at the facility or drive products to Las Vegas. It also includes operating costs such as insurance, loan repayments, utilities, maintenance for the refrigerated truck, fuel for trips to Las Vegas, and café, kitchen, and CSA supplies. It cannot be emphasized strongly enough that these operating costs are merely estimates and may not be the actual costs the collaborative group would have to undertake. However, these estimates may provide the collaborative group with an idea of additional costs they need to consider with each enterprise as well as give them an idea of the level of profit they may need to earn to stay afloat. As the collaborative group moves forward, they should adjust these tables to reflect current conditions and their preferences to help themselves in planning and decision making.

The collaborative group should work together to determine whether these start-up and operating costs are acceptable to all members, or whether there are certain enterprises they would prefer to focus on in the immediate terms with future plans for expansion. Before this discussion begins, the collaborative group needs to evaluate exactly how much of each crop is being grown by each producer, when these crops will come ready, and how much money each producer needs to make in order to stay financially afloat individually. This information will also impact which enterprises are pursued.

Once the collaborative group has determined which enterprises they would like to pursue, they should determine how the enterprises will be operated and funded. Operating decisions include determining how much time each member will devote to activities other than growing, and how much additional labor will be required. Funding decisions include determining how much money each producer will contribute to start-up costs, whether loans and grants should be pursued, how much members will pay in member-equity or the per-unit retains the collaborative group will retain for operations. Based on the individual assessments, the collaborative group will need to determine how much profit the entity will need to earn for each individual producer to retain financial solvency. Following this, the collaborative group should re-examine start-up and operating costs and determine whether they can reasonably expect to turn a profit within a timeframe acceptable to each member. From here, the collaborative group should proceed with the enterprise combination that makes the most sense for everyone. In the meantime, the collaborative group should continue marketing itself, especially with chefs and consumers in Las Vegas, where there exists a greater population for potential sales than in Lincoln County.

Table 59. Capital costs for the enterprise combination and year 1 financial forecast sheet

Capital Expenditures	
Building Expenses	\$ 186,571
Trucking	\$ 35,987
Kitchen	\$ 28,175
CSA/Farmers Market (assumes access to kitchen)	\$ 1,933
Total Start-Up Costs	\$ 252,666
Depreciation	\$ 6,478.62

Inputs		Key Figures	
Loan principal amount	\$ 252,666.00	Annual loan payments	\$33,661.32
Annual interest rate	6.000%	Monthly payments	\$2,805.11
Loan period in years	10	Interest in first calendar year	\$14,642.59
Base year of loan	2013	Interest over term of loan	\$83,947.20
Base month of loan	January	Sum of all payments	\$336,613.20

Payments in First 12 Months

Year	Month	Beginning Balance	Payment	Principal	Interest	Cumulative Principal	Cumulative Interest	Ending Balance
2013	Jan	\$252,666.00	\$2,805.11	\$1,541.78	\$1,263.33	\$1,541.78	\$1,263.33	\$251,124.22
	Feb	\$251,124.22	\$2,805.11	\$1,549.49	\$1,255.62	\$3,091.27	\$2,518.95	\$249,574.73
	Mar	\$249,574.73	\$2,805.11	\$1,557.24	\$1,247.87	\$4,648.51	\$3,766.82	\$248,017.49
	Apr	\$248,017.49	\$2,805.11	\$1,565.02	\$1,240.09	\$6,213.53	\$5,006.91	\$246,452.47
	May	\$246,452.47	\$2,805.11	\$1,572.85	\$1,232.26	\$7,786.38	\$6,239.17	\$244,879.62
	Jun	\$244,879.62	\$2,805.11	\$1,580.71	\$1,224.40	\$9,367.09	\$7,463.57	\$243,298.91
	Jul	\$243,298.91	\$2,805.11	\$1,588.62	\$1,216.49	\$10,955.71	\$8,680.06	\$241,710.29
	Aug	\$241,710.29	\$2,805.11	\$1,596.56	\$1,208.55	\$12,552.27	\$9,888.61	\$240,113.73
	Sep	\$240,113.73	\$2,805.11	\$1,604.54	\$1,200.57	\$14,156.81	\$11,089.18	\$238,509.19
	Oct	\$238,509.19	\$2,805.11	\$1,612.56	\$1,192.55	\$15,769.37	\$12,281.73	\$236,896.63
	Nov	\$236,896.63	\$2,805.11	\$1,620.63	\$1,184.48	\$17,390.00	\$13,466.21	\$235,276.00
	Dec	\$235,276.00	\$2,805.11	\$1,628.73	\$1,176.38	\$19,018.73	\$14,642.59	\$233,647.27

Yearly Schedule of Balances and Payments

Year	Beginning Balance	Payment	Principal	Interest	Cumulative Principal	Cumulative Interest	Ending Balance
2014	\$233,647.27	\$33,661.32	\$20,191.81	\$13,469.51	\$39,210.54	\$28,112.10	\$213,455.46
2015	\$213,455.46	\$33,661.32	\$21,437.14	\$12,224.18	\$60,647.69	\$40,336.27	\$192,018.31
2016	\$192,018.31	\$33,661.32	\$22,759.34	\$10,901.98	\$83,407.03	\$51,238.25	\$169,258.97
2017	\$169,258.97	\$33,661.32	\$24,163.09	\$9,498.23	\$107,570.11	\$60,736.49	\$145,095.89
2018	\$145,095.89	\$33,661.32	\$25,653.41	\$8,007.91	\$133,223.52	\$68,744.40	\$119,442.48
2019	\$119,442.48	\$33,661.32	\$27,235.66	\$6,425.66	\$160,459.18	\$75,170.06	\$92,206.82
2020	\$92,206.82	\$33,661.32	\$28,915.49	\$4,745.83	\$189,374.68	\$79,915.88	\$63,291.32
2021	\$63,291.32	\$33,661.32	\$30,698.94	\$2,962.38	\$220,073.62	\$82,878.26	\$32,592.38
2022	\$32,592.38	\$33,661.32	\$32,592.38	\$1,068.94	\$252,666.00	\$83,947.20	\$0.00

Forecasted Financials - Year 1 - Lincoln County Café/Storefront/Commercial Kitchen

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Facility Revenue													
Café	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Storefront	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Commercial Kitchen	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
CSA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Farmers Market	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Chef	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Retail Revenue	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Less Cost of Goods	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Gross Revenue	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Salaries- Processing Facility													
Café Manager	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 30,000
Part-time Employee (2)	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 30,000
Taxes/Benefits	\$ 750	\$ 750	\$ 750	\$ 750	\$ 750	\$ 750	\$ 750	\$ 750	\$ 750	\$ 750	\$ 750	\$ 750	\$ 9,000
Total Café/Storefront/Kitchen Salaries	\$ 5,750	\$ 5,750	\$ 5,750	\$ 5,750	\$ 5,750	\$ 5,750	\$ 5,750	\$ 5,750	\$ 5,750	\$ 5,750	\$ 5,750	\$ 5,750	\$ 69,000
Processing Facility Expenses													
Accounting and Legal	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300	\$ 3,600
Bank Charges	\$ 25	\$ 25	\$ 25	\$ 25	\$ 25	\$ 25	\$ 25	\$ 25	\$ 25	\$ 25	\$ 25	\$ 25	\$ 300
Business License	\$ 145	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 145
Depreciation-Building	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,433
Equipment Replacement and Repairs	\$ 100	\$ 100	\$ 100	\$ 100	\$ 100	\$ 100	\$ 100	\$ 100	\$ 100	\$ 100	\$ 100	\$ 100	\$ 1,200
Insurance: Workers Compensation	\$ 15,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 15,000
Insurance: General Liability	\$ 2,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,500
Insurance: Business Personal Property	\$ 1,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,000
Janitorial	\$ 400	\$ 400	\$ 400	\$ 400	\$ 400	\$ 400	\$ 400	\$ 400	\$ 400	\$ 400	\$ 400	\$ 400	\$ 4,800
Loan P&I Payment	\$ 3,178	\$ 3,178	\$ 3,178	\$ 3,178	\$ 3,178	\$ 3,178	\$ 3,178	\$ 3,178	\$ 3,178	\$ 3,178	\$ 3,178	\$ 3,178	\$ 38,136
Café Supplies	\$ 750	\$ 750	\$ 750	\$ 750	\$ 750	\$ 750	\$ 750	\$ 750	\$ 750	\$ 750	\$ 750	\$ 750	\$ 9,000
Kitchen Supplies	\$ 750	\$ 750	\$ 750	\$ 750	\$ 750	\$ 750	\$ 750	\$ 750	\$ 750	\$ 750	\$ 750	\$ 750	\$ 9,000
CSA Supplies	\$ 155	\$ 155	\$ 155	\$ 155	\$ 155	\$ 155	\$ 155	\$ 155	\$ 155	\$ 155	\$ 155	\$ 155	\$ 1,860
Postage	\$ 100	\$ 100	\$ 100	\$ 100	\$ 100	\$ 100	\$ 100	\$ 100	\$ 100	\$ 100	\$ 100	\$ 100	\$ 1,200
Utilities	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,800	\$ 1,800	\$ 1,800	\$ 1,800	\$ 1,800	\$ 1,500	\$ 1,500	\$ 19,200
Insurance: Commercial truck	\$ 900	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 900
Commercial Driver's License	\$ 87	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 87
Fuel	\$ 850	\$ 850	\$ 850	\$ 850	\$ 850	\$ 850	\$ 850	\$ 850	\$ 850	\$ 850	\$ 850	\$ 850	\$ 10,200
Truck Maintenance	\$ 229	\$ 229	\$ 229	\$ 229	\$ 229	\$ 229	\$ 229	\$ 229	\$ 229	\$ 229	\$ 229	\$ 229	\$ 2,750
Total Facility Expenses	\$ 27,969	\$ 8,337	\$ 8,337	\$ 8,337	\$ 8,337	\$ 8,637	\$ 8,637	\$ 8,637	\$ 8,637	\$ 8,337	\$ 8,337	\$ 14,770	\$ 127,312
Total Expenses	\$ 33,719	\$ 14,087	\$ 14,087	\$ 14,087	\$ 14,087	\$ 14,387	\$ 14,387	\$ 14,387	\$ 14,387	\$ 14,087	\$ 14,087	\$ 20,520	\$ 196,312
Operating Profit/(Loss)	\$ (33,719)	\$ (14,087)	\$ (14,087)	\$ (14,087)	\$ (14,087)	\$ (14,387)	\$ (14,387)	\$ (14,387)	\$ (14,387)	\$ (14,087)	\$ (14,087)	\$ (20,520)	\$ (196,312)

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Gatzke, H., 2012. Developing a Local Food Industry in Nevada. University of Nevada Cooperative Extension Special Publication 12-05.

Appendix A: Cost Estimates from Lincoln County Regional Development Authority

In 2011, the Lincoln County Regional Development Authority (LRCDA) developed a business plan for a business incubator in Caliente, including a culinary kitchen incubator. In addition to considering the costs of constructing a new facility, LRCDA compiled start-up costs for the culinary incubator as part of leased and tenant-improved building. This is another option for the producers to consider and as such is particularly relevant for this study.

If leasing a building, LRCDA estimated total start-up costs at \$201,420 ¹including first and last month’s rent for the building, and site improvements, together totaling \$104,600. Start-up costs for the commercial kitchen were estimated at \$96,820 (details in the following table). The equipment and cost estimates are comparable to those derived through two independent quotes for this study, although they are lower given they do not involve construction or purchase of a freestanding pre-fabricated building. Operating costs for this scenario are outlined in the table on page A-3².

Start-Up Cost Summary, Lease Existing Building, Include Culinary Incubator			
Building			
	Building Lease Deposits		
	4,000sq. ft. @ \$.70/sq.ft.; rent for first and last month; cleaning	\$6,600	
	Tenant Improvements		
	2,400 sq.ft. @ \$17.50/sq.ft; 1,600 sq. ft. @ \$35/sq.ft.	\$98,000	
			\$104,600
Commercial Kitchen			
	Culinary Incubator and Equip.		
	see other table	\$96,820	
			\$96,820
	Grand Total		\$201,420

¹ Start-up costs have been modified to reflect only those of the culinary incubator/commercial kitchen. LRCDA’s estimates were more comprehensive than those presented here.

² Operating costs have been modified to reflect costs only. LRCDA’s estimates included revenue; however the business structure LRCDA was studying was slightly different than the model presented here. Revenues were removed to provide an idea of operating costs alone.

Commercial Kitchen	Unit Cost	Total
Continuous flow food processor (2)	\$200	\$400
Large regulated pressure cooker/canner (2)	\$400	\$800
Vacuum sealer (1)	\$4,000	\$4,000
Commercial mixer 20 qt. (1)	\$4,000	\$4,000
Dehydrator (1)	\$500	\$500
Commercial freezer (10x16)	\$24,000	\$24,000
Dishwasher (1)	\$13,236	\$13,236
Label printer (1)	\$1,000	\$1,000
Walk-in cooler (12x24)	\$22,000	\$22,000
Label applicator (jars and bottles) (1)	\$5,000	\$5,000
Range, 6 burner (1)	\$2,286	\$2,286
Commercial oven (1)	\$7,048	\$7,048
Rolling baking racks (4)	\$275	\$1,100
Preparation tables (4)	\$250	\$1,000
Miscellaneous utensils, pots, pans	\$2,000	\$2,000
Packaging equipment	\$5,000	\$5,000
Sinks (1)	\$850	\$850
Air compressor, 8-10 hp. Excluding piping	\$2,000	\$2,000
Hand trucks (2)	\$100	\$200
Pallet Jack (1)	\$400	\$400
Total		\$96,820

If constructing a new building, LRCDA estimated total start-up costs for a freestanding building at \$232,720. This is comparable to the costs estimated for this study. LRCDA also outlined operating costs for this scenario, which can be found on page A-4.

Start-Up Cost Summary, Construct Building, Include Culinary Incubator		
Building		
	Building Construction Cost 20 Percent Down	
	2,600sq. ft. office @ \$100/sq.ft.; 1,600 sq.ft. culinary area @ \$125/sq.ft.; 26,400 sq.ft. of site landscaping and parking improvements @ \$5/sq.ft.	\$98,400
	Architectural and Engineering Design	\$37,500
		\$135,900
Commercial Kitchen		
	Culinary Incubator and Equip. see Commercial Kitchen table	\$96,820
		\$96,820
	Grand Total	\$232,720

Caliente Small Business Incubator Operating Budget													
Lease Existing Building, Include Culinary Incubator (\$)													
Month	1	2	3	4	5	6	7	8	9	10	11	12	Total
Operating Expenses													
Rent	\$ 2,940.00	\$ 2,940.00	\$ 2,940.00	\$ 2,940.00	\$ 2,940.00	\$ 2,940.00	\$ 2,940.00	\$ 2,940.00	\$ 2,940.00	\$ 2,940.00	\$ 2,940.00	\$ 2,940.00	\$ 35,280.00
Manager	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00	\$ 36,000.00
Admin. Asst.	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 30,000.00
Empl. Taxes and Benefits	\$ 625.00	\$ 625.00	\$ 625.00	\$ 625.00	\$ 625.00	\$ 625.00	\$ 625.00	\$ 625.00	\$ 625.00	\$ 625.00	\$ 625.00	\$ 625.00	\$ 7,500.00
Electric	\$ 180.00	\$ 225.00	\$ 270.00	\$ 315.00	\$ 360.00	\$ 405.00	\$ 450.00	\$ 470.00	\$ 470.00	\$ 470.00	\$ 470.00	\$ 470.00	\$ 4,555.00
Telephone	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 1,800.00
Internet	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 1,200.00
Refuse Collection	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 300.00
Janitorial	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 1,800.00
Repair	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 600.00
Office Supplies	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 600.00
Printer Supplies	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 1,200.00
Postage/Shipping	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 600.00
Travel	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 1,000.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 1,550.00
Petty Cash	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 300.00
Furniture	\$ 300.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 300.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 600.00
Break room Supplies	\$ 30.00	\$ 30.00	\$ 30.00	\$ 30.00	\$ 30.00	\$ 30.00	\$ 30.00	\$ 30.00	\$ 30.00	\$ 30.00	\$ 30.00	\$ 30.00	\$ 360.00
Marketing	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 2,400.00
Insurance	\$ 1,200.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,200.00
Miscellaneous	\$ 500.00	\$ 400.00	\$ 300.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 3,000.00
Total Costs	\$ 12,225.00	\$ 10,670.00	\$ 10,615.00	\$ 10,560.00	\$ 10,605.00	\$ 11,600.00	\$ 10,995.00	\$ 10,715.00	\$ 10,715.00	\$ 10,715.00	\$ 10,715.00	\$ 10,715.00	\$ 130,845.00
Operating Profit/(Loss)	\$(12,225.00)	\$(10,670.00)	\$(10,615.00)	\$(10,560.00)	\$(10,605.00)	\$(11,600.00)	\$(10,995.00)	\$(10,715.00)	\$(10,715.00)	\$(10,715.00)	\$(10,715.00)	\$(10,715.00)	\$(130,845.00)

Caliente Small Business Incubator Operating Budget													
Construct New Building, Include Culinary Incubator (\$)													
Month	1	2	3	4	5	6	7	8	9	10	11	12	Total
Operating Expenses													
Mortgage	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 30,000.00
Manager	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00	\$ 36,000.00
Admin. Asst.	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 30,000.00
Empl. Taxes and Benefits	\$ 625.00	\$ 625.00	\$ 625.00	\$ 625.00	\$ 625.00	\$ 625.00	\$ 625.00	\$ 625.00	\$ 625.00	\$ 625.00	\$ 625.00	\$ 625.00	\$ 7,500.00
Electric	\$ 150.00	\$ 165.00	\$ 180.00	\$ 195.00	\$ 210.00	\$ 225.00	\$ 240.00	\$ 255.00	\$ 270.00	\$ 285.00	\$ 300.00	\$ 315.00	\$ 2,790.00
Telephone	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 1,800.00
Internet	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 1,200.00
Refuse Collection	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 300.00
Janitorial	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 1,800.00
Repair	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 600.00
Office Supplies	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 600.00
Printer Supplies	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 1,200.00
Postage/Shipping	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 600.00
Travel	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 1,000.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 1,550.00
Petty Cash	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 25.00	\$ 300.00
Furniture	\$ 300.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 300.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 600.00
Break room Supplies	\$ 30.00	\$ 30.00	\$ 30.00	\$ 30.00	\$ 30.00	\$ 30.00	\$ 30.00	\$ 30.00	\$ 30.00	\$ 30.00	\$ 30.00	\$ 30.00	\$ 360.00
Marketing	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 2,400.00
Insurance	\$ 1,200.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,200.00
Miscellaneous	\$ 500.00	\$ 400.00	\$ 300.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 3,000.00
Total Costs	\$ 11,755.00	\$ 10,170.00	\$ 10,085.00	\$ 10,000.00	\$ 10,015.00	\$ 10,980.00	\$ 10,345.00	\$ 10,060.00	\$ 10,075.00	\$ 10,090.00	\$ 10,105.00	\$ 10,120.00	\$ 123,800.00
Operating Profit/(Loss)	\$(11,755.00)	\$(10,170.00)	\$(10,085.00)	\$(10,000.00)	\$(10,015.00)	\$(10,980.00)	\$(10,345.00)	\$(10,060.00)	\$(10,075.00)	\$(10,090.00)	\$(10,105.00)	\$(10,120.00)	\$(123,800.00)