



**14-SCBGP-NV-0032**

*Final Report*

12-28-17

Specialty Crop Block Grant Program  
Plant Industry

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**Project Title**

**‘Meet Your Farmer’ Phase II**

Including 10 additional Specialty Crop films and a Six Month Consumer Research Study  
*Report Completed 12/28/16*

**Project Summary**

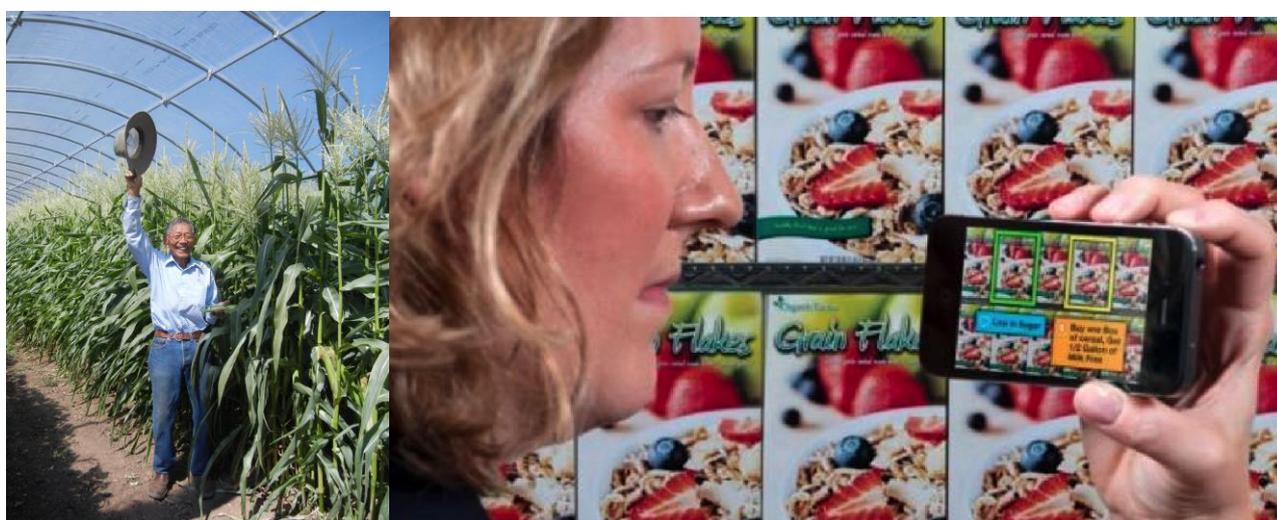
Explanation video: <https://vimeo.com/124348551>

Meet Your Farmer is a series of simple, yet engaging videos designed to virtually introduce consumers to the people and places behind the food they are buying, allowing them to meet their farmer while standing in the grocery aisle. Placed in Reno Nevada’s Great Basin Food Cooperative (the Co-op), the videos automatically play in the Aurasma app when a smartphone or other smart device is pointed at a sign located by the Specialty Crop item. The app allows you to literally ‘Meet Your Farmer!’

The project is important and timely because the general public is increasingly interested in understanding the provenance of their food. There is a huge opportunity to grow people’s awareness, appreciation, and demand for Specialty Crops by leveraging what has become everyday technology. With the Meet Your Farmer App, a genuine connection allows the consumer to directly see their local farmer at the point of sale. The videos humanize the buying experience and helps address the issue of lack of transparency and tremendous size of conventional farming by, in

contrast, showcasing and celebrating communities' Specialty Crops (as opposed to the commonly subsidized grains, oil seed crops, forages, & field crops). People buy from people yet most Specialty Crop farmers in Nevada are relatively small, and it can be a struggle to build customer awareness and appreciation of these local food pioneers and therefore -pardon the pun- grow the local agriculture economy.

Further a Meet Your Farmer consumer research survey was issued to identify consumer perceptions of the app and to identify who the app's target audience should be. An additional goal of this activity was to collect survey data that could be used as pilot data for a more comprehensive willingness to pay analysis in the future.



### **Context**

56% of us have smartphones and this percentage continues to grow. It's predicted to increase to 70% by the end of 2016 (more smartphones are activated everyday than babies born). Smartphones are already a seamless part of our everyday lives. Our phone is the primary source of on-the-go information with the average person using 8+ apps per day.

### **Project Partner Oversight**

The project lead successfully networked with the 22 farmers (listed below in the beneficiaries section) and the videographer to find times that worked for them to get filmed and create excellent content. The project lead also successfully secured a third-party contractor to obtain the technology needed for the creation of the App. And lastly the project lead maintained an open and communicative relationship with the State Point of Contact, Ashley Jeppson, as well as with the Great Basin Community Food Co-op (The Co-op) keeping both up to date with project accomplishments and developments.

### **Project Approach**

#### *Previously Awarded Grants Explanation*

This project was developed based on the results of the SCBGP Meet Your Farmer App Feasibility Study awarded under Parent Award 12-25-B-1241. The feasibility study was conducted to identify

the following: Nevada farmers' interest in the Meet Your Farmer App concept; input from Specialty Crop producers regarding what they would like conveyed via the app; and a comprehensive plan and budget necessary for efficiently developing the Meet Your Farmer App.

The Meet Your Farmer App-In-store Pilot Phase I served as the initial phase of the project, which was coordinated based on the findings of the feasibility study under 12-25-1241. The now finalized project was awarded to begin scripting, coordinating with farmers, initiate filming, and develop the app.

This final report is Phase II of the project under Parent Award 14-SCBGP-NV-0032, which was geared towards finalizing edits and marketing the videos created under the above-mentioned award 12-25-B-1474.

An additional project included under 14-SCBGP-NV-0032, and titled 'Nevada Specialty Crop Social Media Video Promotions,' builds upon the Meet Your Farmer App concept and collaborated and included 8 additional promotional videos.

Due to the level of interest expressed by Nevada farmers, multiple projects were coordinated to maximize beneficiaries and increase collaboration.

Phase II of Meet Your Farmer featured the following key parts (the creation of the App and the press campaign for the Pilot Launch was achieved in Phase I, which was finalized and reported in 2015.

### **Activities Performed**

#### **Create 22 Specialty Crop films**

In order to successfully create another selection of films, we had two weeks in the spring of 2015 to liaise directly with each specialty crop farmer, share pertinent information, and find a date and time to film. Over the summer of 2015, and after scripting each film before the visit, we headed out to each of the ten farms and spent a few hours getting beautiful footage asking a series of guided questions with all of the farmers. In August of 2015, we entered the studio and edited and finalized ten unique and engaging films for the launch in September of 2015. After the roll out in store, we uploaded all films to the Co-op's Vimeo page as well as shared in the Co-op's marketing outlets i.e. website, monthly, and newsletter social media like Facebook throughout the fall of 2015. Finally, we emailed each farmer their film after all the organization was finalized.

A note on Specialty Crop Competitiveness: The filming encompassed the entirety of a working farm so loosely connected shots of commodity crops and/or animals were included but all of the marketing material and trigger signs in store were solely located near Specialty Crop products.

#### **Create, distribute and analyze In-store Consumer Survey**

A 6 month in-store Meet Your Farmer consumer research survey was created, disseminated, and analyzed.

In May 2015, MYF team lead Steve Cook and Maggie Cowee of Cowee Consulting, LLC met to discuss the potential for market research related to consumer perceptions of MYF. The result of this meeting was the decision to create and distribute an online consumer survey to assess consumers' response to and perceptions of the app and perceptions of local food and how these factors are influenced by preferences for differentiated food products, specifically local food and demographic information. The purpose of the survey was to collect market information to help enhance the MYF project and create a more specific understanding of the app's target audience. An additional goal was to collect survey data that could be used as pilot data for a more comprehensive willingness to pay analysis in the future. A detailed and comprehensive understanding of consumer perceptions and valuation of different components of the MYF videos would be particularly beneficial to MYF in terms of a nationwide rollout.

Between June and September 2015, Cowee created an initial set of survey questions. The questions were first tested by area professionals in the food, agriculture and media industries. In mid-September the survey was presented to and informally tested by members of the Washoe County Food Policy Council. In late September the app and survey were tested by a formal focus group of NDA and Co-op staff. This allowed for formal feedback on usage of the app itself in addition to providing valuable insight to the survey questions. NDA and Co-op staff were specifically chosen for the focus group because they were expected to have a greater understanding of the purpose and value of the app and the information needed from the survey relative to the average consumer.

The survey went through two more rounds of edits with the final product of a 22-question survey covering five main themes: food spending and consumption habits; local food definition and preferences for differentiated food products; interest in farm visits; MYF perceptions and experience; and demographics. Text at the beginning of the survey informed respondents that the survey was anonymous and would take approximately 10 minutes to complete and that they could enter a drawing at the end for one of three \$50 gift cards to the Co-op. This was offered as an incentive to encourage respondents to complete the survey.

The survey was launched on November 7 via a sponsored post through This is Reno, an online newspaper focused on Reno-area news with broad online and social media outreach. The week of November 16 paper surveys were placed at the Co-op to be filled out by customers after receiving in-store assistance using the app. In December, January and February 2016 a banner ad ran on [thisisreno.com](http://thisisreno.com), inviting individuals to take the survey. In May, a reminder about MYF and a link to the survey were included in the Co-op's member e-newsletter. In February and June, surveys were emailed to Co-op customers who had expressed interest in taking the survey while shopping, but preferred to do it online rather than on a paper survey in the store. The survey was taken offline July 15, 2016 with a total of 144 respondents.

This study presents the results of an online and paper consumer survey designed to assess

consumers’ response to and perceptions of local food, the app and the videos. The purpose of the survey was to collect market information to help enhance the MYF project and create an understanding of the app’s target audience. An additional goal was to collect survey data that could be used as pilot data for a more comprehensive willingness to pay analysis in the future. A detailed and comprehensive understanding of consumer perceptions and valuation of different components of the MYF videos would be particularly beneficial to MYF in terms of a nationwide rollout.

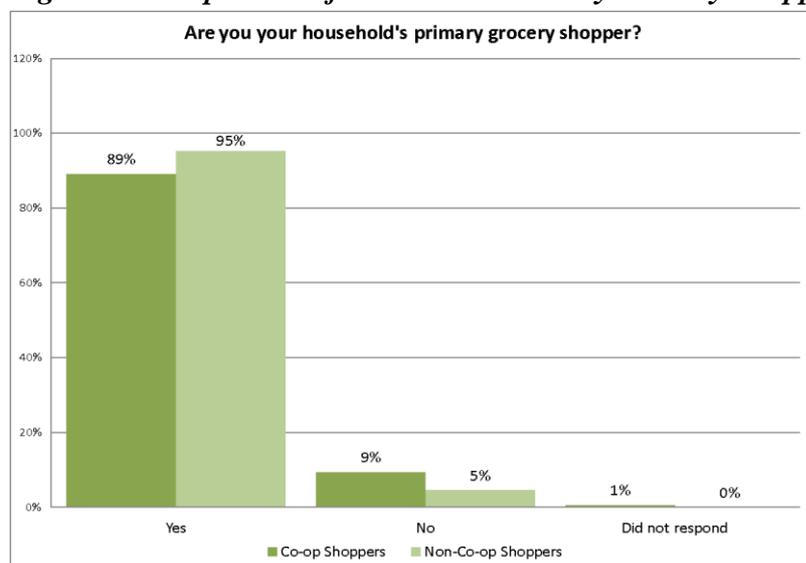
**Goals and Outcomes**

1. As mentioned above in order to analyze the increase in awareness, appreciation, and demand for specialty crops through the utilization of the app and the watching of the videos, Maggie Cowee of Cowee consulting put together a consumer survey. The analysis is below in italics.

*Respondent Demographics: Who Took the Survey?*

*A total of 144 surveys were submitted by survey respondents; 135 (94% of total) of which were completed online and 10 (7% of total) of which were completed on paper at the Co-op. Of these, 138 surveys were found to be sufficiently complete for analysis. Because the survey was open to all area residents as opposed to just Co-op members, the data is presented in two categories: a subsample of 74 respondents (54% of total respondents) who indicated that they regularly shop at Great Basin Community Food Co-op and a subsample of 64 respondents (46% of total respondents) who indicated that they do not shop at the Co-op. This was done to help the Co-op and other partners better understand differences between Co-op shoppers and the general population in an effort to help guide future decisions with products, labeling and programs such as Meet Your Farmer. While differences exist throughout the data, it must be noted that the overall sample size is relatively small and therefore not necessarily statistically significant.*

**Figure 1: Comparison of Household Primary Grocery Shopper**



Survey respondents were asked if they are their household’s primary grocery shopper (Figure 1). This question was asked to gain a sense of how efficiently respondents were able to answer questions relating to their household’s grocery preference and purchasing habits. Among Co-op shoppers, 89% indicated that they are their household’s primary grocery shoppers, while 9% indicated they are not and less than 1% of respondents did not answer the question. The proportion of primary shoppers was slightly higher among non-Co-op shoppers, with 95% indicating they were their household’s primary shopper and 5% indicating they were not with all respondents answering the question. The high proportion of primary shoppers indicates that the majority of respondents were likely to be the person within their household best able to answer these survey questions.

**Table 1: Comparison of Respondent Demographics**

<b>Respondent demographics</b>	<b>Co-op Shoppers</b>	<b>Non-Co-op Shoppers</b>
Female respondents (percent)	73%	81%
Average number of adults over 18 in household (number)	2.0	2.1
Average number of children under 18 in household (number)	1.3	1.8
Respondents with children under 18 in household (percent)	20%	34%
Average age (years)	42.3	43.5
Minimum age (years)	19	19
Maximum age (years)	73	73
Full-time employed (percent)	51%	55%
Part-time employed (percent)	12%	6%
Households earning \$50,000 per year or more (percent)	49%	52%

Table 1 shows that while the average age, age range, full-time employment and percent of households earning \$50,000 or more was similar among Co-op shoppers and non-Co-op shoppers, respondents who were Co-op shoppers were more male, less likely to have children under age 18 in the household and had slightly fewer children in the household.

Among Co-op shoppers, 73% of respondents indicated they were female while 81% of non-Co-op shoppers were female; the high proportion of female respondents is expected as women continue to be the primary grocery shoppers for households in the United States<sup>1</sup>. While 20% of Co-op shoppers had children under age 18 in their household, the average number of adults living the household was 2.0 and the average number of children was 1.3. This compares to 34% of non-Co-op shoppers with children in their household with an average of 2.1 adults and 1.8 children, indicating that on average, non-Co-op shoppers had slightly larger households than Co-op shoppers.

<sup>1</sup> Women Dominate Grocery Shopping: Study. *Progressive Grocer*. 29 April 2013.  
<http://www.progressivegrocer.com/industry-news-trends/national-supermarket-chains/women-dominate-grocery-shopping-study>.

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*Employment and income statistics were similar between the two groups, with slightly fewer Co-op shoppers indicating full-time employment status and slightly more indicating part-time employment status than non-Co-op shoppers. As of 2014, median household income in Washoe County, Nevada was \$52,910<sup>2</sup> meaning half of households make less than this amount and half make more. Both samples were relatively on target for this statistic, with 49% of Co-op shoppers and 52% of non-Co-op shoppers reporting that their household earns more than \$50,000 per year. This indicates that although the sample was small, they do represent Washoe County households in terms of annual income earned. This is particularly important when considering and comparing household spending habits.*

**Table 2: Comparison of Zip Code of Primary Residence**

In which zip code is your primary residence?				
Zip code	Co-op Shoppers		Non-Co-op Shoppers	
	(percent)	(number)	(percent)	(number)
65202	---	---	1.6%	1
88511	---	---	1.6%	1
89408	1.4%	1	1.6%	1
89431	1.4%	1	3.1%	2
89433	1.4%	1	---	---
89434	1.4%	1	1.6%	1
89436	---	---	4.7%	3
89411	---	---	3.1%	2
89501	6.8%	5	1.6%	1
89502	10.8%	8	9.4%	6
89503	17.6%	13	7.8%	5
89506	2.7%	2	7.8%	5
89508	---	---	3.1%	2
89509	28.4%	21	25.0%	16
89511	5.4%	4	3.1%	2
89512	8.1%	6	3.1%	2
89519	---	---	1.6%	1
89521	---	---	4.7%	3
89523	12.2%	9	12.5%	8
92037	---	---	1.6%	1
96161	1.4%	1	1.6%	1

*To gain an understanding of the geographical distribution of respondents, they were asked to provide the zip code of their primary residence (Table 2). While the zip codes represent a broad area of northern Nevada and California, there was a heavy concentration of respondents in Reno’s 89509, one of the residential zip codes adjacent to the Co-op. The distribution between zip codes was fairly similar between.*

<sup>2</sup> United States Census Bureau. Washoe County, Nevada Quickfacts. Online. Accessed 20 July 2016 from <http://www.census.gov/quickfacts/table/PST045215/32031>.

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*Co-op shoppers and non-Co-op shoppers, although a greater proportion of Co-op shoppers represented Reno’s 89503 zip code, and fewer zip codes overall were represented by Co-op shoppers.*

**Respondent Preferences: Food Spending and Consumption Habits**

*The first section of the survey sought to gain a better understanding of respondents’ food spending and consumption habits.*

**Table 3: Comparison of Typical Grocery Outlets**

Where does your household typically purchase groceries?				
Outlet	Co-op Shoppers		Non-Co-op Shoppers	
	Percent	Number	Percent	Number
Great Basin Community Food Co-op	100.0%	74	0.0%	0
Conventional grocery store (ex. Raley's, Safeway)	64.9%	48	67.2%	43
Specialty grocery store (ex. Whole Foods, Trader Joe's)	73.0%	54	46.9%	30
Discount grocery (ex. WinCo, Grocery Outlet)	32.4%	24	34.4%	22
Bulk or club grocery (ex. Sam's Club, Costco)	32.4%	24	34.4%	22
All-in-one store (WalMart, Target)	12.2%	9	29.7%	19
Other	16.2%	12	3.1%	2

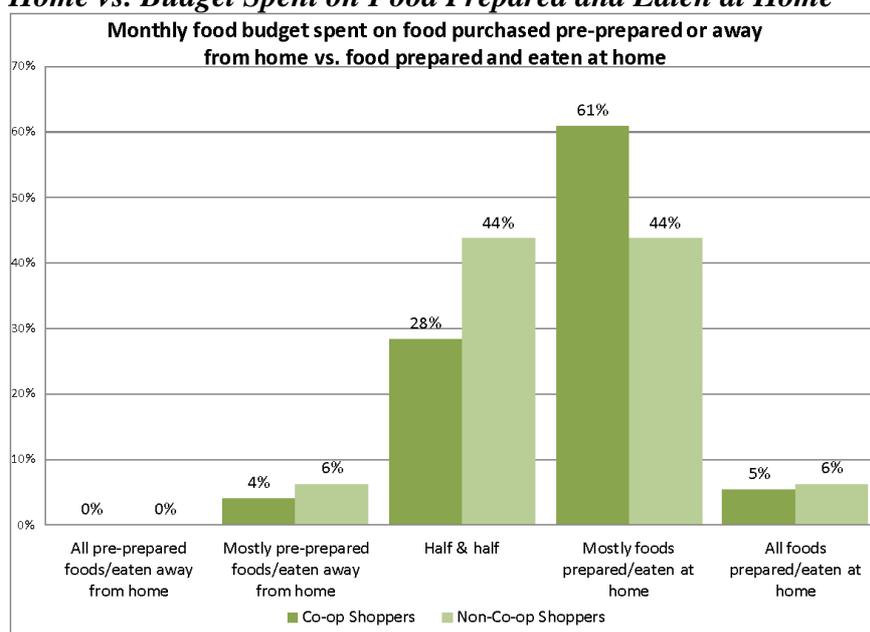
**Table 4: “Other” Grocery Outlets Used**

"Other" Outlet Open-Ended Write-In Response	Co-op Shoppers		Non-Co-op Shoppers	
	Percent	Number	Percent	Number
Natural Grocers	5.4%	4	1.6%	1
Farmers markets	5.4%	4	---	---
CSA when possible	0.3%	1	---	---
New Moon	0.3%	1	---	---
Amazon	0.3%	1	---	---
Wolf pack meats	0.3%	1	---	---
Grow my own	0.3%	1	---	---
Shop by ads	---	---	1.6%	1

*Respondents were asked where their household typically purchases groceries, and some differences emerged between Co-op shoppers and non-Co-op shoppers, the first being that 100% of Co-op shoppers indicated that they shop at the Co-op, relative to 0% of non-Co-op shoppers (Table 3). A similar proportion of both samples shopped at conventional grocery stores such as Raley’s and Safeway, discount grocery stores such as WinCo and Grocery Outlet and at bulk or club grocery stores such as Costco and Sam’s Club. However, 73% of Co-op shoppers shop at specialty grocery stores such as Whole Foods and Trader Joe’s relative to 47% of non-Co-op shoppers, and 30% of non-Co-op shoppers shopped at all-in-one stores such as Wal-Mart and Target compared to 12% of Co-op shoppers. It is worth noting that Great Basin Community Food Co-op, Trader Joe’s and Whole Foods are more likely to offer differentiated food products such as organic and free trade relative to conventional grocery stores, and also typically offer products at*

a higher price point. A greater proportion of Co-op shoppers indicated that they shop at “other” grocery outlets (Table 4), including Natural Grocers and farmers markets. These results are not surprising given the Co-op’s target audience and show that the survey did reach an appropriate audience of Co-op shoppers.

**Figure 2: Comparison of Food Budget Spent on Pre-Prepared Foods/Foods Eaten Away from Home vs. Budget Spent on Food Prepared and Eaten at Home**



Survey respondents were asked to estimate the proportion of their monthly food budget spent on pre-prepared foods or foods eaten away from home versus foods prepared and eaten at home (Figure 2). While no respondents within either sample indicated that they spend all of their budget on pre-prepared or foods eaten away from home, a similar proportion of respondents in both samples indicated they spend most of their budget on foods pre-prepared or eaten away from home and a similar proportion indicated they spend all of their budget on foods prepared and eaten at home. However, a greater proportion of non-Co-op shoppers relative to Co-op shoppers indicated they spend about half their budget on each (44% versus 28%) and a greater proportion of Co-op shoppers relative to non-Co-op shoppers indicated they spend most of their budget on foods prepared and eaten at home (61% versus 44%). This question was asked to better understand preferences of survey respondents, but also to give the Co-op data to understand whether the prepared food section within the store could be expanded. These results indicate that Co-op shoppers are more interested in “whole” foods requiring preparation than pre-prepared foods relative to non-Co-op shoppers.

***Respondent Perceptions: Local Food Definition and Preferences for Differentiated Food Products***

*The next section of the survey sought to define local food, understand respondents’ spending on local foods and their preferences for differentiated food products.*

**Table 5: Comparison of Definition of Local Food**

In your opinion, what defines local food?				
Response	Co-op Shoppers		Non-Co-op Shoppers	
	Percent	Number	Percent	Number
Region of production (i.e. northern Nevada)	68.9%	51	71.9%	46
Distance from where I live (i.e. miles, hours)	50.0%	37	42.2%	27
City of production (i.e. Reno, Fallon)	50.0%	37	39.1%	25
Whether it was grown in my foodshed	39.2%	29	9.4%	6
State of production (i.e. Nevada)	33.8%	25	40.6%	26
Whether I have a relationship with the farmer/rancher	21.6%	16	7.8%	5
Country of production (i.e. USA)	14.9%	11	12.5%	8
Other (please specify)	5.4%	4	3.1%	2

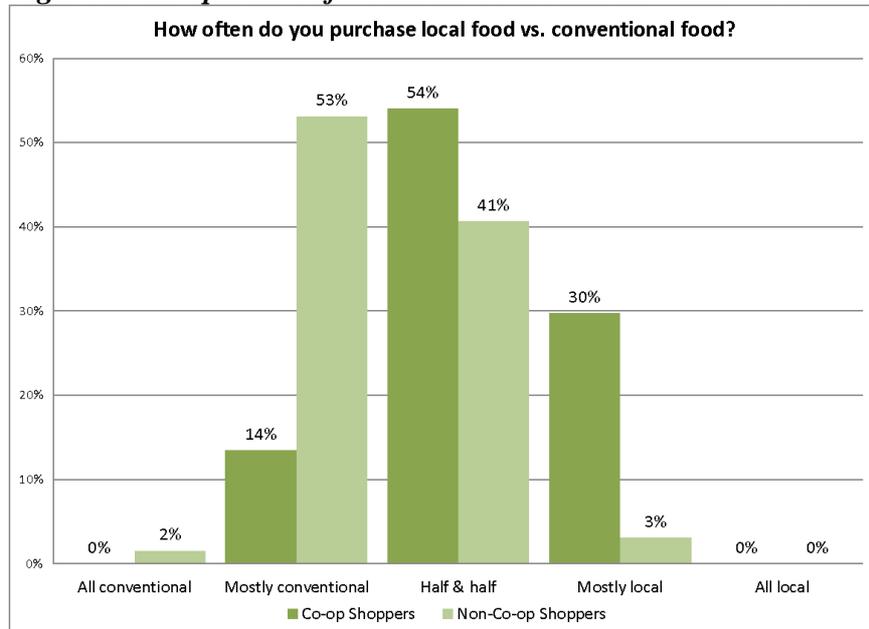
*Respondents were presented with a panel of definitions and asked to choose which represented their definition of local food (Table 5). Respondents were given the option to provide more than one response and write in a response. Similar proportions of both samples chose “region of production,” “country of production,” and “other,” but there were substantial differences between the samples on the other definitions. A greater proportion of Co-op shoppers chose “distance from where I live,” “city of production,” “whether it was grown in my food shed<sup>3</sup>” and “whether I have a relationship with the farmer/rancher.” A greater proportion of non-Co-op shoppers chose “state of production.” Overall, Co-op shoppers selected more definitions than non-Co-op shoppers indicating that they may put more thought overall into the boundaries of the term “local.” These results may also indicate that Co-op shoppers have a “tighter” social definition of “local” as implied by the 22% of respondents who chose “whether I have a relationship with the farmer/rancher” and a “tighter” geographical/environmental definition of local as implied by “whether it was grown in my food shed.” Table 6 outlines the write-in responses with Co-op shoppers’ responses presented in italics.*

**Table 6: “Other” Definitions of Local Food**

<b>Other write-in responses</b>
<i>Co-op Shoppers responses in italics</i>
<i>Food I grow.</i>
<i>Just being local isn't really good enough. Must be organically grown.</i>
<i>Northern Nevada plus Northern California</i>
<i>Northern California</i>
<i>Whether it's in season in the area claimed to have produced it.</i>
<i>Organic</i>

<sup>3</sup> The survey provided a link to the Co-op’s definition of the term *food shed*, as it was expected some survey respondents would be unfamiliar with the term.

**Figure 3: Comparison of Local vs. Conventional Food Purchases**



Respondents were asked to compare the proportion of their food purchases spent on local food, using their own definition of local, versus conventional food (Figure 3). No respondents from either sample indicated that they spend all of their budget on local food and only 2% of non-Co-op shoppers indicated that they purchase all conventional foods, compared to 0% of Co-op shoppers; beyond this, generally Co-op shoppers indicated that they spend a greater proportion of their food budget on local food versus conventional food relative to non-Co-op shoppers. This is an expected result as the Co-op prides itself on offering a wide range of local products and caters to consumers who appreciate this. While 41% of non-Co-op shoppers indicated that they purchase approximately half or more local food products, it should be kept in mind that the question specifically advised respondents to use their own definition of “local” and non-Co-op shoppers indicated a generally “looser” definition of this term. Much Reno-area produce is sourced from farms in neighboring California, and many area conventional grocery stores advertise these products as “local.” The 84% of Co-op shoppers who indicated they purchase approximately half or more local food products may have a definition of “local” that is more closely aligned with the Co-op’s perception.

**Table 7: Comparison of Preferences for Food Product Labels**

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<b>Which of the following labels do you look for when purchasing food?</b>				
<b>Labels</b>	<b>Co-op Shoppers</b>		<b>Non-Co-op Shoppers</b>	
	<b>Percent</b>	<b>Number</b>	<b>Percent</b>	<b>Number</b>
Organic	85.1%	63	59.4%	38
GMO-free	74.3%	55	43.8%	28
Antibiotic-free	64.9%	48	57.8%	37
Local	63.5%	47	39.1%	25
Hormone-free	62.2%	46	57.8%	37
NevadaGrown	56.8%	42	34.4%	22
Minimally processed	43.2%	32	34.4%	22
Family Farm	40.5%	30	21.9%	14
Natural	29.7%	22	35.9%	23
<b>Other write-in response</b>			<b>Percent</b>	<b>Number</b>
<i>Co-op Shoppers responses in italics</i>				
<i>Free range/ cage free</i>			<i>1.4%</i>	<i>2</i>
<i>Raw</i>			<i>0.7%</i>	<i>1</i>
<i>Fair trade</i>			<i>0.7%</i>	<i>1</i>
<i>Gluten-free</i>			<i>0.7%</i>	<i>1</i>
<i>Vegan</i>			<i>0.7%</i>	<i>1</i>
<i>Farm/ranch identification</i>			<i>0.7%</i>	<i>1</i>
<i>I like all of these definitions, but labelling can't be trusted which is why I look for certified organic and gmo-free.</i>			<i>0.7%</i>	<i>1</i>
<i>BuyNevada</i>			<i>0.7%</i>	<i>1</i>
<i>Seek local when I can find them</i>			<i>0.7%</i>	<i>1</i>
<i>Product of Mexico.....poor health standards</i>			<i>0.7%</i>	<i>1</i>
<i>None</i>			<i>0.7%</i>	<i>1</i>

*Respondents were asked to indicate which labeling terms they seek when purchasing food products (Table 7). There was a greater disparity between the two samples on this question than on previous questions, with the most similar response showing up for the terms “hormone-free” and “natural,” which remains an unregulated term. It is worth noting although this term had one of the smaller differences, a greater proportion of non-Co-op shoppers indicated they seek out a “natural” label despite the fact it is an unregulated term. This may indicate greater awareness of labeling terms among Co-op shoppers. With the exception of “natural,” overall Co-op shoppers indicated greater preference for differentiated food product labels, with a substantial proportion of respondents indicating a preference for organic and GMO-free labels. Again, this result is not surprising as the Co-op has made efforts to stock these products and educate consumers about these terms and what they imply. Overall, the Co-op can use this information to better target consumers in the future.*

**Table 8: Respondent Agreement to Statements Comparing Local and Conventional Foods**

Statement	Sample	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Local foods are fresher than conventional foods	Co-op Shoppers	62%	30%	5%	1%	0%
	Non-Co-op Shoppers	39%	45%	11%	3%	0%
Local foods are healthier than conventional foods	Co-op Shoppers	32%	38%	24%	4%	0%
	Non-Co-op Shoppers	20%	31%	34%	9%	3%
Local foods are more sustainable than conventional foods	Co-op Shoppers	59%	24%	14%	1%	0%
	Non-Co-op Shoppers	28%	41%	23%	3%	3%
Local foods are of a higher quality than conventional foods	Co-op Shoppers	51%	22%	26%	0%	0%
	Non-Co-op Shoppers	27%	33%	28%	8%	3%
Local foods taste better than conventional foods	Co-op Shoppers	46%	28%	22%	3%	0%
	Non-Co-op Shoppers	25%	31%	39%	2%	0%
Local foods support local agriculture	Co-op Shoppers	93%	4%	1%	0%	0%
	Non-Co-op Shoppers	69%	30%	2%	0%	0%
Local foods support the local economy	Co-op Shoppers	89%	8%	1%	0%	0%
	Non-Co-op Shoppers	73%	23%	2%	0%	0%

The next section of the survey provided respondents with twelve statements comparing local and conventional foods and asked them to rate their level of agreement with each statement (Table 8). It should be noted that each of these statements is subjective rather than factual, so agreement is a reflection of respondent opinion versus respondent knowledge.

Co-op shoppers showed stronger level of agreement with the statement that local foods are fresher than conventional foods, while no respondents from either subsample indicated strong disagreement with this statement.

Co-op shoppers showed stronger levels of agreement than non-Co-op shoppers with the statement that local foods are healthier than conventional foods, although no Co-op shoppers strongly disagreed with this statement. There is no scientific evidence to support the statement that local foods are healthier than conventional foods, this question was asked simply to gain an understanding of respondents' perceptions of and strength of support for local foods.

Co-op shoppers again demonstrated much stronger agreement with the statement that local foods are more sustainable than conventional foods versus non-Co-op shoppers. Non-Co-op shoppers showed stronger levels of disagreement with this statement than on other statements.

There were great differences between Co-op and non-Co-op shoppers level of agreement with the statement that local foods are of a higher quality than conventional foods. While approximately half of Co-op shoppers demonstrated strong agreement with this statement, 11% of non-Co-op shoppers demonstrated some level of disagreement with this statement.

Co-op shoppers demonstrated strong agreement for the statement that local foods taste better than conventional foods. Non-Co-op shoppers demonstrated a strong level of neutrality with this statement. As taste is subjective, this statement was again asked to gain an understand of perceptions and support for local foods.

*Co-op shoppers were nearly unanimous in their strong agreement that local foods support local agriculture. Non-Co-op shoppers were also overall in strong agreement with this statement, and a similar proportion of both were neutral.*

*Interestingly, Co-op shoppers were slightly less strong in their agreement with the statement that local foods support the local economy than they were with the statement that local foods support local agriculture. On the other hand, non-Co-op shoppers were stronger in their level of agreement with the statement that local foods support the local economy than they were with the statement that local food support local agriculture.*

**Respondent Interest in Farm Visits & Building Connections with Farmers**

*Prior to the section about use and perceptions of the MYF app, respondents were asked about their interest in farm visits (Table 9). These questions were asked to gain an understanding of respondent interest in connecting with farmers and farms in person.*

*Approximately one-third of both samples indicated that they visit local farms to engage in agritourism activities such as you-pick operations, pumpkin patches and corn mazes. As expected based on previous responses and preference of Co-op shoppers, Co-op shoppers were more likely to visit farms than non-Co-op shoppers. Slightly more than one-third of Co-op shoppers (35%) indicated they visit farms to make direct sales relative to 14% of non-Co-op shoppers. While 16-19% of Co-op shoppers travel to farms to meet the farmer, see the land and see the production process, only a few non-Co-op shoppers indicated that they do this. Slightly more than half of non-Co-op shoppers indicated that they do not visit local farms, relative to slightly less than half of Co-op shoppers. Respondents who said they did not visit local farms were asked why not; Table 10 summarized these responses into categories including lack of awareness, time constraints, not interested and opportunity issues. It is worth noting that 26% of Co-op shoppers who do not visit farms indicated a lack of awareness despite the fact that the Co-op has offered farm tours for several years. This may indicate a need to adjust the promotional strategy for these events. Table 10 continues on the next several pages outlining specific responses to this question; again, responses from Co-op shoppers are presented in italics.*

**Table 9: Interest in Visiting Local Farms**

Do you make an effort to visit local farms?				
Response	Co-op Shoppers		Non-Co-op Shoppers	
	Percent	Number	Percent	Number
Yes, for agritourism (you-pick operations, pumpkin patches, corn mazes, etc.)	34%	25	34%	22
Yes, to buy products directly from the farmer	35%	26	14%	9
Yes, to meet the farmer	19%	14	2%	1
Yes, to see the land	16%	12	5%	3
Yes, to see the production process	16%	12	3%	2
No (please explain why not)	47%	35	56%	36

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**Table 10, Cont.: Reasons for Not Visiting Local Farms**

<b>Lack of awareness</b>	<b>Time constraints</b>	<b>Not interested</b>	<b>Opportunity issues</b>
<i>Not enough knowledge about how and where to visit and little time.</i>	<i>I don't make time.</i>	no time or interest in agriculture	<i>Lack of opportunity.</i>
<i>I suppose because during the growing season they come to our community, via farmers markets, seedling sales... Truth told I haven't thought much about inviting myself. Also figuring that farmers, like the rest of us, are busy people. Might an entity be interested in organizing seasonal farm visits?</i>	<i>no time</i>	<i>I don't have a reason to visit a farm.</i>	<i>No opportunity</i>
<i>Don't know where they are</i>	<i>Not enough time because of work schedule</i>	Never considered it an option. Farmer's markets were the closest.	<i>I would like to. But don't see opportunities.</i>
<i>Don't know where to start</i>	<i>Because most of the store we shop are local, I trust GB about the origin of the food they sale, We would if we had the time to visit the farms, we are not really sure if we can buy directly from farmers.</i>	<i>Just not interested in seeing the farms.</i>	<i>Just haven't yet but would like to.</i>
<i>I have just moved to Reno. In NY Hudson Valley I visited local farms, belonged to a CSA, and did as much of my shopping as possible at farms and farmers markets.</i>	<i>Time.</i>	<i>effort outweighs interest</i>	<i>But I want too....</i>
<i>I don't know any local farmers.</i>	<i>No time</i>	<i>no interest</i>	<i>don't have the opportunity</i>
<i>Wasn't aware of this company. Recently moved here... But I've always bought local/organic in stores</i>	<i>Time</i>	<i>I stay here downtown.</i>	<i>No opportunity; don't know how to get to them.</i>
<i>Haven't really researched where they are.</i>	<i>I don't have time</i>	<i>If the owners were friends of mine I might, but otherwise, why would I? I've seen farms, and i raise many of my own vegetables anyway</i>	<i>No but I would like to</i>

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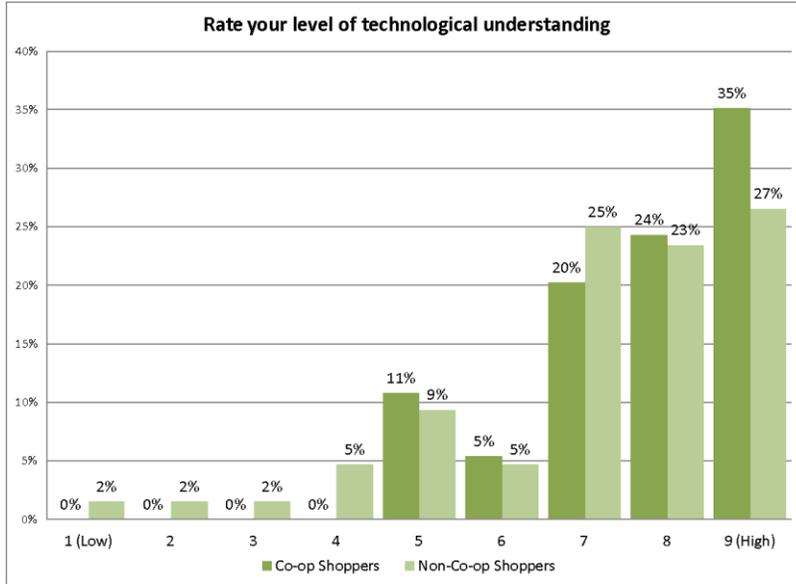
**Table 10, Cont.: Reasons for Not Visiting Local Farms**

Lack of awareness	Time constraints	Not interested	Opportunity issues
<i>Never knew I could.</i>	<i>Lack of time/transportation</i>	Have garden in summer	No reason. I just don't get out there too often.
Not easy to find local farms, the ones I know don't do many tours	<i>Busy with other things.</i>	I would like to, but it's not important to me either. I like meeting the farmers at farmers markets.	Never been to one
Idk where to go	Time	Not unless it's on the way to the corner market	Haven't thought about it.
<i>Hmmn, I just didn't think about it. Don't know where they are</i>	<i>Haven't taken the time</i>	has never occurred to me to visit a farmer	Never thought to
<i>Didn't know I could or how to find out where</i>	Because I work a billion hours a week..	I am involved in agriculture personally, I know what happens on the farm already.	<i>Would like to. Never had opportunity.</i>
I do not know of any.	<i>Time constraints</i>	Never had the opportunity Not sure where to look Don't really care to	Have not had a chance, but would love to if there was an opportunity/event to go to
Not aware of locations	Lack of time, don't know farm locations	I'm just not that into it. I just want to buy good food and I'll trust that the farm is a farm.	<i>haven't had much access from Truckee</i>
No farms in Reno/Sparks	Not convenient	<i>No comment.</i>	
Do not know where they are	Takes more time		
Wasnt aware we had local farmers in Nevada! Its the desert!	No time to visit		
<i>I am not aware of such programs in Reno</i>	<i>I have in the past, it's been over a year. A crazy year.</i>		
I just don't know how to find them and when it's ok.			
<i>Lack of information, time but I would like to if there are farms within 20 mins of Reno.</i>			

**Respondent Use and Impressions of Meet Your Farmer**

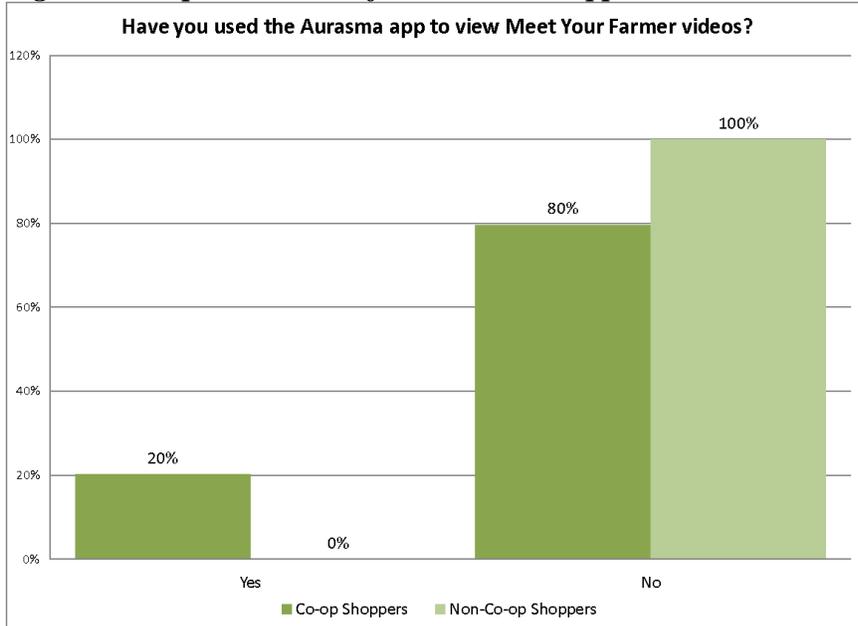
Finally, the survey sought to assess respondents' level of technological understanding, whether or not they had used MYF and their impressions of the app if so.

**Figure 4: Respondent Rating of Level of Technological Proficiency**



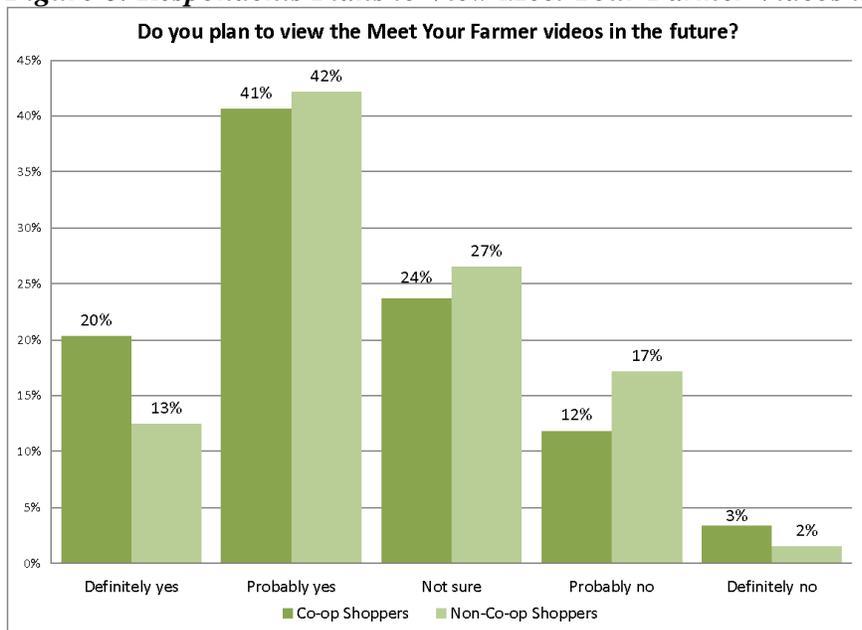
Respondents were asked to rate their level of technological understanding (Figure 4). This was described as use of smart phones, laptops and tablets. Generally, Co-op shoppers identified themselves as having a higher level of technological understanding than non-Co-op shoppers.

**Figure 5: Respondent Use of the Aurasma App to view Meet Your Farmer Videos**



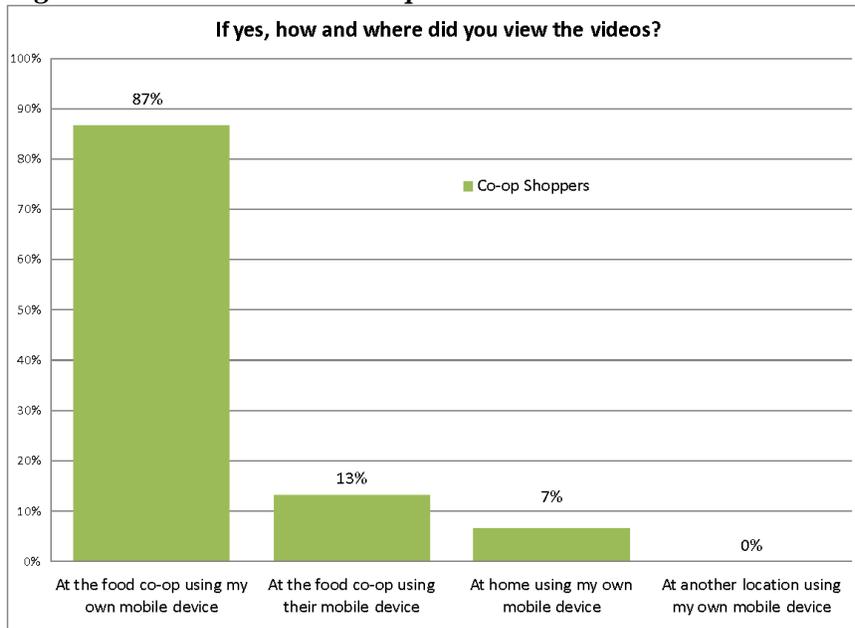
Respondents were asked whether they had used the Aurasma app to view the Meet Your Farmer videos (Figure 5). While none of the non-Co-op shoppers had used the app, 20% (15 respondents) of Co-op shoppers had used the app to view the videos.

**Figure 6: Respondents Plans to View Meet Your Farmer Videos in the Future**



The 123 respondents who had not used the app to view the videos were asked whether they intended to do so in the future (Figure 6). As would be expected, more Co-op shoppers overall indicated they would view the videos in the future, with stronger positivity, although only 15% of Co-op shoppers and 19% of non-Co-op shoppers indicated they were unlikely to view the videos in the future.

**Figure 7: How and Where Respondent Viewed Meet Your Farmer Videos**



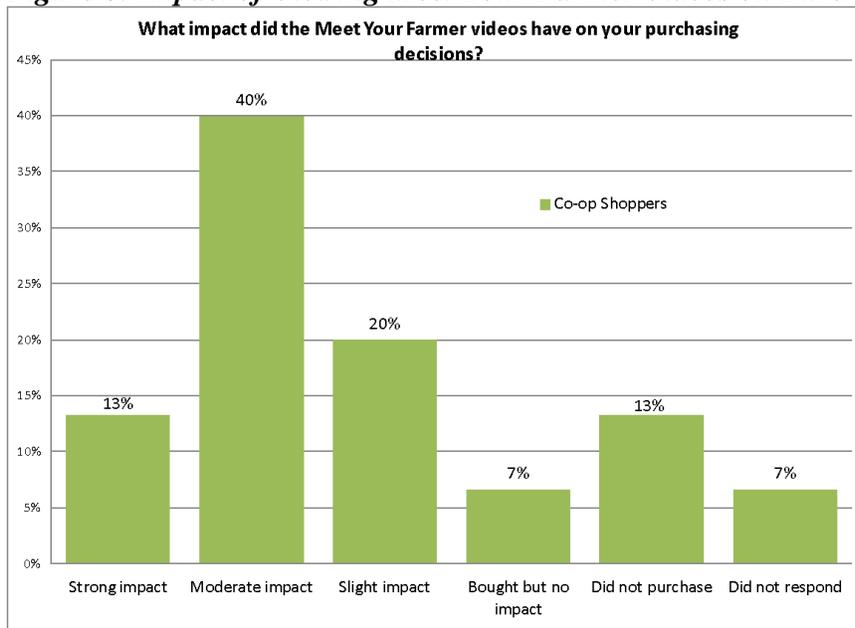
Respondents who had viewed the video were asked how and where they had done so (Figure 7.) The vast majority of respondents had viewed the videos at the Co-op using their own mobile device, while a smaller percentage had used the Co-op’s mobile device and one respondent had viewed the video at home using their own device. This one response may be questionable, as at the time of launch of the program the videos were only available to view in the store, although over the course of the survey changes to the program were discussed and possibly implemented.

**Table 11: Ranking of Appeal of Meet Your Farmer Video Attributes**

When viewing the Meet Your Farmer videos, which of the following attributes appealed to you?		
Attribute	Percent	Number
Seeing the farmer	73%	11
Seeing the farm family	73%	11
Seeing the farm	73%	11
Seeing products growing	73%	11
Learning about the farm	60%	9
Learning about the production process	60%	9
Learning about the farmer	47%	7
Hearing a story about the farmer/farm	40%	6
Seeing the animals/bees	27%	4
Learning the farmer's favorite product	20%	3
Other (please specify)	0%	0

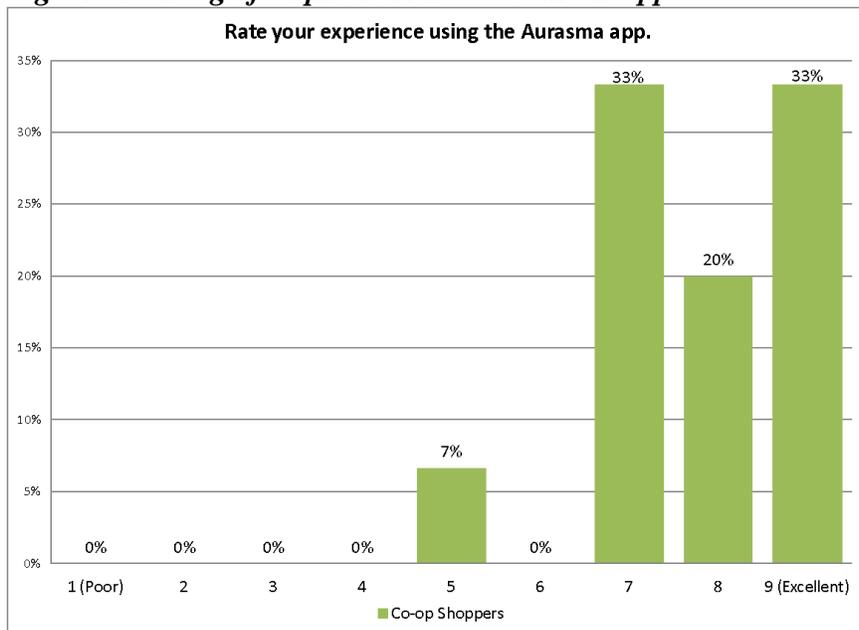
Respondents who had viewed the videos were asked to describe which attributes of the videos had appealed to them (Table 11). The majority of respondents, 73% each, indicated that seeing the farmer, seeing the farm family, seeing the farm and seeing the products growing appealed to them; while 60% each indicated that learning about the farm and learning about the production process appealed to them. Less than half of respondents, 47%, indicated that learning about the farmer appealed to them, while 40% enjoyed hearing a story about the farm, 27% enjoyed seeing the animals or bees and 20% enjoyed learning about the farmer’s favorite product. It should be noted that because this project was funded through a Specialty Crop Block Grant, the focus was on specialty crops rather than animal products so any animals that were included in the videos were as a side note on diversified farms that produce both crops and animals (although bees were included as part of honey producers’ videos). Additionally, not all videos included the farmer discussing his or her favorite product. No respondents wrote in an “other” video attribute that they enjoyed.

**Figure 8: Impact of Viewing Meet Your Farmer Videos on Purchasing Decisions**



Respondents were asked to rate the level of impact viewing the video had on their purchasing decision (Figure 8). While 73% indicated that viewing the video had some level of impact on their purchasing decision, 7% indicated that they bought an item from the farm but felt the video had no impact on their decision and 13% did not purchase the product.

**Figure 9: Rating of Experience with Aurasma App**



Respondents were asked to rate their experience using the Aurasma app (Figure 9) and the results were generally favorable with a full 33% (3 respondents) indicating their experience was excellent. Respondents were also asked to provide any additional comments about their experience (Table 12). While one respondent indicated that the video was a great way to visit the farm without travel, one respondent indicated they had had difficulty viewing the video using an Android system and one indicated that although the videos were a good concept, watching a video at the Co-op while shopping wouldn't necessarily be a priority.

**Table 12: Additional Comments about Meet Your Farmer Video Viewing Experience**

<b>Do you have any additional comments about your experience with the Meet Your Farmer videos?</b>
It is a great way of me visiting the farm etc without going there
Did not work on Android.
I think they are an awesome idea but usually the co-op is a stop in for me and stopping watch videos is not always a top priority.

**Conclusions**

While the sample size of 138 respondents to this survey makes statistical analysis slightly difficult, the survey did reveal key differences between Co-op and non-Co-op shoppers. This includes preferences for grocery outlets and local and differentiated food products, definitions of “local food,” and spending habits on pre-prepared versus “whole” foods and on local versus

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conventional foods. This information can be used by the Co-op and other area partners to understand changing consumer preferences for food products in northern Nevada.

The questions about farm visits and the MYF experience can be used to enhance the program in the future. For example, both Co-op shoppers and non-Co-op shoppers were more likely to visit farms for agritourism than to make direct purchases, meet the farmer or see the farm or production process. This is an indication that consumers are only interested in going to the farm if they absolutely must; otherwise they can choose to purchase their products from outlets such as the Co-op and gain information about the farm, farmer and production process through sources such as MYF. Table 10 shows that many respondents are interested in visiting farms but either aren't aware of Nevada's farms or aren't sure they are allowed to visit them. Even the respondents who were categorized as "not interested" weren't necessarily wholly uninterested in agriculture so much as they were uninterested in taking a farm visit. Many respondents indicated that they would like to visit farms or meet farmers if they had the awareness, opportunity or time; this result supports the concept of MYF as it's very purpose is to eliminate the barriers of awareness, opportunity and time by bringing the farmer/farm to the consumer instead.

Another key result is the respondent in Table 12 who indicated that although they had had a positive experience viewing MYF videos, the Co-op is usually a quick stop for them and they may not take the time to view a video in-store. This was expressed by focus group participants as well. However, the Co-op is a relatively small grocery store and can become quite tight when crowded, and during work days customers may have to pay for street parking, providing an incentive to shop quickly. MYF may hold greater appeal in a conventional grocery store setting with broader aisles and freely available parking. Additionally, a conventional grocery setting may offer more impact to consumers who are less aware of or less connected to local agriculture and local farmers than Co-op shoppers. Another outlet to consider is restaurants, where customers are intended to stay in place a while and may have more leisure time to view a video. This would still allow for the videos to be viewed and to create a connection on-site prior to the sale.

2. To ensure the co-op shoppers were aware of the Meet Your Farmer campaign, we followed through with all the marketing steps below as well as added the demo idea to the campaign.

Information about the Meet Your Farmer App was also sent out in two Co-op e-newsletters with a reach of more than 5,000 and an open rate of on average more than 22% and linked to the Co-op's Facebook page, which has more than 11,000 likes. We also printed 500 brochures and handed out every single one of them in the six-month duration.

The Co-op's Food Hub program, DROPP, sent out links to the videos in their weekly emails to farmers and community partners alike. This list is in the upper hundreds and is a target

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demographic in regards to restaurants who are already sourcing food locally or who have expressed interest over the past couple years.

People were interested in the videos, but we noticed they were more keen to spend their time watching the videos on our in store device than downloading the app on their phones. With this learning in mind, we decided to do in-store demos each after the launch twice a month for 6 months and the following information was collated:

180 watched at least one film with the demo representative  
22 downloaded the app with the demo representative  
30 people already had the app downloaded  
89 emails were collected to send the survey too digitally since some people didn't have the time to fill out then and there

As a result of all of the above actions, the Meet Your Farmer videos have been played collectively over a thousand times according to our Vimeo page!

3. A final quantitative goal was to increase purchases of Northern Nevada specialty crops and compare data from the Co-op's previous year's purchases of SC.

As you can see from the number table below, both the pounds (11.11%) as well as the dollar value (33%) increased year over year of Specialty Crop produce (these numbers include flowers but not honey, which is extrapolated below).

Please note that incidental circumstance could have affected these growth numbers as well including but not limited to the department buyer had a year of experience in 2015 where in 2014, he was brand new to the role. Also keep in mind that there was a significant drought in 2015, so had there been even more availability of Specialty Crop goods, the number could have been even higher.

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Specialty Crop Sales-GBCFC			
2014		2015	
#Sep 2014	4634.39	#Sep 2015	4972.52
\$Sep 2014	10001.49	\$Sep 2015	13302.82
#Oct 2014	4477.22	#Oct 2015	4983.56
\$Oct 2014	6788.68	\$Oct 2015	10707.96
#Nov 2014	2925.37	#Nov 2015	3415.35
\$Nov 2014	5546.41	\$Nov 2015	7005.16
#Dec 2014	2137.87	#Dec 2015	2379
\$Dec 2014	4343.67	\$Dec 2015	4557.28
Grand Total #	14174.85		15750.43
Grand Total \$	26680.25		35573.22

Specific success story behind honey highlighted below.

	Al's Bees	Hidden Valley		Al's Bees	Hidden Valley
#Oct 2014	25	33	#Oct 2015	39	40
\$Oct 2014	311.75	481.87	\$Oct 2015	513.36	526.3
#Sep 2014	19	22	#Sep 2015	119	30
\$Sep 2014	272.36	324.08	\$Sep 2015	991.21	428.7
#Aug 2014	28	17	#Aug 2015	33	18
\$Aug 2014	426.32	263.58	\$Aug 2015	514.17	256.82

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As you can see from the above graph, from the fall of 2014 to the fall of 2015, there were appreciable increases in both brands of honey that had trigger signs (and therefore videos done of them) by their product in store.

Just comparing August show's healthy growth of 17.8% for Al's Bees and (33 in 2015 minus 28 in 2014/28 from 2014) with just 5% grow for Hidden Valley Honey but notice in September when the App launched, there was 526%\* growth for Al's Bees and 36% for Hidden Valley Honey. Furthermore, comparing October of both years, there was an increase in both Specialty Crop producers with 56% for Al's Bees and 21% for Hidden Valley Honey. \*Please note that there was a sale of Al's Bees honey in September hence the huge increase in amounts purchased.

### Beneficiaries

Along with Great Basin Community Food Co-op, there were 22 farms that directly benefitted from the project, even though some received filming in previous awards, they received further marketing through this award. Each farm/farmer received their professionally made and edited film to use for their marketing outlets. Local growers, Great Basin Community Food Co-op, and the Nevada SCBGP indirectly benefitted from all the positive local and national press coverage.

4 Dog Farm
Als Bees
Andelin Family Farms
Avanzino Farms
Custom Gardens Organic Produce Farm
Ecologica Farm
Hanco Farms
Hidden Valley Honey
Holley Family Farms
Hungry Mother Farms
Jacob's Berry Farm
Lattin Farms
Lost City Farms
Mary Alice Sprout Farm
Mewaldt Organics
Nevada Ag
Nevada Fresh Pak
New Harvest Farm
Organica
Palomino Valley
Pleasant Valley Farms

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River School Farms
Smith & Smith Farms
Tahoe Living Greens
HDFI

## Lessons Learned

- Managing all of the triggering signs in store became more of a time issue than what was previously expected. An allocated amount of funds for project management in store was needed. What we didn't know was that the items get traded out almost daily so trying to stay on top of all the farms receiving videos and promotion, different farms with all different types of produce/items that changed a few times a week, was much more difficult than anticipated. The more successful items were things like honey that were continually stocked at the same place day in and day out.
- Co-op staff are continually changing and having to manage very important day-to-day issues with each and every customer. By the time basic questions like 'Are you a member,' 'Do you want Debit or Credit,' 'Do you have your own bag,' and 'Would you like a receipt,' are expressed, telling them more information isn't conducive to the flow of check out. Even though info placards were given out during the launch and available in store for the next 6 months, more dedicated time and energy needed to be given in store to the App in order for it be even more utilized.
- People were in more of a hurry to get their grocery errands done than anticipated. There was genuine interest but a hesitation to stop and do the download and watch the video. It was more impactful to have a demo person there with the content already loaded on an iPad. Because of the smaller footprint of the store, a lot of the signs were concentrated in one area. A larger store or slower paced environment would be more conducive to not only downloading the video but feeling like you have the time to watch more than one.
- The launch date was perhaps a month too late as the abundance of local specialty crop produce dipped when in mid-October of 2015, there was wintry weather.
- Some of the farmers didn't have the capacity to share their film because they didn't have a website or social media presence or because of common time constraints that many small scale businesses experience (although this could also be a lack of understanding the importance of telling their story). Having an outside organization help market the project was more impactful than individual posts on farmer's marketing channels.
- Since our goal of reaching 10% of the Co-op's unique shoppers (300) was not reached (roughly only half that at ~150) survey participants, an incentive could have been awarded to each survey answered instead of three larger gift cards as a raffle. Secondly perhaps at a bigger location with more footfall as well as aisle room and parking, more participants would have been accumulated!

## A Final Note

405 South 21st St.  
Sparks, NV 89431

2300 East St. Louis Ave.  
Las Vegas, NV 89104

4780 East Idaho St.  
Elko, NV 89801

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The 'Meet Your Farmer' app has the potential to have a huge impact of the sale of specialty products over the next 10 years by creating a platform to directly connect consumers with specialty crop producers to increase awareness, understanding, appreciation- and subsequent demand- for local producers.

The app could also be developed over the coming years to be the main source of information for consumers to find out information on specialty crops.

There are also farther reaching implications of the app to be utilized in different avenues such as other retail outlets i.e. farmers markets, other grocery stores, and restaurants to name a few. The content has already been created so any means that enable these films and the farmers to gain even more recommendation is welcome.

All of the above aims to increase sales of specialty crop products through increased customer knowledge, awareness and appreciation driving consumer loyalty for specialty crop produce.

### **CONTACT PERSON / PROJECT LEAD**

Steve Cook  
Phone: (775) 762-5596  
Email: [stevec@thinkinneon.com](mailto:stevec@thinkinneon.com)

### **Project Title**

Growing the Next Generation of NV's Specialty Crops

### **Project Summary**

The specific issue the project addressed was hunger in the community in addition to training next generation farmers. The project served as a training tool for future farmers providing them with knowledge on how to produce, manage and market specialty crops. Training activities from previous projects resulted in several students/AmeriCorps members obtaining jobs in the specialty crop industry, which is the continued objective of this project. Since *The Greenhouse Project* (TGP) is a non-profit, the produce grown as a result of the training project was donated to families in need.

The project is important and timely because TGP works closely with the Future Farmers of America program, the Agriculture Technical Education program and the Special Needs students at Carson High School. TGP provides valuable work experience via a commercial-sized greenhouse, 65 raised beds, a small orchard, a permaculture area, a hoop house and compost area. In addition to learning valuable technical skills at TGP, students become contributing citizens giving back to their community by raising food for the hungry in Carson City. This project complimented and enhanced TGP's previous SCBG program by producing vegetables in addition to flowers allowing the Agriculture students of Carson High School and the AmeriCorps interns to experience an additional aspect of specialty crop production.

## **Project Approach**

Student awareness of agricultural practices and sustainable techniques for specialty crops were increased through hands on on-site activities in the greenhouse, the hoop houses and the raised beds outside, including propagation, transplanting, fertilization, irrigation and overall crop production techniques. Students were involved in creating their own projects or assisting with projects on the school farm site which included pollinator habitat, soil management, composting, floriculture, CSAs, etc. Students were directly involved from soil preparation and seed starting through harvest.

Students and AmeriCorps interns built a hoop house, constructed a worm composting bin, improved the permaculture area, learned how to prune and manage fruit trees and grapes, learned about and managed both hydroponics and aquaponics systems. All of these activities supported the project objectives of providing skills to next generation growers.

## **Goals and Outcomes Achieved**

### **The project aimed to:**

1. Increase student awareness of good agricultural handling and sustainable field production techniques for specialty crops
2. Develop and manage a CSA with 20 subscribers allowing students to experience the challenges of distribution of products from the school garden program to the community
3. Donate 2,000 pounds of produce per year to those in need; benefitting the missions of not only TGP, but also Ron Wood Family Resource Center, Friends in Service Helping and the Salvation Army
4. Teach students and community members about the value of nutrition, plant health, agriculture and horticulture through tours, school visits and events
5. Increase student awareness of specialty crop production careers

These objectives were accomplished through the following activities:

- Students and AmeriCorps interns managed a Community Supported Agriculture program with 10 subscribers in both 2015 (918 pounds of produce) and 2016 (515 pounds) allowing the students to experience the challenges of distribution of products from the school garden program to the community.
- TGP (through student and intern efforts) donated 1,430 pounds of produce in 2015 and 1,879 pounds in 2016 to those in need; benefitting the missions not only of TGP, but also Ron Wood Family Resource Center, Friends in Service Helping and the Salvation Army.
- Students and community members learned about the value of nutrition, plant health and agriculture through tours, school visits and events: 2015, eight events with 75 participants; 2016 four events with 16 participants.
- In 2014-15 school year, four students did senior projects through TGP.

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- In the 2016-17 school year, two seniors in the Future Business Leaders of America class are doing a senior project to raise awareness about and \$5,000 for the program. One has spoken about creating a community at TEDx. <http://www.nevadaappeal.com/news/local/students-raising-money-awareness-for-greenhouse-project/>
- In 2015, 154 pounds of produce and in 2016, 267.5 pounds (as of October) were contributed to the Student Culinary Program of Carson High School who then incorporated it into their meal production.
- Students learned about agriculture, horticulture and specialty crop production careers. **Pre/Post Survey Results (See attachment for complete results)**
- Of the **13 student respondents** to the post survey of the 2015-16 school year, six knew nothing about agriculture or horticulture before their participation. Six knew a little about it before. One knew a lot before. Five knew a little more after participating. Eight knew a lot more after participation.
- When asked if they learned how to raise vegetables successfully, seven agreed and two strongly agreed.
- When asked if they learned about agriculture or horticulture career opportunities, five agreed and two strongly agreed.
- When asked if they learned about specialty crops business practices five agreed and two strongly agreed.
- When **AmeriCorps interns** (5) were asked these same questions, one knew nothing about agriculture or horticulture before participation. Four knew a little about it before. One knew a lot before. However, all five knew a lot more after their TGP internship. Five strongly agreed they learned how to raise vegetables successfully. Two were neutral and three strongly agreed on learning about agriculture or horticulture careers. When asked about learning about specialty crop business practices, one was neutral, one agreed, and three strongly agreed they had learned.

### Additional accomplishments

- The Agriculture Program at Carson High School is going strong with 120 students participating. Prior to TGP, there had been no agriculture program at the High School for 10 years or so.
- Carson High School was one in 30 in the nation to receive curriculum from Cornell University in animal science on digestion and pharmacology based on the excellence of the agriculture program at the High School, which was reinstated as a result of TGP's efforts and opportunities provided.
- The Future Farmers of America (FFA) program is active and effective again because of TGP. They have been selected to host a regional FFA conference at Carson High School.
- FFA student Holly Strasser (age 17) will be one of only 53 students to compete in extemporaneous speaking at the national Future Farmers of America convention after

placing second in the statewide competition.

<http://www.nevadaappeal.com/news/local/strasser-to-compete-at-national-ffa-convention/>

- Students put in 1,842 hours in 2015-16 school year and 342 hours in the current 2016-17 school year.
- One volunteer did a cost benefit analysis of all the produce donated in 2016 and found the value of the organically grown produce donated to various food delivery agencies was \$3,240 as of September 29, 2016. That value will continue to increase as food continues to be donated.

### Long Term Accomplishments

- Three interns “graduated” from internship to become the paid Greenhouse Managers,
  - One went on to graduate school in sustainable farming practices at Montana State.
  - One is the current Greenhouse manager and site educator.
  - The original TGP greenhouse manager is the current operations manager and head farmer with the University of Nevada Desert Farming Initiative
  - Another intern works for a medicinal mushroom production facility as she completes her graduate degree at University of Nevada, Reno.
  - Three other interns are doing graduate work in environmental science and sustainable food systems.

### Beneficiaries

The participating students and AmeriCorps members were the main beneficiaries as they increased their knowledge on specialty crop production and ag-related careers. In addition, the recipients of donated produce and community members that were involved with the project also benefitted.

### Lessons Learned

- We would like to improve the pre/post survey with improved questions and rating systems. By giving the same test both pre and post, we had students responding to post questions before they had participated.
- AmeriCorps interns who complete either a 900-hour or a 450-hour program at TGP learn much more about agriculture production and specialty crops than students who work at the Project only an hour or so per week. Enthusiasm for learning was more evident among the interns. Based on some of the survey results of the students, some seemed as if they were forced to be there. The long-term work over the summer is invaluable to the interns. Students who not only participated in class, but who also volunteered on their own, were much more likely to respond most favorably to the learning experience.

### Contact Information

JoAnne Skelly  
(Email) [skellyj@unce.unr.edu](mailto:skellyj@unce.unr.edu)

### Project Title

Community Horticulture and Cider Making Project

### Project Summary

**BACKGROUND:** The problem represents three interdependent needs for heritage apple production in our region. In the 1927 USDA Yearbook, Washoe County was recognized as an agricultural location where 25,000 apple trees were being cultivated (*Forgotten Fruits Manual and Manifesto*. 2010 Renewing America's Food Traditions (RAFT) Alliance. Edited and compiled by Gary P. Nabhan. pp 18). Today, most of those trees are gone, due to farm displacement and encroachment of urbanization. The Belli Ranch, near Verdi, NV is a former dairy where there remains a small grove of 11 apple trees that were planted about the year 1913 (Personal Communication with David Belli, February 2006). During the passing decades the property has been placed in limited production, distributed to family members, and sold for development. As is typical in these situations the present family members do not have the knowledge or expertise to care for their heritage fruit trees. This situation is similar at the McCleary Ranch in Southwest Washoe Valley (formerly the family ranch of Nevada Governor Robert List) and at other public and private sites throughout the region.

Despite the derelict condition of these heritage trees and their fruit, they continue to produce apples each spring, but little of the fruit is harvested. *This represents a commodity loss in our community.* The need exists for restoring these trees to some level of marketable production, to identify and train community volunteers in developing and practicing these horticultural skills, and to market these unique heritage apples within the local food shed, through presentation of a related consumer event, such as cider making.

**PURPOSE:** This service project is proposed to identify, restore and return local heritage apple groves back into production by; 1) Soliciting heritage apple grove owners to participate in a multi-year renewable agreement to receive volunteer horticultural services in exchange for a portion of their crop; 2) Recruiting, managing, and training community volunteers to learn and practice horticultural restorative care, pest control, and maintenance of enrolled apple groves; 3) Presenting an annual community cider-making event that promotes the project while engaging community members in making and sharing fresh cider. Income generated from sale of fruit will be used to recruit new volunteers and new grove owners, sustain horticultural expertise of volunteers, and initiate standards of sustainable and organic production practices in existing groves.

**TIMELINE:** This three-year project proposes a three-step restoration and development strategy. Specific objectives are to: 1) Obtain collaborative multi-year agreements with owners of local

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heritage apple groves to enroll their fallow trees into the project in exchange for contributing a portion of the crop to sell; 2) Recruit, train, and manage local volunteers to learn and practice the horticultural knowledge and skills needed to provide supervised restoration and harvest of enrolled trees; 3) Actively market and promote Eastern Sierra Nevada apple production as a specialty crop; and educate volunteers at an annual, community-focused cider-making educational event. This project is being established specifically to enhance and promote the competitiveness and production of heritage apples as a specialty crop in the Eastern Sierra Nevada.

### Project Approach

The project was implemented in three stages as indicated above by completing the following tasks:

The project manager was hired; two (of three) owners agreed and participated; seven (of 12) volunteers agreed to and participated, and two consultants (100%) were hired, all in the first quarter of the first year. The 10-hour curriculum was developed during the second quarter and presented to new and continuing volunteers during each of the three project years. For volunteers in-person interviews were conducted in each of the three years in lieu of written surveys. These interviews identified volunteer satisfaction and knowledge gained. Of the 14 volunteers recruited and offered training during the three years, seven of these reported obtaining a “*significant* or greater knowledge and skills level to provide fruit tree horticultural care to heritage trees” (66% of the performance goal) in pest abatement, pruning, assessing tree conditions and cider making. Of these seven VTs 67% (target was 50%) continued in the project for two or more years. At this time, the project has identified four of six total tree owners who were willing to participate for three years, though due to varying enrollment periods only one has completed this goal to date.

### SIGNIFICANT CONTRIBUTIONS OF PROJECT PARTNERS:

There were two significant contributions made to the project supporting the cider making event. The first year the Nevada Department of Forestry Tree Nursery hosted the event at that site. The second year Tea House Gardens hosted the event and Bower’s Mansion County Park sponsored the event at their site. This site enjoyed significant participation and was appropriate for the volume of fruit available that year. One restriction was that fruit sales could not be transacted at the site due to this arrangement. The project has since been contacted by the Park administrators and invited to participate in subsequent years as the sponsoring organization so that fresh fruit can be sold on site during the event.

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Also during the second cider making event at Bower’s Mansion County Park, a physically disabled community volunteer attended, and video recorded the event, edited the video and audio content into an 18-minute presentation and offered it to the project for promotional purposes.

Marketing and promotion: During the second year the project was contacted by the regional food promotion magazine *edible* RENO-TAHOE. The publication took photographs that year and interviewed the project manager the second year and in September 2017 released the article as it’s “*Meet the Farmer*” feature story on the project. This promotion has resulted in three community members offering to volunteer for the project (one is an anthropologist willing to conduct historical site research) and one potential new site owner in Genoa, NV and another in Elko County, NV.

### Goals and Outcomes Achieved

**Goal #1: Identify three heritage apple groves within Northwestern Nevada comprised of heritage trees whose owners are willing to participate in the multi-year program to restore the health of the trees and share the crop harvest with the project.**

*Benchmark: Current heritage fruit owners of fallow trees do not have access to a program to obtain volunteer restorative horticultural care for their trees.*

*Target: At least two of three heritage tree owners will complete the three-year collaborative agreement with the project.*

**Goal #2 performance measure: 75% of trained community volunteers will report a significant or greater knowledge and skill level to provide fruit tree horticultural care to heritage trees.**

*Benchmark: At the start of the project, community volunteers reported that they did not have adequate horticultural knowledge and skills to care for heritage trees.*

*Target: At least 50% of trained community volunteers will continue with the project two or more years.*

During the first year of implementation formal relationships with two owners of heritage apple sites (66% of 3-year target), two consultants (100% of three-year target), and seven Volunteers in Training (58% of 3-year target) were established. A training curriculum was developed and implemented; using a variety of resources that included vetted research related articles, pesticide Data Sheets, and trade bulletins on topics ranging from pruning for height reduction to Integrated Pest Management (IPM) methods and pesticide application. These materials were organized into tabulated binders for reference and given to volunteers in training (VTs) for their exclusive

reference and use during the project. Additionally, a local ISA certified arborist with specialty expertise in heritage apples, was retained on contract to provide interpretative information related to the materials used by VTs and to present hands-on demonstrations and instruction at the enrolled tree sites during each stage of restoration (IE. assessment, pruning, spraying & harvest), throughout the year. For documentation and community communications support, a professional photographer and IT expert was retained on contract to design and offer development support for the project website (<https://nnavappleproject.wixsite.com/chem>), and to produce photographs of *before and after* results of tree restoration, varieties of apple crop harvest, volunteers at work on the sites, condition of the trees, crop and harvest at each site.

During the third year of the project, one of the original site owners withdrew due to sale of the property and the new buyer indicated disinterest in the project. Three other sites owners were recruited in Washoe Valley and there is strong interest by two additional owners (Genoa & Elko) owner. These six sites represent 200% of the 3-year target. Also during the second and third years seven additional volunteers in training were recruited (115% of the 3-year target) with six volunteers withdrawing from the project for personal reasons or other interests. This leaves eight active VTs after three years (67% of the target).

All volunteers gained knowledge and skills in caring for heritage trees through group, individual, and hands-on trainings.

**Goal #3 performance measure: Fifty community members will attend the cider making event each year to obtain information about the status of heritage trees in the region and/or purchase fruit and cider.**

*Benchmark: In our region there was no community event to inform the public on the status of heritage apple trees or to market the fruit and cider directly to consumers prior to this award.*

*Target: At least 50% of cider making event attendees will purchase apples or cider, submit volunteer applications to the project or otherwise offer to participate the following year.*

Due to variations in regional spring weather, during the first and third project years, there was inadequate fruit production at any of the enrolled sites for cider making. During the second year the production was extensive with enrolled trees producing 3,282 lb. of fruit using IPM methods that resulted in an estimated coddling moth infestation of just 5%, providing 95% marketable fruit (66% of the 3-year target). Of these apples 739 lb. were delivered to one owner who sold or otherwise distributed them to an established market. The project pressed 1820 lb. into approximately 85 gallons of sweet cider (distributed to volunteers with five-gallons as free samples at the cider making event, see details below). Of the remaining apples the Project sold

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100 lb. outright with offers to buy another 300 lb. but had no legal venue for a timely sale. The remaining fruit was stored and used by volunteers or composted during the winter months.

The project presented one cider making event in each of the three years and recorded 125 total participants in attendance (83% of the goal), and these included members of the public, one girl scout and one boy scout troop with their respective troop leaders. The girl scout troop leader purchased one bushel (40lb.) of apples for a troop activity. During the event attendees were informed on the limited supply and availability of these products. They were also informed on means of procuring apples and cider products post event.

The project implemented height reduction pruning and IPM methods using volunteers in training (VTs) to restore 33 heritage apple trees in NW Nevada, primarily in Washoe Valley. CHCM established agreements with tree site owners to restore the healthiest trees at these sites. Due to variations in regional spring weather, during the first and third project years, there was inadequate fruit production at any of the enrolled sites for cider making. We now believe that five of nine apple varieties found at these sites to be: Yellow Transparent, Maiden's Blush, Buckingham, Golden Delicious, and Stayman. The other four varieties have not been identified to date, and two additional varieties have been found at two other (not enrolled) sites.

### Beneficiaries

This group was originally identified as tree site owners, Volunteers in Training, and consumers of the fruit. The interviews with volunteers indicates they have been beneficiaries, at this point of the two original site owners one found restoration activities a benefit and that it supported value of the property which was sold following the high production second year. However, the other owner has reported less benefit than anticipated for several reasons. The first being that two of the three years there were no marketable apples, and with pruning and IPM cultural practices continuing to be conducted on the site, they found it a disruption to the other beneficial uses of the property (agritourism, farming, livestock production) as it interfered with their routines and scheduling of these other activities. Further, the progressive distribution of fruit (up to 50% over three years) was not seen as an equitable value for the disruption.

Though consumers did benefit, the numbers were a fraction (21%) of the intended 600 consumers we had hoped to serve in three years.

Other beneficiaries were the **Washoe Valley Tree Nursery** (promotion); **Bower's Mansion County Park** (promotion and historical interest); **Girl and boy scouts** (education); **edible RENO-TAHOE Magazine** (promotion/education/entertainment).

### Lessons learned

- Due to variations in regional spring weather, during the first and third project years, there was inadequate fruit production at any of the enrolled sites for cider making. This suggests that in 50% of given production years in this region, no fruit production may be anticipated, an adjunct crop or related product (IE. seedling apple trees, pasteurized sweet cider, hard cider, etc.) may need to be considered for income. Further, due to the intermittent production cycle in this region, storage and supply resources and marketing methods need to be managed carefully to plan for fruit shortages and high production (*boom & bust*) cycles while making optimum use of dependent resources (supplies, tools, storage space, etc.) during fallow years.
- The time required was significantly underestimated to manage and train volunteers, coordinate restoration activities, develop curricular and organization materials and record keeping (up to
- The interest, expertise and participation of volunteers was adequately estimated. A renewable pool of volunteers should be anticipated every two years;
- The interest and potential of cider-making as a community educational event was successfully demonstrated and can be expanded;
- The marketing of fruit for sale, production and pasteurization of sweet cider for sale; and the grafting of heritage tree starts each need to be proposed as separate projects.
- The identification of specific unknown apple cultivars needs to be a parallel but separate project;
- The tools planned for and purchased for the project have been adequate for the initial scope;
- Expanded planning for a similar project needs to anticipate damage by wildlife (bears, squirrels, birds) and volunteers need to be trained to anticipate these threats for sustained production.
- The IPM methods taught and used in this project have performed well using volunteers.
- The scope and long-term nature of this project needs to be incorporated as a non-profit 501 c (3) corporation with a community-based governing board to provide broader support, resources & sponsorships for agricultural expertise, marketing, volunteer management, event production and education partners;
- Retaining adequate storage for the volume of fruit that 33 mature trees was capable of producing was a significant lesson. Given the boom and bust cycle of apple production, in the region, this is a public relations management problem until a ready market is developed (retail or wholesale) for this intermittent specialty product.

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## Contact Person

William Murphy-Sharp  
Tea House Gardens  
3220 Churchill Dr.  
Washoe Valley, NV 89704  
(775)345-1515  
[wrms52@gmail.com](mailto:wrms52@gmail.com)

## Additional information

- Website: <https://nnvappleproject.wixsite.com/chcm>
- Identification of unknown cultivars can be done using new technology of Next Generation genetic screening at a cost of \$1000 per sample, Contact Tim O'Brien at Phytelligence (206) 244-7783  
website: <http://phytelligence.com/>

## Project Title

Nevada Specialty Crop Social Media Video Promotions

## Background

The Nevada Specialty Crop Video Promotions project elevated the presence and awareness of Nevada's specialty crops. Specialty crop producers in Nevada benefited from this program by way of promotional videos aimed at consumers in Nevada. This project will produce at least eight videos featuring Nevada specialty crop producers, growers, and retailers. The ancillary benefits of this program will be higher awareness of Nevada's specialty crops and processed products as well as increased knowledge of where such crop products may be purchased in Nevada, thereby promoting consumption of Nevada's specialty crops. The NDA partnered with Neon Agency in expanding awareness of the eight videos produced as a result of this project in addition to promotion for videos created using previous SCBGP funds. Promotional strategies included social media, the Reno-Tahoe Edible Magazine, among other promotional channels.

## Project Partner Organization

The Nevada Department of Agriculture Office of Communications and Promotions partnered with the NEON Agency (Reno, Nevada) for video production.

## Project Approach

Video selection and Implementation

Neon Agency successfully produced a series of 8 video shorts (30 seconds to one minute) on Nevada specialty crops and producers by the project's completion. The producers were selected in

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conjunction with the Great Basin Food Co-op, which submitted a separate proposal to use these videos as part of their “Meet Your Farmer” project. This project allowed for an additional 8 videos to be produced, expanding the number of growers benefitting from the project. Neon Agency collaborated with the Co-op to ensure no duplication occurred in videos and to ensure projects were built upon each other.

The “Meet Your Farmer” project under the SCBGP focused on app development, the creation of 15 other films and a launch event, while the Nevada Department of Agriculture worked in conjunction with the Neon Agency to select and promote specialty crop producers and growers through video promotion. The other SCBGP project is mentioned because one of the roles of NDA was to promote all the films created through SCBGP funds, further expanding program beneficiaries.

Neon Agency surveyed 54 specialty crop participants and found 42 to be excited and relevant for the project overall. 8 candidates were selected through this sub-grant.

Please see the list below for the 8 operations that were included in this sub grant with a link to each video as well:

1. Italian Hearts Pasta Sauce: <https://vimeo.com/album/4038342/video/153466681>
2. Killer Salsa: <https://vimeo.com/album/4038342/video/156305064>
3. Nevada Brining Co: <https://vimeo.com/album/3770462/video/156305062>
4. Mitchell Pickle: <https://vimeo.com/156304453>
5. River School Farms: <https://vimeo.com/album/3770462/video/153466732>
6. HDFI: <https://vimeo.com/153466737>
7. Tahoe Living Greens: <https://vimeo.com/album/3770462/video/153466734>
8. Organics: <https://vimeo.com/album/3770462/video/153466729>

The project lead and/or the videographer liaised directly with each specialty crop farmer or producer to share pertinent information and find a date and time to film. Over the summer of 2015, and after scripting each film before the visit, the project lead and/or videographer headed out to each of the 8 farms or production facilities and spent a few hours getting beautiful footage asking a series of guided questions with all the farmers or producers.

In the Fall of 2015, the videographer and project manager entered the studio and edited and finalized all 8 films, working in tandem to ensure the content was not only just visually pleasing but also informative and impactful in order to best tell each farmers’ story.

After the roll out in store throughout late 2015 and the first half of 2016 were completed, a launch event and press campaign (part of Phase II under 14-SCBGP-NV-0032, details highlighted below) was coordinated. We uploaded all eight films to the Co-op’s Vimeo page as well as shared in the Co-op’s marketing outlets i.e. website, monthly, and newsletter social media like Facebook throughout the fall of 2015. Finally, we emailed each farmer and/or producer their film after all the organization was finalized. In addition, the NDA promoted the

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videos through social media campaigns, primarily consisting of Facebook.

The funds allocated were used to create videos that told the story of the farmer and producer and because the videos only featured either solely specialty crop items or products made with a majority of specialty crop ingredients and pre-approved by the Nevada Department of Agriculture's contact person, we were able to follow the specialty crop allowance requirements.

### Promotion strategy summary

Although the strategies used for promotional activities was slightly adjusted during the project, the goal remained the same: video views to raise awareness of local farmers. The original goal was to reach 50,000 people; however, reach does not ensure the person who saw the ad watched the video. The metrics provided are in video views, which provides more accurate data.

We used targeted boosted posts (paid advertising) on Facebook, Instagram and Twitter to secure 67,818 video views between June 1 and September 30, 2017.

In addition, advertisements and sponsored content were used in targeted online and print publications to maximize awareness, resulting in an additional 68,183 views and 272,046 additional impressions (views of advertisements).

### Total video views online – 136,001

#### Total video views on NDA platforms – 67,818

*Video views do not necessarily indicate **people reached**, as one person could have viewed the video more than once but are the best measurement of the objectives of the campaign.*

- YouTube (no advertising money was used here) – 845
- Facebook (Buy Nevada and NDA Facebook pages) – 47,473
- Instagram – 2,308
- Twitter – 17,192

#### ediblerenotahoe.com –

- 2,500 additional impressions
- 4,400 unique website visits

#### Reno Memo e-newsletter –

- 68 additional views
- 15,817 additional impressions

#### thisisreno.com –

- 68,115 additional video views
- 153,729 additional impressions

### Print impressions – *Edible Reno-Tahoe* magazine –

- Campaign exposure to an additional 100,000 readers

### **Goals and Outcomes**

**NDA promotional Activities resulted in the following:**

**Total video views online – 136,001**

#### **Total video views on NDA platforms – 67,818**

*Video views do not necessarily indicate **people reached**, as one person could have viewed the video more than once but are the best measurement of the objectives of the campaign.*

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#### **thisisreno.com –**

- 68,115 additional video views
- 153,729 additional impressions

#### **Print impressions – *Edible Reno-Tahoe* magazine –**

- Campaign exposure to an additional 100,000 readers

### **Neon Agency Marketing Activities**

To ensure an increase in specialty crop production awareness for the eight operations, Neon Agency also followed through with marketing steps as well as added the demo idea to the campaign.

Information about the Meet Your Farmer App was also sent out in two Co-op e-newsletters with a reach of more than 5,000 and an open rate of on average more than 22% and linked to the Co-op's Facebook page, which has more than 11,000 likes. We also printed 500 brochures and handed out every single one of them in the six-month duration.

The Co-op's Food Hub program, DROPP, sent out links to the videos in their weekly emails over the harvest period of 2016 to farmers and community partners alike. This list is in the upper hundreds and is a target demographic in regards to restaurants who are already sourcing food locally or who have expressed interest over the past couple years.

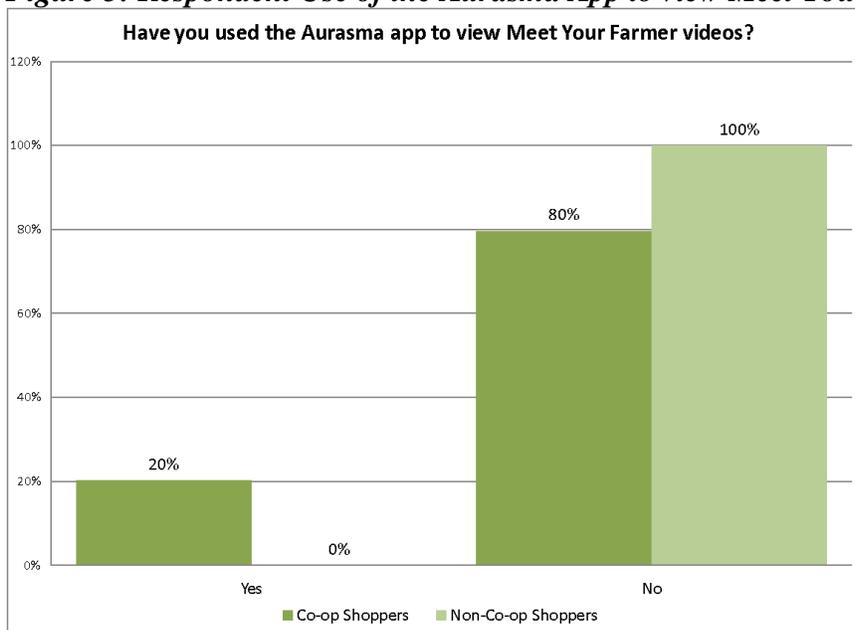
People were interested in the videos and though the app was incredibly novel, we noticed they were more keen to spend their time watching the videos on in-store devices than downloading the app on their phones. With this learning in mind, we decided to do in-store demos each after the launch twice a month for 6 months and the following information was collated:

- 180 watched at least one film with the demo representative
- 22 downloaded the app with the demo representative
- 30 people already had the app downloaded
- 89 emails were collected to send the survey to digitally since some people didn't have the time to fill out at the store.

As a result of all the above actions, the Meet Your Farmer videos have been played collectively over a thousand times according to our Vimeo page!

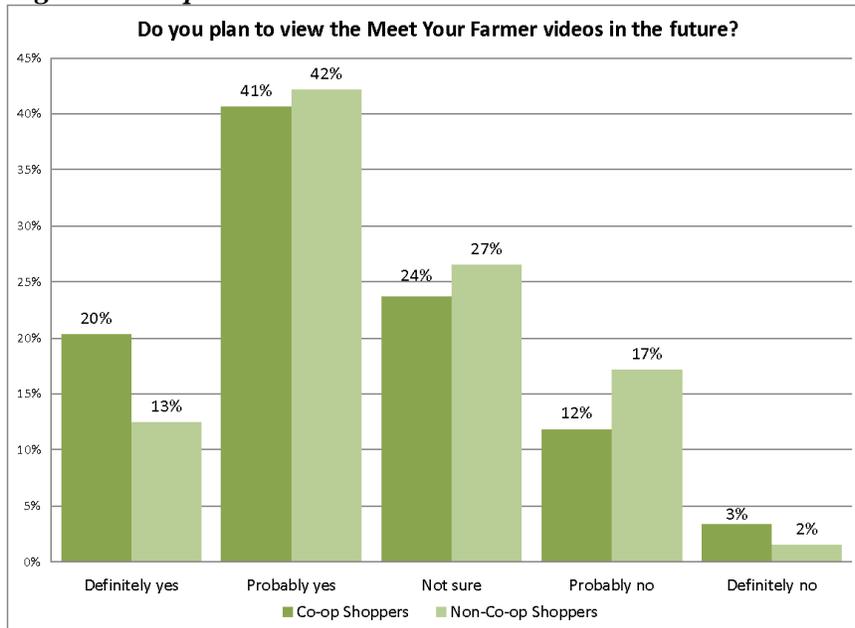
Also under the final report for the Meet Your Farmer App Project, a 6 month in-store Meet Your Farmer consumer research survey was created, disseminated, and analysed. See below for metrics on increased awareness of who our local farmer and producers are in Northern Nevada!

**Figure 5: Respondent Use of the Aurasma App to view Meet Your Farmer Videos**



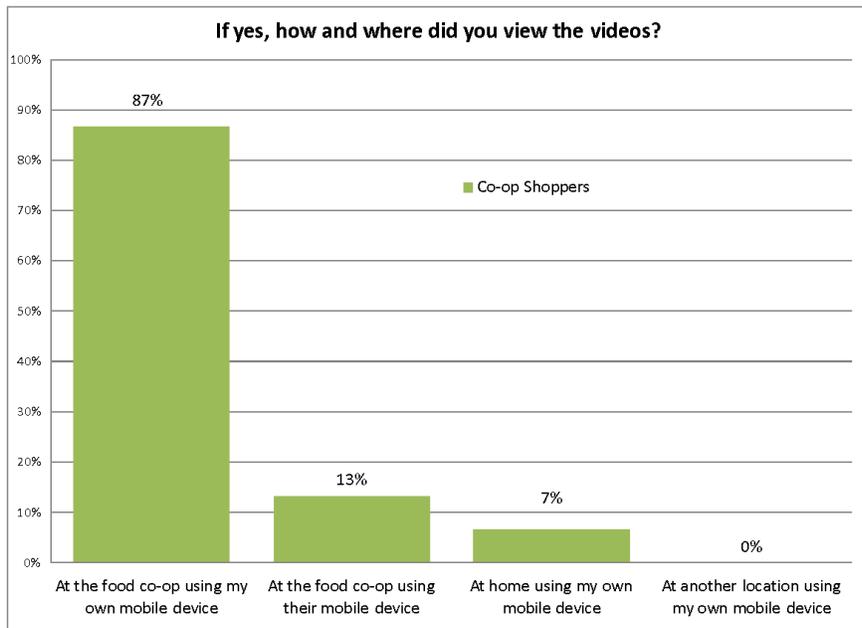
Respondents were asked whether they had used the Aurasma app to view the Meet Your Farmer videos (Figure 5). While none of the non-Co-op shoppers had used the app, 20% (15 respondents) of Co-op shoppers had used the app to view the videos.

**Figure 6: Respondents Plans to View Meet Your Farmer Videos in the Future**



The 123 respondents who had not used the app to view the videos were asked whether they intended to do so in the future (Figure 6). As would be expected, more Co-op shoppers overall indicated they would view the videos in the future, with stronger positivity, although only 15% of Co-op shoppers and 19% of non-Co-op shoppers indicated they were unlikely to view the videos in the future.

**Figure 7: How and Where Respondent Viewed Meet Your Farmer Videos**



*Respondents who had viewed the video were asked how and where they had done so (Figure 7.) The vast majority of respondents had viewed the videos at the Co-op using their own mobile device, while a smaller percentage had used the Co-op’s mobile device and one respondent had viewed the video at home using their own device. This one response may be questionable, as at the time of launch of the program the videos were only available to view in the store, although over the course of the survey changes to the program were discussed and possibly implemented.*

**Table 11: Ranking of Appeal of Meet Your Farmer Video Attributes**

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When viewing the Meet Your Farmer videos, which of the following attributes appealed to you?		
Attribute	Percent	Number
Seeing the farmer	73%	11
Seeing the farm family	73%	11
Seeing the farm	73%	11
Seeing products growing	73%	11
Learning about the farm	60%	9
Learning about the production process	60%	9
Learning about the farmer	47%	7
Hearing a story about the farmer/farm	40%	6
Seeing the animals/bees	27%	4
Learning the farmer's favorite product	20%	3
Other (please specify)	0%	0

*Respondents who had viewed the videos were asked to describe which attributes of the videos had appealed to them (Table 11). The majority of respondents, 73% each, indicated that seeing the farmer, seeing the farm family, seeing the farm and seeing the products growing appealed to them; while 60% each indicated that learning about the farm and learning about the production process appealed to them. Less than half of respondents, 47%, indicated that learning about the farmer appealed to them, while 40% enjoyed hearing a story about the farm, 27% enjoyed seeing the animals present in the background or bees and 20% enjoyed learning about the farmer’s favorite product. It should be noted that because this project was funded through a Specialty Crop Block Grant, the focus was on specialty crops rather than animal products so any animals that were included in the videos were as a side note on diversified farms that produce both crops and animals (although bees were included as part of honey producers’ videos). Additionally, not all videos included the farmer discussing his or her favorite product. No respondents wrote in an “other” video attribute that they enjoyed.*

## Lessons Learned

- In regards to filming, a conclusion gleaned in terms of time management was scheduling with farmers and producers took slightly longer than expected with unpredictable weather contributing to a couple rescheduled shoots.
- One outstanding, favorable development was that the farmers came across really likeable on camera naturally lighting up when talking about their story, passion, and livelihood.
- Some of the unusual developments were getting creative with the camera work if there were rows or parcels of land that had been harvested or were laying fallow. Capturing the personality of the farms was made a little more interesting through the use of a drone camera the videographer brought to many of the locations.
- The launch date was perhaps a month too late as the abundance of local specialty crop produce dipped when in mid-October of 2015, there was wintry weather.
- Some of the farmers didn't have the capacity to share their film because they didn't have a website or social media presence or because of common time constraints that many small scale businesses experience (although this could also be a lack of understanding the importance of telling their story). Some farmers seemed to feel shy in sharing their film so having an outside organization help market the project was more impactful than individual posts on farmer's marketing channels. The local producers were more keen to get their film as soon as possible and share on Facebook.
- Since our goal of reaching 10% of the Co-op's unique shoppers (300) was not reached (roughly only half that at ~150) survey participants, an incentive could have been awarded to each survey answered instead of three larger gift cards as a raffle. Secondly perhaps at a bigger location with more footfall as well as aisle room and parking, more participants would have been accumulated!

## Future Project Plans

The capturing of the eight videos has been completed and the future project plans will be geared around promotion through social media.

## Project Title

Nevada Pumpkin Variety Field Trial

## Project Summary

This is the final report on the collaborative effort to organize and facilitate a comprehensive field study to identify viable varieties of pumpkins that will prosper in Nevada's climate, soil conditions, growing season, and offer resistance to pests and diseases. Due to a multitude of variables from not only region to region, but from test plot to test plot, the study was not able to identify a specific variety or two that would be universally successful across the state. However, several varieties were identified that excelled by specific region and individual plot location. The ultimate conclusion of this study is that a few varieties were identified that should be considered when growing pumpkins in the northern and western regions of Nevada, but each

farm will need to conduct their own variety trial over several seasons to ultimately find the varieties that work best for their specific situation.

## **Background**

The purpose of this project was to identify factors that would increase pumpkin production in the State of Nevada by conducting a study to identify pumpkin varieties and cultural practices that would prosper in local climate, soil conditions, growing season and historical pests and diseases. All commercial pumpkin producers in the State of Nevada were invited to participate in this study, be it through providing historical data, recommendations for study guidelines, and/or hosting a test plot location. Mr. Jay Davison, Alternative Crop Specialist, University of Nevada Cooperative Extension, was solicited to oversee the variety trials and provide technical support.

Three farms agreed to host and facilitate a test plot.

- Andelin Family Farm, Sparks
- Lattin Farms, Fallon
- Lazy P Adventure Farm, Winnemucca

All of these farms have extensive agri-tourism venues in which pumpkins are a key element of their operation. Agricultural tourism or “agri-tourism” is defined as “a commercial enterprise at a working farm, ranch or agricultural plant conducted for the enjoyment or education of visitors, and that generates supplemental income for the owner”. Agricultural tourism is one of the fastest-growing trends in the travel entertainment industry. Agritourism, including “pick your own” farms, provide customers with the opportunity to pick their own produce at a savings to both the customer and the farmer, who would normally have to pay the labor involved. At the same time, the business can offer visitors an education in agriculture, including how crops are grown, and which crops thrive best in a given climate. In addition to pick your own, many farmers sell their produce right on the farm, either through simple stands or through larger-scale country markets to entice visitors with the concept of one-stop produce shopping in a simpler setting.

Today, most family farms face serious economic challengers. Their earnings on commodities and livestock may not even cover production costs. But farmers who choose to sell directly to the public through fruit stands, farmers markets and also during special farm activities organized for visitors, find that they can continue farming and make a profit. Agritourism is actually saving thousands of small farms from extinction.

Families today are looking for new experiences. Parents want their children to know how food is grown and that eggs actually come from a chicken-not a carton. Families enjoy a drive to the farm and spending time together in a wholesome, educational setting.

U-pick pumpkin patches are a popular attraction for agritourism and specialty crop operations. Families are attracted by and enjoy spending quality time picking out just the perfect pumpkin. An increasing number of farms in Nevada are choosing to take on the challenge to create on-farm experiences using pumpkins to meet their overall consumer appeal and revenue needs. Our

research found that while a few farms have happened on pumpkin varieties that work for them, many are struggling to produce sufficient quantities of quality pumpkins to meet their growing demands. With hundreds of pumpkin varieties available, finding the varieties that will excel in our area has been a slow and challenging process. Most of the growers have or are currently experiencing some level of crop failure, requiring the import of pumpkins from either other Nevada producers or in most cases out-of-state.

The goal was that with proper research and education, specific varieties and cultural practices might be identified that would not only meet the needs and demands of each of the Nevada producers, but allow them to actually expand their production to provide pumpkins to other Nevada non-farm outlets that are currently purchasing pumpkins from out-of-state. This added productivity would generate much needed additional revenue helping to improve the viability of the small Nevada farm.

### **Project Approach**

Phase I-The first phase of the project included identifying stakeholders and information gathering. Over 10 farms were identified and solicited to assist in the development of parameters and goals for the study. Information gathering was facilitated through the use of an online questionnaire. Participants provide answers to 21 questions related to their personal pumpkin growing experiences and concerns.

Phase II-The second phase of the project included reviewing the results of the questionnaire and developing the actual parameters and goals of the study. Areas of study included:

Variety Characteristics-Six pumpkin characteristics were identified as being important to the production and resale of pumpkins.

- Number of fruits produced
- Weight/size of fruits
- Shape (true to variety)
- Color (true to variety)
- Peduncle (stem/handle)
- Seed treatment effects (treated VS non-treated seed)

Pumpkin Varieties-The evaluation of 10 pumpkin varieties over two growing seasons  
2015

- Gladiator (T)
- Gladiator (U)
- Neon (T)
- Pumpkin Pie (U)
- Cinnamon girl (U)
- Chronus (T)
- Chronus (U)

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- Field trip (T)
- Field trip (U)
- Sorcerer (T)

2016

- Gladiator (T)
- Gladiator (U)
- Neon (T)
- Pumpkin Pie (U)
- Cinnamon girl (U)
- Chronus (T)
- Field trip (T)
- Field trip (U)
- Sorcerer (T)
- Majic wand

Pumpkin variety trial locations

- Lazy P Adventure Farm-Winnemucca, Nevada (Kim Petersen)
- Lattin Farms-Fallon, Nevada (Rick Lattin)
- Andelin Family Farm-Sparks, Nevada (Cameron Andelin)

Pumpkin planting matrix-It was determined that the planting matrix (plot) would consist of four rows containing seeds from each of the 10 varieties planted in a random order in each row. The varieties would be planted 3 feet apart within the rows, with 3 seeds planted at each location.

Phase III-The third phase of the study was data collection-It was determined that each farm would plant the seeds as described, maintain the plants and collect the data. The data was then tabulated by Mr. Jason Davison, Crop Specialist, NV Cooperative Extension.

### Measurable Outcomes

1. Increase net income potential for Nevada Pumpkin farmers by providing farmers data on high yield pumpkin varieties suitable or Nevada locations.
2. Reduction in crop failures on existing pumpkin farms.
3. Additional proven variety information provided to and adopted by Nevada farmers.

There were many unanticipated issues that arose that made it very difficult to obtain good consistent data, not only at a single farm, but at all three locations and from year to year. These issues included drought, soil conditions, seed contamination, pests, and fungal diseases.

Planting/harvest-Planting was consistent at all three locations and occurred the second week of June. Pumpkin harvest ranged from the middle of September to the first week of October. Quantity and number/weight of pumpkin fruit harvested was all over the board. Again, they varied not only at a single farm from year to year, but from farm to farm.

Information dissemination-The final results of the Nevada Pumpkin Variety Trials was presented during a secession of the 2017 Nevada Small Farm Conference, Sparks, Nevada where 200 Nevada farmers are invited to attend. An estimated 50 participants were present for the session with 35 completing session evaluations. Evaluations indicated that 64.8% of participants intended to use the information within the next 2 years, 73.6% indicated that they would use the information/skills presented for their operation or job, and 78.4% presented an increase in understanding of the topic after the session was held.

## Results

### Pumpkin attributes

- Peduncle-All farms reported all pumpkin varieties had “handles” present
- Color- All farms reported that all pumpkin varieties color was good/acceptable with minor variations
- Shape-All farms reported shapes were acceptable for all pumpkin varieties
- Treated vs untreated-no discernible difference between treated and untreated seed

Best varieties (total fruit)-The best varieties (total fruit)-in western Nevada look to be: Pumpkin pie, Cinnamon girl and Field trip. The best varieties (total fruit)- in northern Nevada look to be: Cinnamon girl, Gladiator, Field trip, Sorcerer and Pumpkin pie.

Best varieties (total weight)-The best varieties (total weight) in western Nevada look to be: Chronus, Magic wand and Sorcerer. The best varieties (total weight) northern Nevada look to be: Chronus, Gladiator (T) and Gladiator (U).

## Lessons Learned

- Large production differences between years
- Very large production differences between western and northern Nevada
- Pumpkins susceptible to weed pressure, squash bugs and fungal diseases
- Each farm will need to conduct their own variety trial over several seasons to ultimately find the varieties that work best for their specific situation.

Although the trial outcomes were not as anticipated, this does demonstrate that there are various varieties that perform well in Northern Nevada creating ongoing opportunities for growers. This trial allowed for the demand and feasibility of an array of pumpkin varieties to be presented at the Nevada Small Farms Conference, further encouraging new growers. There is significant demand for pumpkins, particularly by agritourism operations. The variety trial information was shared so other growers are able to determine effectively and efficiently which varieties perform well and are in demand in their area. This will anecdotally increase income for pumpkin producers and promote success of future producers. This will also in the long-term reduce crop failures as individual operations are able to assess what varieties work well for them. In this case three growers were able to identify best varieties aforementioned.

### **Contact Information**

Kim Petersen, Project Coordinator

[petersen@wmca.net](mailto:petersen@wmca.net)

### **Project Title**

Growing to Share at Heritage Park Gardens

### **Project Summary**

The project was to provide for the expansion of Heritage Park Gardens, a community garden project of Main Street Gardnerville that received previous support through the SCBGP, to include 5 additional growing beds for 5 families each year for 3 years who were involved with the local Getting Ahead Alliance associated with the “Bridges out of Poverty” movement. The purpose of the project was to allow parents and their children to grow and use specialty crops by providing growing spaces in Heritage Park Gardens to underserved and underprivileged families who struggle to maintain healthy eating habits. The objectives of Heritage Park Gardens is to offer a place to learn, grow, share and beautify in addition to increasing nutrition knowledge and consumption of specialty crops in the community.

By learning to grow their own crops, families would have a fresh and healthy food source, improve their nutrition, be exposed to a wider variety of specialty crops in their diet and share/learn ways to prepare healthy foods. Participants were tasked with creating an annual recipe book to be disseminated to the community in order to learn different ways garden products can be used. They also were tasked with sharing their surplus with neighbors and the local Food Closet, in an effort to increase awareness to others in the underserved community on the benefits of growing and eating healthy. The Main Street Gardnerville Program Corporation and town of Gardnerville collaborated in the creation of Heritage Parks Gardens.

### **Project Approach**

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Project Activity	Who	Timeline	Report
Review and update information package on growing specialty crops	“Growing to Share” Steering Committee and Carol Sandmeier	February-March 2016/2017	<b>Completed in March 2016.</b>
Order supplies for garden journals/information package, hand tools, bags & supplies	Carol Sandmeier, MSG Program Manager	February-March 2016/2017	<b>Completed in March 2016. Completed in March 2017.</b>
Perform maintenance work and prepare raised beds for new season (e.g. order/add soil amendments, repair fence/irrigation as needed)	“Growing to Share” Steering Committee, Heritage Park Gardens Committee, MSG Volunteers	March-May 2016/2017	<b>2016: Scheduled monthly Saturday workdays to prep gardens for planting. 2017: Scheduled Wednesday evenings prep &amp; maintain gardens</b>
Hold pre-planting workshop with five families growing specialty crops at Heritage Park Gardens (Goal 1); conduct knowledge evaluations	“Growing to Share” Steering Committee and Carol Sandmeier	February-April 2016/2017	<b>2016; The Steering Committee met in February, April, June and September to review project. Did an orientation in the gardens and distributed paperwork on April 23, 2016. Volunteers also set up an informational table at the local Food Closet for 2 days to recruit new people. Ms. Sandmeier followed up with those signed up to have them re-state their commitment to the project and a few backed out. 2017: We worked with 9 families Fuerza Latinas Group within Partnership of Community Resources.</b>
Order plant seeds/starters	Carol Sandmeier, “Growing to Share” Steering Committee, MSG Program Manager	March-June 2016/2017	<b>2016; They ended up not ordering seeds/starters but rather went to the local nursery to make selections and purchases. The volunteer mentors and participants scheduled several “shopping trips” beginning on April 14, 2016. 2017: Five representatives went shopping for seeds and starter plants with mentor, Carol Sandmeier</b>
Hold “Open House” event at Heritage Park Gardens (Goal 4)	Heritage Park Gardens, MSG Program Manager, “Growing to Share” Steering Committee	May 2016/2017	<b>2016: Held the open house event on May 21, 2016. 100-150 members of the community attended. 2017: Held an Earth day event in April 2017 and an Open House and Plant Fair in May 2017. See attached flyers. Leftover plants from sale went to the Sharing Gardens.</b>

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Assist in planting and growing specialty crops during the growing season (Goal 2)	“Growing to Share” Steering Committee, Heritage Park Gardens Committee	May-September 2016/2017	<b>2016: Mentors assisted the participants on an “as needed” basis. The mentors also monitored the progress, staying in contact with the participants.</b> <b>2017: 2016: Carol Sandmeier, acting mentor, assisted the participants on an “as needed” basis. The mentor also monitored the progress, staying in contact with the participants.</b>
Promote “Produce Baskets” at various events hosted by Main Street Gardnerville (Goal 3)	Heritage Park Gardens, MSG Program Manager, “Growing to Share” Steering Committee	June-September 2015	<b>2016: Participants shared what they grew with their neighbors but there wasn’t a surplus to share at the Fall Festival. They made donations to the food closet.</b> <b>2017: Participants shared what they grew by donating 50lbs to the local food closet.</b>
Create/publish a recipe booklet; order/distribute Hard Copies (Goal 5)	Carol Sandmeier, “Growing to Share” Steering Committee	June-September 2016/2017	<b>2016: We started collecting recipes in September through the rest of the year. We will add to the existing cookbook to distribute at the next spring event.</b> <b>2017: Collected 7 new recipes to add to our cookbook and will distribute to the food closet and at our future events.</b>
Hold “Fall Harvest Festival” at Heritage Park Gardens	Heritage Park Gardens, MSG Program Manager, “Growing to Share” Steering Committee	September 2016/2017	<b>2016: Held this event on October 1, 2016. Flyer attached. Good attendance from Sharing Garden people. Picture from Carol.</b> <b>2017: Held this event on October 6, 2017. Flyer attached. Good attendance.</b>
Send out a survey on specialty crop consumption	“Growing to Share” Steering Committee, MSG Program Manager	September-October 2016/2017	<b>2016: Ms. Sandmeier will be calling each group/family to conduct survey. Survey questions attached.</b> <b>2017: Nazir Torres, Fuerza Latina coordinator, conducted survey see attached.</b>
Conduct annual project review/evaluation with participating families	“Growing to Share” Steering Committee, MSG Program Manager	October 2016/2017	<b>2016: Completed in November.</b> <b>2017: Completed survey in October 2017</b>
Compile and summarize evaluation/survey results	“Growing to Share” Steering Committee, MSG Program Manager	October-November 2016/2017	<b>2016: Completed in November – December.</b> <b>2017: Completed in October</b>

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Prepare and submit annual report	MSG Program Manager	November-December 2017	<b>2016: Compiled in November and December. Submitted Dec. 8, 2016. 2017: Compiled in October for the November due date</b>
Prepare and submit final report	MSG Program Manager	November-December 2017	<b>2017: November 2017</b>

### Goals and Outcomes Achieved

In 2017 we increased the number of families growing in the program from 5 people to 9 families with children from the “Fuerza Latinas” group organized by the Partnership of Community Resources. Volunteer hours went up to 619.5 hours from 318 in 2016 as a result, and an estimated 50 pounds of surplus produce was donated to the Food Closet. Fifty cookbooks were distributed through the garden events and the Food Closet, and an additional 7 recipes are being added from this year’s group for distribution in the coming year.

We found that having a single mentor and working with an organized group with a coordinator was much more successful than working with individuals paired with an individual mentor.

During the first year we had individual clients of the Food Closet and Social Services paired with individual mentors. Some did well, while other clients abandoned the project part way through due to illness, job scheduling changes, loss of transportation and divorce. The mentors greatly struggled with getting participants to complete evaluations.

For the second year more effort was made to screen the clients to make sure they better understood the commitment expected. Volunteers staffed a booth for 3 days at the Food Closet to talk to the clients, explain what was required, and answer their questions. Fourteen signed up, but only 5 showed up for orientation. Six families connected with the Partnership of Community Resources “Fuerzas Latinas” group, under their coordinator Neyzer Reyes, were among those who eventually took part that year.

The third year we had 9 families from the Fuerzas Latinas working together cooperatively coordinating/mentoring together. The garden plots were more successful, but doing any kind of written evaluations was difficult due to the language and literacy issues in the group, so Neyzer did most of the evaluating via conversation.

1. *“Increase in nutritional knowledge by 25% by providing a nutrition workshop to participating families. Its success is measured by comparing pre-workshop and post-workshop knowledge evaluation results. These evaluations will be conducted annually and summarized for three-year project period. Please report the evaluation outcomes.”*

Every group started with an orientation meeting where a laminated nutrition wheel, provided by the wellness department of our local hospital, was distributed and discussed. They were also given handouts from the Cooperative Extension, which Neyzer translated for her group, listing a

variety of specialty crops suitable to our area and when to plant and harvest them. This was discussed and used as they made plans for what they wanted to grow in their plot. As I mentioned, literacy and language made written evaluations difficult, but Neyzer reports that at the end of the season the participants reported to her that they felt they had increased their nutritional knowledge and were making small changes in their diet. (The group also wants to continue gardening with us next year).

*2. “Improve knowledge of specialty crop growing techniques by 25% by providing information package and hands-on experience. Its success is measured by comparing pre-planting and post-growing season knowledge evaluation results. These evaluations will be conducted annually and summarized for the 3 year project period. Garden journal will be reviewed periodically during the growing season each year to monitor progress.”*

The first two years participants were given journals at orientation, but getting them to actually write in them was unsuccessful. Because everyone worked different days and hours, participants were coming and going at different times and only contacted their mentors if they had a problem or question for them, so getting them to comply was difficult. The 3rd year group, where many were Spanish speakers and literacy was not high, received a packet of translated handouts to help guide them through the process, rather than a journal. They were also taught all the English words for the vegetables on the special crops list.

Mentors confirmed that the group that started in the 2nd year and continued into the 3rd definitely learned more about good gardening techniques. The 2nd year harvest was smaller due to weather issues, squirrels and insect pests. The third year went better because we showed them how to use chicken wire cages and netting and row cover to protect the plants, and offered materials to do it with, and with that we saw improvement. We had some irrigation issues with the original sprayers plugging up, getting knocked over or being blocked when the plants got tall, but hoses were available and they watered by hand when needed. We plan to switch all the growing beds to drip tubing this year.

*3. Expand food access to Douglas County’s underserved community by selling at least 10 “produce baskets” each year. Its success is measured by the number of baskets sold each year. This funding will be reinvested into the garden project.*

The first year we sold all 10 baskets at our Harvest Festival. The 2nd year there was not enough good produce to make up the baskets - everything had been harvested, destroyed by pests, or froze well before the event. The 3rd year the 9 families consumed most of the produce grown in their own beds and dedicated one bed to grow for the Food Closet. The Food Closet bed was harvested throughout the Summer and Fall and approximately 50 pounds of produce was donated. This worked much better because we weren’t at the mercy of the weather and the timing of an event in order to sell baskets.

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4. *“Increase awareness of variety of locally available vegetables and fruits in local community by 25%. Its success is measured by open house attendance and number of handouts distributed at special events held at the garden”*

We generally have 3 events per year in April, May and October. Attendance at the the Spring events has suffered the last two years due to weather (rain and wind) and we are going to just one Spring event in May from now on. The October Harvest Fest has been growing each year, and this last year we had 150-200 people attend (105 young children were given raffle tickets for half-hourly pumpkin drawings).

At each of our events we have a table with Sharing Garden cookbooks (until they run out), gardening handouts provided by Cooperative Extension and Greenhouse Garden Center (these weren't counted before and after to see how many were taken), reference books and someone to answer gardening questions. We've also had speakers and demos on Square Foot gardening and Growing Tomatoes. All events are advertised in the local paper, with flyers around town and at the garden, and via the Main Street Gardnerville Facebook page and Biz Blast e-newsletter.

5. *“Increase consumption of specialty crops by 25% by distributing recipe booklets focused on locally available specialty crops. Its success is measured by self-assessment survey to be completed by project participants and recipe booklet recipients. A survey will be conducted annually, and its results will be compiled each year. The results of the project will be shared with specialty crop growers and other interested specialty stakeholders by preparing electronic versions of reports and making them available on Main Street Gardnerville’s website or by electronically sending to those who request a copy.”*

Each year 50 cookbooks have been put together and distributed to the Food Closet, the participants of the Sharing Garden project, and at our events and our booths at other events. A link will be put on their website for an electronic copy of the cookbook. The self-assessment survey by project participants and cookbook recipients turned out to be unworkable. The cookbooks were handed out to anyone who wanted one, with no way to identify or follow up with a survey, and as discussed above, many of our participants had language and literacy issues.

### **Beneficiaries**

Fuerza Latina group participants shared what they grew with their families and neighbors. They also made a 50lbs donation to the local food closet. Members of the community were invited to the open house and learned about local products that can be grown well in our Northern Nevada climate.

### **Lessons Learned**

Come to realize that “Life Happens” and affects the participants’ commitments to this project: Weather becomes a factor no matter how much you plan for it. We identified the need to improve irrigation and pest protection (ground squirrels were an issue). We identified the need

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to make participants feel more comfortable to get a weight receipt on food closet donations; schedule workdays at garden more conveniently around their work schedules; and finding a solution to make them more comfortable with entering the shed and using the tools. The group mentioned five beds were a bit overwhelming and would like to continue next year with only 3 beds.

In conclusion, some of the methods and measurements we planned on paper to use at the beginning turned out to be unworkable in practice. But the gist of the project, which was to expand the knowledge and use of specialty crops among participants and in the community, improve nutrition, and teach people how to grow specialty crops succeeded overall. It had its ups and downs, but at every disappointment we would re-evaluate and try to find a better way to go about accomplishing these goals. It was quite a learning experience for us, as well as the participants! We plan to continue the program and hopefully get better at it every year, and we thank you again for helping us to get it off the ground with this grant.

### Future Project Plans

Heritage Park Gardens plans to continue this program indefinitely as it continues with to be successful. The mentor and group coordinator plan to continue the program, including special work evenings for this group. And the group continues to include their children in the process.

### Contact Person

Vicki Bates  
775-790-0721  
[vrbates@charter.net](mailto:vrbates@charter.net)

### Project Title

**Fallon Specialty Crop Food Hub Integrated Distribution Platform Project**  
*Cost Estimates and Implementation of Edible Horticultural Produce (Reallocated to Fallon Specialty Crop Food Hub Integrated Distribution Platform Project & Specialty Crop Food Hub Fridays)*

### Project Summary

The need for this project was identified during the startup of the Fallon Food Hub. A database solution was necessary to better serve the Food Hub's mission to offset producer costs through aggregation, marketing, and distribution. Churchill Economics Development Authority (CEDA) had been successfully awarded a US Department of Agriculture Specialty Crop Block Grant to fund the Food Hub operations specific to specialty crops in the amount of \$85,145 in October 2015. This SCBG funded project built upon that initial award, funding a solution to that need identified in the setup of Fallon Food Hub operations. This project supported activities towards establishing a SC Food Hub Integrated Distribution Platform to expand specialty crop growers marketing and distribution opportunities, further promoting participation with the food hub from growers and consumers. The overall objective was to facilitate the process of aggregating

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specialty crops from numerous producers to be distributed to numerous business and individual buyers. A database can be easily designed to track producers, consumers, specific specialty crops and the transactions of selling and purchasing those crops, but integrating it into platform made accessible through the Food Hub's website will allow the producers to update their own quantities and consumers to place their orders online

### Project Approach

Working with producers and Food Hub staff a contractor designed and completed a functional platform for producers to update their own quantities of specialty crops, which will allow the Food Hub and its customers to place orders based in real time. The Fallon Food Hub is redesigning its website for 2018 at which time the completed platform will be fully integrated. A Producer Manual was also completed as a deliverable. Partnering organizations Nevada Grown and Western Nevada College Specialty Crop Institute provided valuable feedback in creation of the Producer Manual. The manual covers in appropriate detail all that is necessary for a producer to sell to the Fallon Food Hub for distribution through its available channels now including the Great Basin Basket CSA program. Printed copies of the manual are available for distribution through the storefront and an electronic version can be found on the website.

### Goals and Outcomes Achieved

Target: All 27 members of the Fallon Farmers Collaborative will be directed to pick up a Producer Manual at the Fallon Food Hub or download a copy through the Fallon Food Hub's website. The Ho Hum Garden Club will be directed to do the same to obtain a copy of the Producer Manual.

Producer Manuals continue to be distributed to existing producers already selling to the Fallon Food Hub and will be a major part of the Great Basin Basket CSA offseason recruitment efforts. The Fallon Food Hub/Cooperative currently has 113 members. Many of these members have already created consumer accounts for online purchases and the rest will be directed to do so with the re-launch of the Fallon Food Hub website. 13 specialty crop producers received the grower manual to assist them with selling to the Fallon Food Hub. All growers participating in the Food Hub received the manual to encourage participation in specialty crop production and sales.

### Beneficiaries

Both consumers and producers benefit from completion of this project. Once fully integrated into the Fallon Food Hub website, order fulfillment for customers will become streamlined and accurate due to real time inventory updates from producers. The orders will be available for in-store pickup or delivered in conjunction with Great Basin Basket CSA baskets, increasing the opportunity for further specialty crop purchase and consumption. While there will be a learning curve for many current producers, Producers Manuals and resulting interface become a valuable recruitment tool. Chances are too that beginning farmers, the group that benefits the most from Fallon Food Hub operations, will be more technologically savvy and take full advantage of real time inventory reporting.

## Lessons Learned

Aside from a delayed implementation due to the timing of award from remaining SCBG Project finds, complicating the initial development during height of the 2016 summer growing season, no unexpected problems occurred through the course of the project. However, because of this minor complication, the initial development occurred with input from a very small, select group of producers than originally targeted. It is believed, though, that this was beneficial at the beginning of the project because attempting to engage a larger group may have provided too much information to consider for the initial design.

## Contact

Nate Strong

[Nate@cedaattracts.com](mailto:Nate@cedaattracts.com)

## Project Title

**Specialty Crop Food Hub Fridays**

## Project Summary

Food Hub Fridays was the weekly outdoor farmers market format extending the Fallon Food Hub's ability to provide local specialty crop farmers an opportunity to sell their products directly to the public in downtown Fallon. CEDA had been successfully awarded a US Department of Agriculture Specialty Crop Block Grant to fund the Food Hub operations specific to specialty crops in the amount of \$85,145 in October 2015. The farmers market was held directly across the street from the Fallon Food Hub with objective of drawing consumers to the food hub as well as the farmers market, increasing awareness of specialty crop products sold. This SCBG funded project built upon that initial award creating a direct to consumer venue and opportunity for specialty crop farmer Food Hub vendors. The Food Hub Fridays market provided educational opportunities beyond individual discussions with the farmers. A tasting and information station was provided where the attendees / shoppers learned about the local specialty crops, their related health benefits and how to enjoy them. Weekly recipes and nutritional flyers will be available at this station. Fresh tastings and demonstrations will be held here, where attendees will be shown how to prepare the products.

## Project Approach

In 2016, the Fallon Food Hub sponsored the first year of the return of a farmers market to Fallon's historic downtown commercial corridor after several years' absence. The market was held every Friday evening, June through September, from 4 p.m. to 7 p.m. The market attracted 24 vendors, 6 of which sold specialty crops directly to the public. Funds from this award went towards promoting specialty crops that would be sold at the market. The remaining vendor promotion was funded through matching dollars. In 2017, the market returned and expanded its hours from 4 p.m. to 8 p.m. The market retained 18 vendors from the prior season, 4 of which sold specialty crops directly to the public, and added 13 vendors including 1 more specialty crop

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producer. The Fallon Food Hub remained opened during the farmers market, extending its normal Friday operations by two hours with sales significantly higher every Friday when the farmers market was on the street in front of its store. Project partners Nevada Grown and the WNC Specialty Crop Institute furnished educational material distributed during the markets, including seasonal harvest information and specialty crop recipe cards. Project partners Lahontan Valley News, Fallon Chamber of Commerce, Fallon Downtown Merchants Association and Fallon Convention and Tourism Authority used their resources to promote the farmers market. City of Fallon waived all fees associated with the Fallon Food Hub sponsored weekly event. A presentation was provided to growers on how to begin specialty crop production and marketing decisions. This presentation was delivered to encourage successful and new producers to participate in the market.

### Goals and Outcomes Achieved

While the farmer vendors retained decreased from 6 to 4 between 2016 and 2017, one new specialty crop farmer was recruited to the weekly event in 2017. The majority of in store sales at the Fallon Food Hub during market hours were seasonal, specialty crops, with farmer vendors reporting similar sales. Although some educational materials remain from both seasons, most were distributed, with seasonally appropriate recipe cards moving the most, some being depleted.

**Goal 1:** Increase availability of specialty crops within the downtown area.

Goal 1: The farmer vendors retained decreased from 6 to 4 between 2016 and 2017 and one new specialty crop farmer was recruited to the weekly event in 2017, resulting in a net loss of 1 farmer for the two seasons, not meeting the goal of increasing by 50% from 2016 to 2017.

**Goal 2:** Increase community access to healthy fresh local products

Goal 2: Sales numbers were not collected from individual vendor farmers who considered that proprietary, however, the Fallon Food Hub in store sales numbers during farmers market hours, when compared to the rest of the week were considerably higher, demonstrating the impact of the event's foot traffic on access to specialty crops.

**Goal 3:** Educate the community on the benefits of specialty crops

Goal 3: Some educational materials remained from what was allotted both seasons with most being distributed. Seasonally appropriate recipe cards moved the most with some being depleted.

### Beneficiaries

While the community, including consumers and downtown businesses, benefited from this project, the specialty crop farmers were the direct beneficiaries. Although the market netted one fewer farmer vendor from 2016 to 2017, all but two of the retained vendors and the additional farmer recruited in 2017 are beginning farmers, the group benefiting most from direct to consumer venues like this farmers market.

### Lessons Learned

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405 South 21st St.  
Sparks, NV 89431

2300 East St. Louis Ave.  
Las Vegas, NV 89104

4780 East Idaho St.  
Elko, NV 89801

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The initial year, the project had been funded with less than six weeks to mobilize and launch the initial farmers market. Delays created by that haste were avoided in 2017, including timely permitting through the City of Fallon, and the acquisition and distribution of marketing items, including advertising contracts, were completed months prior to the market's activities. The timeline established in 2107 serves as the map for a successful 2018 farmers market season.

### Contact

Nate Strong

[nate@cedaattracts.com](mailto:nate@cedaattracts.com)

### Project Title

Young Farmers and Farm Stands Initiative, Phase II

### Project Summary

The purpose of the project was to continue development of the Young Farmers and Farm Stands Initiative: a cross-curricular project that expanded and promoted school 'Farm Clubs', worked with area farmers, and assisted schools in developing student operated farm stands and CSAs. Originally, this project was going to be piloted at the Academy of Arts, Careers, and Technology (AACT) in Reno. Through approved revisions, this project took place at the Urban Roots 4<sup>th</sup> Street Teaching Farm and the Urban Teaching Farm at Renown. Urban Roots educators used curriculum established in the Young Farmers and Farm Stands Initiative (2013-2016) during lessons in schools and at the Teaching Farms. A comprehensive model for establishing and implementing a school-based Farmer's Market or Seedling Sale was developed during this second phase of Young Farmers and Farm Stands Initiative. This Farmer's Market or Seedling Sale model is now available for adoption by other Washoe County School District schools and will be used by Urban Roots as a spring time project at three elementary schools that have joined the Urban Roots Garden Classrooms program.

The need for this program was two-fold. Students have greater academic achievement when their education is hands-on and participatory, but the current academic model is based around classroom work and has little time for 'learning by doing.' There is also a rising demand for localized farming operations and markets. Despite this growing demand, available farmland and farmers are on the decline.

This project aimed to address both issues through hands-on experience with both the horticultural and business sides of agriculture. This project was based on the idea that learning should involve activities that are hands on and exercise real-world decision-making skills. Students participating in this project not only learned the basics of growing specialty crops but also planned a marketing strategy, set prices, and learned to track their expenses and revenue. Educating youth about the availability and values of specialty crop agriculture in Nevada will encourage these young people to seek out specialty crops and consider a future in agriculture.

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## Project Approach

Urban Roots conducted all-day teacher workshops, field trips to the 4<sup>th</sup> Street Teaching Farm and the Urban Teaching Farm at Renown, in-class lessons in partner schools, and workshops for student groups at the teaching farms.

Because of slow build out of our Urban Teaching Farm at Renown, Urban Roots incorporated goals of this grant into summer camp programming in 2016. The overall scope of the project did not benefit commodities other than specialty crops.

This project would not have been possible without the support and participation of the partner schools including UNR, Swope Middle School, Hug High School, Encompass High School, High Desert Montessori Middle School, and Sparks High School. The teachers and administrators at these schools gave Urban Roots educators some of their valuable class time with their students. Students also gave of their own time, attending club meetings after school. UNR students gave their Saturdays to participate.

Eighty-four public school students and 78 UNR students participated. After participation, 63% of UNR students and 53% of K-12 students indicated an increased interest in specialty crops. Seventy-two percent of the public school students completing at least five hours of programming indicated an increase in at least one of three areas 1) knowledge of specialty crops and the farm stand management, 2) interest in pursuing agriculture, especially small farm agriculture geared toward specialty crop production, or 3) interest in learning more about attending the University of Nevada's College of Agriculture, Biotechnology, and Natural Resources.

Conducting lessons, offering workshops and field trips to students is an important aspect to building student 'buy in' to a successful school garden program. Helping students to put together a Farmer's Market or Seedling Sale is a great way to give students tangible to do's and measurable outcomes for success. We found that providing teacher trainings, meeting with parents, and building larger community support is an essential part of a Farmer's Market or Seedling Sale. While students can do most of the work of the planning and implementing these projects, having adult support to offer suggestions or refocus energies is important to keeping the group moving forward.

We also found the even when students can't quite complete a Farmer's Market or Seedling Sale, the lessons learned from the planning stages is valuable. Students were able to move past their discouragement and have been making plans for the following year.

## Goals and Outcomes Achieved

Originally, our first outcome was written to 'further develop farming space established in the previous year' as 'young people with knowledge and experience grow exclusively specialty crops.' Urban Roots proposed to accomplish and measure this through increased involvement in school farm stands, enrollment in CABNR and FarmCorps memberships. We included development of the Renown Teaching Farm at the conclusion of the first grant year as an avenue

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to increase student participation in the project. We received approval in November 2016 to revise this outcome to the following:

*Outcome #1: Urban Roots will offer hands-on project-based educational opportunities to high school and college groups to engage them in specialty crop production at the Urban Roots 4<sup>th</sup> Street Teaching Farm and the Renown Urban Farm. Workshops will train these young people on techniques for effective specialty crop production along with sharing avenues for procuring specialty crops on their own e.g. farmer's markets and local farm stands. **In 2017, Urban Roots will offer three of these opportunities and expects to serve 75 high school and college-aged participants. Participants will complete a post-survey to measure changes in knowledge and interest in specialty crops.***

In 2017, the Urban Teaching Farm at Renown was completed and programs began there in the May. Prior to May 2017, programs took place at schools or at the 4<sup>th</sup> Street Teaching Farm.

In February 26 members of the F.A.R.M.H.O.U.S.E fraternity and Lambda Psi Rho met at the 4<sup>th</sup> Street Teaching Farm to participate in hands on activities to prepare the farm for the upcoming growing season. They learned about compost and soil amendment application and direct seeded basil, beets, carrots, chervil, and cilantro in one of our hoop houses. They also learned about transplanting and helped to transplant chard, fennel, kale, various lettuces, and onions. In post surveys, 62% expressed an increased interest in specialty crops such as the ones that they worked with during the workshop.

In March 29 members of Circle K met at the 4<sup>th</sup> Street Teaching Farm to continue spring farm preparation. Participants transplanted crops from the previous workshop along with direct seeding garlic and peas in various outdoor garden beds. Members learned about cool season versus warm season crops and details about how and why to plant some crops inside to transplant later versus crops that should be direct seeded. In post surveys, 54% expressed an increased interest in specialty crops.

As of June, 23 members of Student Nutrition Association met at the Urban Teaching Farm at Renown to assist with planting cucumbers, beets, carrots, and lettuces in raised beds inside of the newly completed hoop houses. 71% of these participants reported an increased interest in specialty crops after this workshop. These members have furthered their engagement with Urban Roots and now volunteer with the organization and are adopting one of our school gardens for the current school year.

We served 78 college students through hands-on specialty crop focused workshops with an average of 62.3% expressing an increased interest in specialty crops.

Our second outcome was originally focused on a student run farm stand specifically at the Academy of Arts, Careers, and Technology (AACT). That school was no longer able to

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participate so the outcome was rewritten in November of 2016 to clarify how this outcome could be achieved without that specific school. This outcome now reads:

*Outcome #2: Urban Roots will work with public schools to provide programming with a goal of creating a farm or garden club and farm stand (or other plant distribution system) at the school. Programming will include lessons focused on how to grow specialty crops and how to begin and manage a farm stand. Urban Roots has a target to introduce this program into two school in the spring of 2017. Student participation will be tracked with a sign in sheet and Urban Roots will work with students to measure produce distribution through the farm stand. To assist with sustainability of the project at the school, Urban Roots will also offer teacher workshops, student field trips, farmer partnerships with schools, and presentations to engage families in the farm club and/or farm stand. Urban Roots will track each of these for each school and report on attendance and participation in each aspect of the programming. **Target: 75 students will participate and at least 50% will show an increased interest in specialty crops.***

Urban Roots worked with several schools on this project. Each school came into the program with different levels of garden experience and ended with varying levels of success. Hug High School, Sparks High School, Swope Middle School, High Desert Montessori, and Encompass High School (total 84 students) participated at some level. Urban Roots Educators spent the most time with students from Hug HS, Swope MS, and Encompass HS. Students from Sparks HS and Encompass spent time at our farm rather than having educators in their classroom. Educators led lessons at High Desert MS with students interested in a garden club. Most of these schools did not make much progress towards a farm stand but the students at all of these schools were introduced to specialty crops and began gardens in the spring of 2017. Swope MS and Sparks HS made the most progress towards forming some sort of a garden club and incorporating specialty crop lessons into their activities.

Swope in particular made progress towards a Farm Stand but was unable to keep plants alive because of light and water issues over the weekend. Students formed marketing, finance, and leadership teams and worked to set prices, make flyers & signs, chose a distribution system, and picked a date for a seedling sale. While the students were not able to execute the full seedling sale, the program built considerable enthusiasm and helped to work out some of the issues with the garden at the school. In post surveys with all 84 students, 53% expressed an increased interest in specialty crops.

Urban Roots also presented to staff and PTA groups at three schools and engaged a total of 17 parents and 32 staff through a sign up/volunteer program.

In 2017, we also offered two teacher workshops and invited teachers from participating schools. Twenty-nine teachers attended the workshops. These both included resources and discussion about what to do with produce and seedling sales.

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Finally, Urban Roots sought to increase interest in specialty crop agriculture as a career. We originally sought to measure this through increased enrollment in CABNR and our FarmCorps program. These were very long-term goals with intrinsic difficulties in measuring and attributing gains to this program. In November 2016, we revised this outcome to state:

*Outcome #2: Students participating in farm club/farm stand programming will complete pre and post surveys that will measure changes in three areas; 1) knowledge of specialty crops and the farm stand management, 2) interest in pursuing agriculture, especially small farm agriculture geared toward specialty crop production, and 3) interest in learning more about attending the University of Nevada's College of Agriculture, Biotechnology, and Natural Resources. To 'complete' a program, a student must participate in at least five hours of instruction from Urban Roots educators.*

As stated in Outcome #2, 84 students participated in the program. Seventy-eight of those students completed at least five hours of programming. Of those, 56 students or 72% expressed an increase in at least one of the three indicators identified in the outcome.

Urban Roots successfully achieved the targets set for each of these outcomes. We were able to expand the impact of this program by applying the materials and lessons learned to other aspects of our programs. In our summer camp program, we dedicated an entire week of camp to a 'Farmer's Market' theme. Ten campers aged 10-15 researched economic inputs and outputs for a farmer's market, visited both of our teaching farms and other urban farms in Reno, investigated 'competitor's' prices in local grocery stores, wrote and filmed a commercial, designed and distributed flyers, and took over the Urban Roots Facebook page for a day to advertise. Campers set their prices and handled all transactions for the market. They even considered packaging and added value goods to attract customers.

### **Beneficiaries**

Each of the UNR groups and schools that participated benefited from this program. The 78 UNR students were exposed to the basics of specialty crop agriculture. Many expressed an increased interest in specialty crops and were introduced to avenues to procure them on their own.

The 84 students at five public schools also benefited from this program. The students participated in lessons that not only helped them to better understand specialty crops but also met academic standards required in their classrooms. The school communities benefit from increased use and functionality of their garden. A funding source like a Farmer's Market or seedling sale can be one avenue to raise money for the garden. This program ensures that not only are schools working towards a successful Farmer's Market or Seedling Sale but the program is also aligned to academic content standards.

### **Lesson Learned**

Schools struggle to develop and maintain a sustainable school garden. Successful school gardens require a community to make them work in the long-term. Schools that engage and give their

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students' ownership over their school garden have the best chance of long-term success. Having a concrete project like a Seedling Sale in the spring and a Farmer's Market in the fall, give students a goal and achievable tasks to complete. Working towards this sort of project increases the ownership and 'buy in' from students thus incorporating the garden into the culture of the school. Many schools wanted the garden club to be an after-school program, but there are challenges with club attendance and consistency that come with that sort of program. Sparks HS and Swope MS both incorporated garden time into the regular school day allowing them able to make more progress with their seedling sale.

### Contact Person

Kimberly Daniel  
775-636-5105  
[kim@urgc.org](mailto:kim@urgc.org)

### Additional Information

Farmer's Market commercial <https://spark.adobe.com/video/FNkvKkafNA72v>

### Project Title

Meet Your Farmer' App – Local Restaurant Extension Project Feasibility Project Final Report

### Applicant

NEON Agency

### Project Summary

NEON Agency is enhanced the competitiveness of specialty crops region-wide by extending the existing Meet Your Farmer videos and correlating app into local restaurants. The videos and app were already administered live in the Great Basin Community Food Co-op from 2015 to 2016 with 25 Specialty Crop (SC) producers films having been produced under already awarded and successfully finalized Parent Award 12-25-B-1241 and Parent Award 14-SCBGP-NV-0032. During the previous SCBGP projects, the Neon Agency partnered with Great Basin Community Food co-op in creating a series of Meet Your Farmer videos, allowing consumers to virtually meet their farmer. Once a smart phone is pointed at the sticker, an introduction video of the farmer will automatically play on their smart phone or tablet giving the consumer a direct connection with that farmer, so they can understand where and how that product was grown and by whom. You can literally 'Meet Your Farmer!'

The app received recognition from growers, consumers, and retailers raising the question as to whether the app could further promote specialty crop growers in restaurants sourcing local produce. This project explored the feasibility of the app being used in a restaurant setting where consumers are able to taste local products and identify the product source. The concept will further encourage consumers to identify where their food comes from and to seek out local specialty crop growers.

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NOTE the farmer films as well as the app needed to view the films have already been created under a previously awarded specialty crop grant as mentioned above.

**Explanation video from original concept:** <https://vimeo.com/124348551>

### **Local Press from original successful campaign:**

<http://www.ediblerenotahoe.com/editorial/108-spring-2016/1158-sp16-ednotables-stimulating-app-etite>

<http://www.kolotv.com/home/headlines/Food-Co-Op-Celebrates-10-Years-328407151.html>

<http://thisisreno.com/2015/11/input-wanted-co-ops-meet-your-farmer-program-launches-local-food-survey/>

[http://www.mynews4.com/news/story/Reno-food-co-op-to-hold-block-party-for-10th/tuM3ZNrWo0qPieAgtj\\_glw.csp](http://www.mynews4.com/news/story/Reno-food-co-op-to-hold-block-party-for-10th/tuM3ZNrWo0qPieAgtj_glw.csp)

### **TV commercial:**

To promote the app to a wider audience we created a TV commercial that was aired during local breakfast news for 2 weeks once the app was live in-store:

<https://www.dropbox.com/s/8480m540zg83an7/Meet%20Your%20Farmer%201080%20Broadcast.mp4?dl=0>

### **Project Approach**

The Restaurant extension of the Meet Your Farmer project is a great way to use the existing Meet Your Farmer films and app to connect a whole new channel of people to our wonderful SC produce and their producers.

Since we hadn't met with the Distribution of Regional Organic Produce and Products (DROPP) (an on-line local inventory and ordering system) coordinator since 2016, we needed to update our analysis of which farms were consistently operating, and then, which restaurants were consistently ordering from these farmers. A year passed from the Meet Your Farmer original project, so we needed to carve a bit more time in reconnecting with the farmers who had videos and gathering their input as to what restaurants order directly from them and/or how often they get orders through DROPP. This step was unforeseen when the feasibility study was first created, but we were able to use the two weeks contingency included in the budget to complete this initial work.

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In order to address this issue, a survey was put together to gather up-to-date information and sent to farmers specifically to ensure we would be getting in touch with the most relevant and participatory restaurants. Twenty farmers were surveyed, fifteen completed the survey and 100% were interested in participating in the project. The survey asked two questions 1) What restaurants consistently ordered their products (if any) and 2) Did they sell through DROPP (to confirm meeting with DROPP would be beneficial to gather more precise input of restaurant purchases that were placed through DROPP and necessarily known by the farmer).

We then met twice with Nicole Sallaberry, the DROPP coordinator, to see which restaurants were ordering through their distribution outlet. At our first meeting, we went over updated farmer information as a few farms stopped producing, or in the case of Nevada Fresh Pak, stopped delivering locally. Our second meeting was used to go over sales history of the restaurants that had bought from the twenty applicable farms in 2016 and in 2017.

From here, we were able to compile 25 restaurants and create another survey to see which ones would be most interested in being a potential partner in the project. Eighteen restaurants enthusiastically responded by choosing either a Strong Interest or Very Interested response. The eighteen restaurants that were interested were either emailed, called over the phone, visited at their location, or met with over lunch or coffee to gather any additional information and/or feedback.

After analyzing the responses from the farmers, the restaurants, and the follow-up meetings with the DROPP coordinator and interested restaurants, we had gathered a substantial amount of data (consistency of orders, amount of orders, dollar totals, which SC produce was regularly consumed during the harvest season etc) to help us cross-reference and summarize which farmers might match with which restaurants. The options are rudimentary as the uncertainty of future SC production takes precedence but are helpful as based on past data as well as help create structure and ensure the project would be successful in having enough overlap of both farmers and restaurants.

Our biggest takeaway from the surveys, meetings and therefore the overall project, is that we have plenty of interest to implement a successful project, if perhaps too much interest. We were thinking a half dozen restaurants would be a realistic figure to manage, but we found that we have at least eleven restaurants Very Interested that can be paired with thirteen plus farmers once the season is underway.

This is a good problem to have as will need to follow up again with the restaurants in six months time for actual implementation and good to have an abundance of options to choose from as well as have a buffer when it comes to Specialty Crop production choices! Who knows what the year- especially the weather- will bring in 2018.

See below for potential connections between the two. This information provides a clear road map as to how the feasibility project can best and successfully be implemented:

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Restaurant	Number One Farm (if there is one that stands out)	Other Farm Options	SC Item	Notes
Coffeebar	Al's Bees	Dayton Valley Aquaponics, Avanzino, Lattin, New Harvest	Tomatoes, Honey	
Laughing Planet	Avanzino	Lots of options	Lots of Options	Use seasonally so will be easy to choose
Butter & Salt Catering	Avanzino, Ecologica, Lattin*	Lots of options	Onions, Squash, Herbs	*Think since it will be digital, we can use more than one!
Union	Custom Gardens	Desert Farming Initiative	Seasonal	
Liberty	Dayton or Pickles	Whatever is on DROPP	Seasonal	Lower on quantity, could even be pickles!
UNR	Desert Farming Initiative		Need to double check with UNR	
Thali	Ecologica	Lattin	Herbs, Cabbage, Onion	
Farm Fresh	Pleasant Valley Farms	Holley Family Farms		Wants to commit to buying more locally
Califuria	Jacob's Berry	Lattin	Berries	
Beaujolais	Jacobs Family Berry Farm		Berries	
CAMPO	Lattin	Lots of options though	Lots of Options	One of the most consistently purchasers of a wide range
Southcreek	Lattin		Cherry Tomatoes	
Chez Louie	New Harvest	Lattin, Mewaldt	Seasonal	
The Deluxe	Mary Alice Sprouts		Sprouts	
Great Full Gardens	Mary Alice Sprouts	Al's Bees, Desert Farming Initiative, Lattin		
4th Street	Mewaldt	Lots of options	Squash, Tomatoes, Corn, Shishitos	
Sharma	Nevada Fresh Pak		Cabbage	Would need to bring in a pallet?
Cheeseboard	Holley Family Farms	Mewaldt Organic Farm, New Harvest	Pea Shoots	Does not order through DROPP

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The results are encouraging as the Restaurant Extension project could result in potentially thousands more people having the opportunity to get to know their SC producers and SC produce therefore increasing the awareness, appreciation- and ultimately- demand for SC produce.

### **Project Partner**

The project lead will maintain an open and communicative relationship with the Nevada Department of Agriculture and the Distributor of Regional Produce and Products (DROPP).

### **Program Income**

No program income will be generated from this project.

### **Project Commitment**

Neon has previously worked with the Nevada Department of Agriculture and feels comfortable asking for any additional support if needed. Neon feels confident in being able to set up and deliver results through roundtables, needs assessments, meet and greets, and other networking opportunities. The SCBGP have an established relationship with the stakeholders/beneficiaries of the project.

### **Measurable Outcomes**

One of the goals of ‘Meet Your Farmer’ App – Local Restaurant Extension Project Feasibility Project was to determine if a digital application connecting consumers to their Northern Nevada Grown Specialty Crop Producers was a viable and desirable project for the restaurant owner. We used the measure of at least 70% of restaurant owners needing to indicate “strong interest” in the project in order to obtain buy-in and get crucial feedback from said restaurant owners.

In order to reach this goal, we reached out to 25+ food establishments to outline the Meet Your Farmer app concept to measure interest. We found that eighteen restaurants out of the twenty-five restaurants surveyed expressed strong interest, which calculates to 72%. Eleven restaurants chose the highest option of Very Interested. By a matter of interest, it makes logical sense to choose the restaurants showcased from the Very Interested section to participate in the project. Only one restaurant out of the 25 surveyed was ‘Not Interested at this Time.’

See below for the results of our simple (so folks would take!) yet thorough survey. Our survey included the introduction and questions below:

*Thanks for your time on the phone today! See below for a bit more info on the project and don't hesitate to be back in touch with any questions :)*

### **Project Purpose**

The concept of the Meet Your Farmer Restaurant Extension project is to create a buzz around the restaurants that actually source from our Northern Nevada foodshed and its Specialty Crop (SC) producers.

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We already have 20 professional quality videos of most of the consistent SC farming operations in Northern Nevada. For the project we would showcase the video of the SC farmer that provides your restaurant with specific items (depending on the harvest, we'd want a tentative commitment from the restaurant to buy at least one SC item LOCALLY for the time of the campaign).

As an example tomatoes from Lattin Farms would be highlighted on a menu insert as LOCAL with a picture of Rick Lattin, the farmer, and his farm in Fallon. Small logos for each farm would be placed on this special insert, which would be paid for by the grant and managed by the grant's project manager.

The customer would need to download an app on their smart phone (or go to the restaurant's website) where the introduction video of the farmer will automatically play off the menu insert giving the consumer the ability to see where their food was grown and by whom. Folks can literally 'Meet Their Farmer' as well as connect with the restaurants that support OUR LOCAL SPECIALTY CROP FOODSHED!

The project will include a launch party with marketing efforts in press and social media platforms and relevant websites, all paid for with Specialty Crop grant funds. The campaign will run for 6-8 weeks during next year's (2018) harvest season.

PLEASE NOTE the farmer films as well as the app needed to view the films have already been created under a previously awarded specialty crop grant.

Please answer the rest of the simple and short 9 questions in the survey link below.

<https://www.surveymonkey.com/r/KYZNXBV>

If not, a simple NO response is all that is needed from the survey, but the data is important for our grant reporting so would be helpful either way take the time to complete the whole survey and provide any feedback.

The results of the survey can be best seen by the spreadsheet below, which connects information from the farmer survey, the restaurant/caterer survey, and the DROPP and restaurant meetings:

Restaurant/Caterer Surveyed	2016 DROPP Orders	2017 DROPP Orders	2017 Direct Farmer Orders	Level of Restaurant Interest	Notes
Butter & Salt Catering	Consistent	Consistent	Consistent	Very Interested	
CAMPO	Consistent	Consistent	Consistent	Very Interested	
Chez Louie	Consistent	Consistent	Consistent	Very Interested	
Coffeebar	Consistent	Consistent	Consistent	Very Interested	

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Great Full Gardens	Consistent	Consistent	Consistent	Very Interested	
Laughing Planet	Consistent	Consistent	Consistent	Very Interested	
Thali	Consistent	Consistent	Consistent	Very Interested	
The Deluxe	Not Applicable	Consistent	Consistent	Very Interested	Opened in 2017
Union	Not Applicable	Consistent	Consistent	Very Interested	Opened in 2017
Liberty		Consistent	Consistent	Very Interested	Opened in late 2016
Cheeseboard			Consistent	Very Interested	Only orders direct, not through DROPP
4th St Bistro	Consistent	Consistent	Consistent	Strong	
Sharmagedgon		Consistent	Consistent	Strong	
Califuria		Consistent	Consistent	Strong	
Southcreek		Consistent	Consistent	Strong	
Farm Fresh Catering	Consistent		Intermittent	Strong	Wants to reinvest in local, didn't have time this year
Blend Catering	Consistent	Consistent		Strong	
Hub Coffee Roasters	Consistent	Consistent	Consistent	Strong	
Beaujolais Bistro		Consistent	Consistent	Moderate	
Dish	Intermittent			Moderate	
Rubicon			Consistent	Nonresponsive	Couldn't get a hold of after multiple attempts
Two Chicks			Consistent	Not applicable by our standards*	Eggs, not specialty crop
Peppermill Casino	Intermittent			Not applicable by our standards*	Intermittent orders
Silver Legacy Casino	Intermittent			Not applicable by our standards*	Intermittent orders
Chapel Tavern	Intermittent			Not applicable by our standards*	Intermittent orders
Sup			Consistent	Not Interested at this time	

\*As a note in order to qualify for participation, restaurants needed to show either past consistent orders (weekly orders from either DROPP or directly from the farmer) or a commitment to order

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at least one item **LOCALLY** from SC producers in the harvest season of 2018. As you can see in the spreadsheet results, five restaurants did not meet these standards.

As a second goal and assigned measurable outcome, we developed a clear understanding of the scope of work and budget of extending Meet Your Farmer to local restaurants. Please see the tables below that outline this measurable outcome:

### Development of Work Plan for Restaurant Extension Implementation

<i>Project Activity</i>	<i>Responsibility</i>	<i>Timeline</i>
<b>PLANNING STAGE</b>		
Connect with potential farmers and DROPP to choose SC production options for restaurants	Project lead	1 week
Work with restaurants/caterers to connect SC item and thus farmer video	Project lead	1 weeks
Construct menu item with specialty crop(s) with chosen restaurants	Project lead	2 weeks
Create content for menu/insert/website	Project lead with Graphic Designer	2 weeks
Liase with restaurant for approval	Project lead with Graphic Designer	2 weeks
<b>IMPLEMENTATION STAGE</b>		
Test and manage technology and ensure specialty crop menu item is successfully synced	Project lead	2 weeks
Continual oversight and management of implementation including press and media campaign delivery	Project lead	8 weeks
Contingency	Project lead	2 weeks

### Development of Budget for Restaurant Extension Implementation

Overall Project Budget: \$19,586

### Beneficiaries

405 South 21st St.  
Sparks, NV 89431

2300 East St. Louis Ave.  
Las Vegas, NV 89104

4780 East Idaho St.  
Elko, NV 89801

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The feasibility study was not designed to benefit one specialty crop producer but to gather input from 20+ producers involving how to benefit ALL SC producers moving forward. With SC producer's help and input, we are well on our way in creating a clear roadmap to develop and implement the Meet Your Farmer concept into local restaurants.

To accurately predict and therefore be able to report on which SC producers directly benefit, we will need to make our selection based on 1) farmers who have videos already created 2) have SC crops available for purchase, which are consistent with past sales and realistic for ease of implementation in 2018 (will be dependent of course upon what crops are grown and what crops are purchased during the next year's season when the project would be implemented).

Since we don't have control over number two, we narrowed down the beneficiaries to three outcomes: Yes (2 SC farms), Probable (9 SC farms), and Improbable (9 SC farms).

The notes below are either from sales data pulled through DROPP or directly from the farmer survey.

### YES

1. New Harvest Farm– Yes. Most likely chosen to be a beneficiary due to consistently (weekly) providing food to restaurants and year round crop.
2. Mary Alice Sprouts– Yes. Most likely chosen to be a beneficiary due to consistently (weekly) providing food to restaurants and year round crop.

### PROBABLE

3. Al's Bees– Probable beneficiary due to somewhat consistent (monthly) orders to restaurants.
4. Avanzino Farms– Probable beneficiary due to consistently (weekly) providing food to restaurants.
5. Ecologica– Probable beneficiary due to consistent (weekly) orders to restaurants. Small volume though providing select herbs.
6. Hungry Mother Organics / Dayton Aquaponics – Probable beneficiary due to consistently (weekly) providing food to restaurants but would need to redo video as there was a name and staff change.
7. Jacob's Berry Farm– Probable beneficiary due to consistently (weekly) providing food to restaurants. Narrow harvest window since strictly berries.
8. Lattin Farms– Probable beneficiary due to consistently (weekly) providing food to restaurants.
9. Mewaldt Organics– Probable beneficiary due to consistently (weekly) providing food to restaurants.
10. River School Farm– Probable. Did not respond to survey and DROPP didn't do a competitive amount of sales to restaurants.
11. HDMI– Probable beneficiary due to consistently (weekly) providing food to restaurants.

IMPROBABLE

12. Andelin Family Farms– Improbable. Not consistently providing food to restaurants.
13. Custom Gardens Organic Produce– Improbable. Not consistently providing food to restaurants but one restaurant did order directly from them over the 2017 season.
14. Hidden Valley Honey– Improbable. Did not respond to survey and DROPP didn't do a competitive amount of sales to restaurants
15. Holley Family Farms– Improbable. Not consistently providing food to restaurants but one restaurant did order directly from them over the 2017 season.
16. Nevada Fresh Pak– Improbable. Not consistently providing produce locally this past year but one restaurant could potentially order directly from them in the 2018 season.
17. Palomino Valley– Improbable. Not consistently providing Specialty Crops this past year.
18. Pleasant Valley Farms– Improbable. Not consistently providing Specialty Crops this past year to restaurants but one caterer did order directly from them over the 2017 season.
19. Smith and Smith Farm– Improbable. Not consistently providing Specialty Crops this past year to restaurants.
20. Tahoe Living Greens – Improbable. Did not respond to survey and DROPP didn't do a competitive amount of sales to restaurants.

Besides the aforementioned specific beneficiaries, the project has the potential to positively impact in the other following areas:

Virtually meeting their farmer, the consumer can develop an emotional and personal connection to their SC producer. It humanizes the buying experience -people buy from people- if you know the history and get to meet the people who are working hard to bring you specialty produce, the consumers will appreciate and connect with the product on a deeper level.

Clearly differentiating SC produce and producers from other products in local restaurants. Consumers would only be able to enjoy the 'Meet Their Farmer' experience with Nevada Grown SC products. (This is not a duplicative project – it is being solely developed for SC producers).

Increasing knowledge and understanding to consumers of what a specialty crop actually is in a fun and engaging way. Consumers clearly have a wide choice in restaurants, the Meet Your Farmer app will directly highlight, promote, and therefore give a reason, for consumers to support SC produce.

Raising the profile of SC produce and producers to restaurant buyers. Consumers can directly enjoy the Meet Your Farmer experience, but this project will increase purchasing of SC products through better understanding and appreciation of what Nevada's specialty crops are and who producers them.

Raising the personal pride of specialty crop producers. We should be proud of our specialty crop producers who work hard day-in and day-out. The Meet Your Farmer Restaurant Extension

project will allow SC producers to tell their own story and feel proud of what they do directly to the general public without taking them away from their important duties on the farm.

### **Lessons Learned**

An unexpected outcome from the farmer survey was that almost half of the farmers who have videos don't provide consistent sales to restaurants because sales were reached at farmers markets and/or other outlets like the Great Basin Community Food Co-op. There are still plenty of restaurants who do source consistently from farmers so it isn't a concern for this project but does highlight the importance of farmers markets as well as the co-op.

In the same vein, a few of the aforementioned farmers do provide eggs directly to restaurants but because eggs are not a specialty crop, we won't be able to include their videos in this project.

A bit of insight that wasn't expected, was it was more difficult to garner survey feedback than expected. With today's digital overload, it was a real challenge to shout above the sheer volume of digital information that most people are inundated with every day. Multiple emails weren't responded to so necessary phone calls and personal visits were made, which was important because once the restaurateurs were able to learn about the project, they were very excited about participating. The learning was there a lot more investment needed to deliver the message through other channels than just emailing out a survey. What this translated into was a little less time to meet individually with potential participants. The project manager did personally thank each person who completed the survey and mentioned that more information was to follow once the 2018 season was underway.

From this experience again doing 'less is more' was reinforced since working with handful of restaurants really well might be more realistic, successful, and therefore impactful, than trying to be spread too thin and work with as many restaurants as are interested. The folks who enthusiastically responded immediately are already the areas' leaders in regards to supporting locally sourced specialty crops so the takeaway is that there is already some strong alignment in regards to the restaurants who are selling the farmer's food and are interested in participating in the project, which is exciting and reassuring.

The other bit of insight was one of DROPP's biggest consumers this year was a catering company. Although catering companies were included in survey sent, this dollar value/potential impact was unexpected. Even though the catering company doesn't have a brick and mortar shop like a restaurant, they do have a store front and a beautiful website whereby we can easily host the relevant Meet Your Farmer films. This lesson learned instigated the idea that we should most definitely host the videos on restaurant's websites with the aim of collecting click through data as a measurable outcome for the actual implementation.

In closing, we are happy with the results of the feasibility study since we met our goals and our measurable outcomes were achieved.

## **Final Report/ Specialty Crop Block Grant Plant Industry**

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### **Project Contact**

Steve Cook

Cell: 775 762 5596

Email: [stevec@thinkinneon.com](mailto:stevec@thinkinneon.com)

**Project Title**

High Desert Beekeeping and Pollinator Habitat Project

**Project Summary**

The US Department of Agriculture estimates 80% of flowering crops and one third of all plants or plant products – specialty crops – eaten by humans are directly or indirectly dependent on bee pollination. With reports of some honeybee populations declining by as much as 30-90%, it is clear that there is a potential for huge consequences to agriculture both large and small.

The purpose of the project was to promote an economically sustainable beekeeping network in northern Nevada. Encouraging the growth of native pollinator-friendly plants, providing educational resources on beekeeping, and making beekeeping equipment a shared resource are methods used to support this network. Ultimately, this project aims to increase the number of farmers and community members keeping bees in our area and to provide emphasis to farmers how beekeeping can help their yield and economic sustainability.

**Project Approach**

Urban Roots developed a pollinator-friendly farm site at the 4<sup>th</sup> Street Teaching Farm by incorporating a wide variety of pollinator-friendly plants with bloom rates from early spring to early winter. Langstroth and top-bar hives were purchased or built to house bee colonies at the 4<sup>th</sup> Street Teaching Farm. Urban Roots then hosted workshops to bring in experts on beekeeping and share the lessons learned from this project. Curriculum on honeybees was developed and implemented as part of the Urban Roots school garden, homeschool, and camp programs.

Urban Roots found that the northern Nevada community is very interested in helping to make this a more bee-friendly place. Participants were extremely interested in planting perennial plants that will encourage a healthier bee population. We also found that this extends beyond honeybees. People are interested in making a habitat conducive to a healthy native bee population as well.

The pollinator fairs and workshops were very successful with good attendance rates and engagement. These community events were useful in connecting people new to beekeeping with experts in our community.

Urban Roots found that three years is not enough time to make large inroads into the agriculture community with beekeeping. Farmers that were already involved with beekeeping were interested in attending workshops or fairs and expanding their beekeeping enterprise or incorporating new types of hives, but we did not see an increase in interest in farmers without bees. Most of the attendees and participants in these workshops were from the general community rather than the agriculture community. Interest in backyard beekeeping was more pronounced.

The overall scope of this project did not benefit commodities other than specialty crops.

A long list of partners helped to make this project a success. Dan Bailey with Dharma Bees was the bee expert for Urban Roots during the initial phase of this project. Member of the Northern Nevada Beekeepers Association stepped in to help throughout the project but especially in 2017 after two hives were lost over the winter.

### **Goals and Outcomes Achieved**

Urban Roots was able to partially fulfill expectations outlined in *Outcome #1: Identify practices that will enhance pollinator populations and pollinator habitat in our bioregion*. In 2015, Urban Roots established a wide variety of perennial pollinator plants for bees. In 2016, this work continued through the seeding and propagation of these plants. This included seeding a hillside near one beehive location. This is a designated native plant area used during programming at Urban Roots. The Urban Teaching Farm at Renown was completed in late spring/early summer of 2017. Native plants from the 4<sup>th</sup> Street farm were divided and transplanted to the new teaching site to ensure a healthy pollinator plant population. This allowed us to move bees to this location in the late summer of 2017. Students and volunteers also helped Urban Roots staff to collect seeds for use at the new location and for broader dissemination to schools, local farms, and community members.

Hives were successfully moved into hoop houses for overwintering in 2015-2016 with two swarms in early spring of 2016. Despite using the same overwintering methods, colonies in both the Langstroth and the top bar hives died out over the winter of 2016-2017. This death in both types of hives meant we were unable to compare the colony health between hives. Urban Roots sought assistance in finding the cause of the death but were unable to identify exactly what happened. Dead bees were present in both hives, but the deaths were not recent enough to warrant lab testing. The hives were thoroughly cleaned or disposed of, new hives were purchased, and new colonies were introduced in the spring of 2017.

While Urban Roots did move a hive into a hoop house to increase yields during season extension, we did not see a significant increase in yield inside of the hoop house with bees present compared to years with no bees.

Urban Roots was able to fulfill the expectations outlined in *Outcome #2: Develop a set of curriculum and training course to offer northern Nevada producers that will enhance pollinator habitat and increase specialty crop production*. Urban Roots offered large pollinator workshops in 2015 and 2017. Urban Roots utilized a long list of partners to present on topics ranging from Beekeeping 101 to Perennial Pollinator Plants.

#### 2015 List of Partners & Workshop Topics at Pollinator Fair

- Intro to Beekeeping, Dan Bailey, Dharma Bees
- Bee Habitat, Joel Lippert
- Spelling ‘Bee’ for kids based on words and facts around bees and beekeeping, Sandy Rowley

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- Native bees & habitat preferences, Jake Francis, UNR
- Honey, Charlie Nash, Al's Bees
- Beekeeping materials & bee tour, Jacob Nachel, the Great Basin Community Food Coop
- Perennial Pollinator Plants, Nate Rosenbloom, Loping Coyote Farm
- Pollinator Plant Seed Planting, Urban Roots Educator
- Life Cycle of a Bee with bee boxes, Jacob Nachel, the Great Basin Community Food Coop
- Native Pollinators, Kevin Burl, NV Bugs & Butterflies

### 2017 List of Partners & Workshop Topics at Pollinator Fair

- Build a Bee Condo, Urban Roots Educator
- Pollinated-Plants Recipe Demo, Urban Roots Educator
- Honeybee Lip Balm, Urban Roots Educator
- Pollinator Game, Urban Roots Educator
- Pollinator Curriculum & Books information station, Urban Roots Educator
- Pollinator Face Painting, Urban Roots Educator
- Making your Property Bee Friendly, Urban Roots Educator
- Moved towards more UR led workshops as our knowledge grew.
- Native Plants Tour, Michelle Hunt, U.S. Fish and Wildlife Service
- Beekeeping 101, Northern Nevada Beekeepers Association
- Honey & Honey products, Misbeehaven Farm

81 participants attended in 2015 and 77 in 2017.

In 2016, Urban Roots offered a smaller more focused workshop for fifteen participants on beekeeping, building horizontal top bar hives, and fostering pollinator habitat. Urban Roots was able to use this workshop to demonstrate alternative beekeeping methods to the traditional Langstroth hive. Urban Roots has maintained a colony of bees in both a Langstroth and top bar hives since the workshop.

Urban Roots has been unable to keep a log of farms now incorporating beekeeping into their specialty crop operations, but Urban Roots educators did conduct roving 'interviews' during the pollinator fairs and administered surveys during the beekeeping workshop. Participants were asked about their current agriculture and beekeeping status and then asked about their future plans. In 2015, 25 participants were interviewed. Twenty-three said they were interested in increasing pollinator friendly plants and seven said they were considering beekeeping after this fair. In 2016 all fifteen participants were interested in increasing their pollinator-friendly habitat and increasing or beginning to keep bees. In 2017, 25 interviews were conducted with all 25 expressing interest in increasing their pollinator friendly plants and eleven considering beekeeping.

### Beneficiaries

The 173 participants of the pollinator fairs and workshop are beneficiaries of the program. The presenters and vendors of these programs also benefited from the networking opportunities with each other and new customers. Students in Urban Roots programs have benefited as children in our camp, home school, and school garden program, have all participated in parts of the honeybee unit developed for this project.

### Lesson Learned

Urban Roots staff felt the scope of this project required more time to fully reach it's potential. In three years, we were able to meet some objectives, but more time would have allowed for more meaningful data collection and the ability to move from bee 'newbies' to 'expert' beekeepers relied on by the community for our expertise. The three years allowed for in this grant are not enough to develop a successful beekeeping program, educate the public about that program, and conduct meaningful research into the best ways to keep bees in this area. The learning curve for keeping bees and the seasonality of the active bee season took up the majority of the first year. Having hives die in year three substantially shortened the amount of data that could be collected.

If this were to continue or replicated, Urban Roots would recommend spending three years establishing healthy colonies and then adding the data collection component in the third or additional years with the education component following several successful years of beekeeping. We were able to have success with the education component because of our reliance on the existing community of beekeepers but it is difficult to help grow that community so early in our own beekeeping experience.

### Contact Person

Kimberly Daniel  
775-636-5105  
[kim@urgc.org](mailto:kim@urgc.org)

### Additional Information



(Image 1, Kids studying a frame)



(Image 2, Bee Anatomy Picture)

**Project Title**

Organic Propagation Service for Nevada Farmers

**Project Summary**

Small and medium commercial organic farmers have limited options for sourcing specialty crop seedlings in the state of Nevada. Most organic farmers rely on organic propagation facilities in California to procure seedlings for production. This sourcing process causes significant expenses in shipping fees or in travel time. The purpose of this Specialty Crop Block Grant program was to introduce an organic propagation facility in Northern Nevada, close to many specialty crop producers, in order to save producers time and money in shipping or travel. This propagation service would also allow producers to try a wide variety of specialty crops that California propagation facilities do not offer in order to increase the variety of crops and competitiveness of Nevada producers.

As drought conditions have receded and demand for local food has increased, the importance of assisting farmers in their specialty crop production is more important than ever before to meet the demand. Existing farmers are using this propagation service to save money and try new specialty crops. New farmers are using the service as a way to brainstorm with the staff at the UNR Desert Farming Initiative on what fruit and vegetable varieties to select and when to plant seedlings for greater success.

**Project Approach**

As in previous years, the third year of the propagation service was successful. We increased the number of farmers assisted from Year 2 and increased the number of specialty crops grown in Nevada. The total seedlings grown in Year 3 was 94,500.

Here is an outline of seedlings grown in Year 3:

Farmer 1 grew 14 varieties of specialty crops

<b>Brassica</b>	<b>Pepper</b>	<b>Tomato</b>	<b>Curcubits</b>
Green Magic	Jalafuego	Marbonne	Corinto
Amazing	Flavorburst	Juliet	Partenon
	Gourmet	Sungold	Yellow Crookneck
			Ace
			Sarah's Choice
			Farmer's
			Wonderful

The farmer saved 58% of total seedling costs by participating in this program.

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Farmer 2 grew 51 varieties of specialty crops

Pepper	Tomato	Eggplant	Artichoke	Curcubits
Shishito	New Girl	Nadia	Tavor	Partenon
Lunchbox	Gold Nugget	Hansel		Corinto
Red Knight	Juliet	Red China		Little Leaf
Islander	Sungold			Sarah's
Jalafuego	BHN 589			Sun Jewel
Bianca	Shady Lady			Sugar Cube
Anton Romanian	Big Beef			Ambrosia
	Roma			Infiniate Gold
	Sun Orange			Tirreno
	Early Girl			Asahi
	Pink Berkeley Tie Die			Mickey Lee
	Caiman			Crimson
	Skyway			Sweet
	Arbason			Pony Yellow
	Chef's Choice Orange			Tuscan
	Pozzano			Divergent
	Tomatillo			Lily
	Cherokee Purple			Snow Leopard
	Sakura			Brilliant
				Sapomiel
				Yellow Doll

The farmer saved an average of 55% of total seedling costs by participating in this program.

Farmer 3 grew 20 varieties of specialty crops

Tomato	Curcubits
Cherokee Purple	Early Medium
Ace 55	Early Jumbo
Black Krim	Scooby Doo
Azoychka	Mid Season Special
June Pink	Apiary Special
Indigo Rose	Del Oro
Black Cherry	Jubilee
	Crimson Sweet
	Sugar Baby
	Boston
	Armenian
	Marketmoore
	Lemon

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This farmer saved an average of 58% of total seedling costs and also implemented a seed-saving program that wouldn't have been possible with large-scale propagation facilities.

Farmer 4 grew 8 varieties of specialty crops

### Tomato

Northern Lights  
Helsing  
Beaver Lodge  
Bloody Butcher  
Orange Russian  
Azoychka  
Swartze Sarah  
Martina

Farmer saved 55% of seedling costs and was able to try varieties not typically used commercially.

Farmer 5 grew 17 varieties of specialty crops

### Pepper

Gourmet  
Lunchbox  
Islander  
California Wonder  
Sprinter  
Highlander  
Jalafuego  
Classic

### Tomato

New Girl  
Defiant  
Taxi  
Sungold  
Juliet  
BHN 964  
Arbason  
Early Girl  
Big Beef

Farmer saved 55% of seedling costs by participating in this program.

Farmer 6 grew 3 varieties of specialty crops

### Kale

Red Russian  
Dino Kale  
White Russian

Farmer saved 58% of seedling costs by participating in this program. Farmer also increased their acreage since they didn't have time to start the seeds themselves.

Farmer 7 grew 5 varieties of specialty crops

### Greens

Red Russian

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Dino Kale  
Arugula  
Red Salad Bowl  
Green Salad  
Bowl

Farmer saved 58% of seedling costs. This was a new farmer.

Farmer 8 grew 14 varieties of specialty crops

<b>Peppers</b>	<b>Tomato</b>	<b>Cucurbits</b>
Jalapeno	Beef Steak	Georgia Rattlesnake
Anaheim	Sweety	Hales Best
Canary Bell	San Marzano	Crimson Sweet
Cal Wonder	Rose de Berne	
	Marbonne	
	Juliet	
	Sungold	

Farmer saved 55% of seedling costs.

Farmer 9 grew 5 varieties of specialty crops

**Cucurbits**  
Sarah's Choice  
Fascination  
Sorbet Swirl  
Little Baby Flower  
Sweet Gem

Farmer saved 58% of seedling costs.

Farmer 10 grew 32 varieties of specialty crops

<b>Peppers</b>	<b>Tomato</b>	<b>Cucurbits</b>	<b>Greens</b>	<b>Herbs</b>
Garnet	Juliet	Lemon	Bright Lights	Genovese Basil
Jalapeno Mix	Pink Berkeley Tie Die	Gold Star	Prizm	Giant of Italy
Namatador	Chef's Choice Orange	Sarah's Choice	Toscana	Cruiser
Memorial Day	Chef's Choice Green	Divergent	Blue Wind	Quatro Chive
Joe E Parker	Carolina Gold	Infinite Gold	Pac Choi	
Big Jim	BHN 589	Joy Ride		
Cajamarca		Yellow Doll		
Serrano				
Sandia Select				
Lunchbox				

Farmer saved 58% of seedling costs.

## **Conclusion**

All aspects of the Work Plan were completed on time. The original goal of providing an in-state propagation service and the stated output of “working with 10 Nevada farmers to provide organic seedlings” was completed in the grant timeframe.

The propagation service became incredibly popular by Year 3 as evidenced by the amount of farmers using the service and the year over year increase of seedlings grown. This service allowed the project manager to have many good discussions with farmers on the varieties of specialty crops grown in Nevada and which ones were the most successful – both in cultivation and sales. As reported in Year 2, below are some comments by farmers:

- A local propagation program allowed for better communication on readiness of seedlings (it is easier to make planting plans)
- The local propagation program is more responsive (we can plant quicker, if the farmer made a mistake or seeds were backorder)
- The technical assistance provided by the Desert Farming Initiative was very helpful when it came to local growing conditions and planting times.

By the end of Year 3, it was clear that this service needs to continue. The project manager applied for a follow-up Specialty Crop Block Grant and was awarded in 2017. This grant allowed for more efficient equipment to be purchased to meet the increased propagation needs by farmers.

One of the original partners named in the grant was Urban Roots. Because of internal issues with that organization in Year 1, I requested that funds allocated to Urban Roots be shifted to UNR interns for Years 2 and 3. There was very little participation by Urban Roots in this grant. The Nevada Small Business Development Center served as a point of support for this program as well as the Nevada Department of Agriculture. Both partners remain positive contributors to this project.

## **Goals and Outcomes Achieved**

The project team succeeded in accomplishing all goals and outputs as outlined in the grant proposal. For three years, we were able to offer an organic propagation service to Nevada farmers and we worked with 10 farmers by Year 3.

We were also able to save farmers money tracked as a percentage over currently available propagation service pricing. We collected average seedling pricing from two California propagation facilities including shipping and/or travel time and compared that to our pricing. Each annual report shows the savings as a percentage by the farmer. The savings was anywhere from 52% to 78%.

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In the above section, we also provided testimonials from farmers describing the benefits a local propagation program. There were many non-financial benefits as evidenced by the comments including faster turn-around time and flexibility in planning.

### Beneficiaries

The beneficiaries of this project were supposed to be organic farmers in Nevada. However, both organic and conventional farmers found benefit by participating in this program. Accepting conventional farmers as customers proved to be complicated in gaining organic certification, however, we were able to separate the greenhouse in such a way that satisfied the organic inspectors.

We assisted 3 farmers in Year 1, 5 farmers in Year 2 and 10 farmers in Year 3.

### Lessons Learned

- The project staff learned that the benefit to a local propagation service not only provided a financial benefit to farmers, but also an organizational benefit. We were able to be more responsive to farmer's needs than other commercial propagation facilities. By sourcing the seeds themselves, farmers were able to expand their specialty crop selections and make last-minute decisions on varieties as it related to that season's weather conditions and water availability. With the California commercial facility's "one size fits all" approach, those decisions were not available to Nevada farmers.
- Our facility allowed both organic and conventional growers the freedom to trial specialty crops, at times as a last minute decision, in order to meet market needs or discover a niche product.

### Contact Person

Jennifer Ott  
707 280 9479  
[jmott@unr.edu](mailto:jmott@unr.edu)

### Project Title

High Desert Hops Project, Phase II

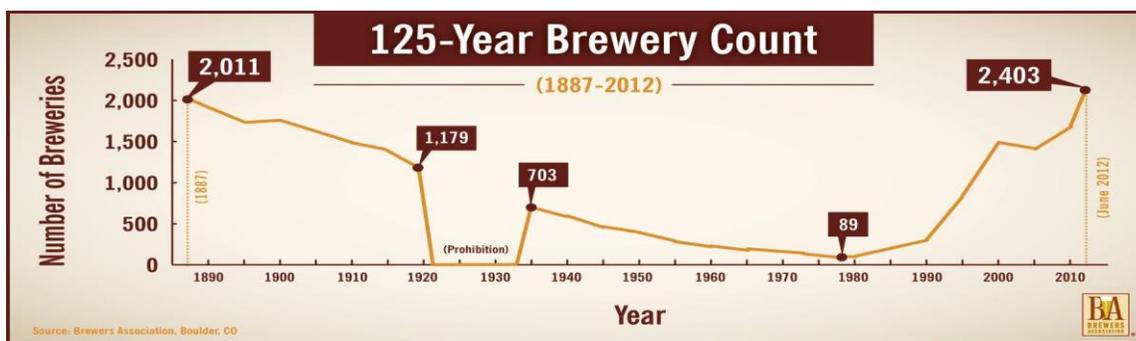
### Project Summary

The purpose of this study is to identify hop varieties that will thrive in Nevada's high desert ecology and yield highly desirable qualities for Nevada brewers. Furthermore, the results of this study will provide Nevada farmers with reliable data (production, maintenance, harvesting, selling, etc.) that will encourage and guide producers to grow hops successfully, thereby advancing the economic impact of specialty crops in Nevada. Also, throughout the study,

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farmers and brewers will connect through focus groups to enhance the economic impact of this specialty crop in Nevada.

Over the last three decades, the U.S. craft beer industry has experienced tremendous growth. Prior to 1980, there were less than 100 breweries in the United States compared to 2,403 in 2012. Additionally, the craft beer industry accounts for 2,347 (97%) of total breweries and grew an astounding 17% in 2012 alone with 419 new breweries opening.<sup>4</sup> One consistent trait of the craft beer industry is the heavy use of hops, for both high-alpha content (bitterness) and aroma. As a result of demand for heavily hopped beers (e.g. American India Pale Ale), the recent growth of the craft beer industry has impacted the availability of desired high alpha hops, most recently notable in the hop shortage of 2012<sup>5</sup> where many varieties, such as Centennial, Amarillo, Chinook, Simcoe, and Citra, could not meet consumer demands.



The craft brew industry was estimated at \$10.2 billion in 2012(+/- 10% of total U.S. beer industry), up from \$8.7 billion in 2011. This trend is also present throughout Nevada. As of 2012, there were 18 breweries in Nevada<sup>6</sup> with several new breweries set to open in 2013. Additionally, according to the Governors Office of Economic Development's (GOED) 2013 Agricultural Report, a 2011 survey showed that 80% of Nevada breweries experienced problems with the supply of hops and 100% of Nevada breweries would prefer to grow locally sourced hops. Finally, according to the GOED 2013 Agricultural Report, hops were identified as a future economic opportunity for the agricultural industry in Nevada as a result of demand and growth in the craft beer industry. Currently, only 3 states in the U.S. have a substantial hop industry and are accounted for in the National Agriculture Statistics Service: Washington, Oregon, and Idaho. Referencing GOED's 2013 Agricultural Report, Nevada has the ability to become the 4<sup>th</sup> state to develop a substantial hop industry through collaborative efforts such as the High Desert Hops Project.

### Project Approach

<sup>4</sup> Brewers Association

<sup>5</sup> Craft Brewing Business

<sup>6</sup> Nevada Brewers Association

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The High Desert Hops Project is a five-year study<sup>7</sup>, consisting of three phases, conducted on an acre of farmland at the University of Nevada's Main Station Field Laboratory. *Phase II of the study focused on infrastructure maintenance, plant monitoring and continued development a support network within the craft beer industry.* Below is a summary of the activities performed during Phase II of the project.

In February 2015, project staff attended the Nevada Small Farms Conference and participated in a discussion with Nevada producers and brewers/distillers. This discussion led to a better understanding mainly of what kind of market price these two groups are looking for in a local product, which seemed to differ quite drastically. Being able to collect contact info for all of these people was very beneficial for beginning to develop this specialty crop in Nevada. This will lead to further similar forums in the future to break down each group's needs and resources.

In April and May 2015, as each hop variety emerged from its dormancy and began to grow vertically, one twenty-five foot length of coir twine per plant was tied to the wire grid and anchored at the base of each plant. As each plant tends to send out multiple shoots, it is necessary to cut back unwanted shoots and focus all of the plant's energy on two or three specific bines to send up to the top of the trellis. Through research, we found that these first shoots that emerge in the spring are sometimes used in other hop markets as an edible food item similar to asparagus or nettles. Due to the very short time that this shoot is available and the labor involved in harvesting them, it creates a valuable product, sometimes fetching up to \$500 per pound. We explored the potential of this product as a secondary specialty crop by working with a few chefs in town to try it out as a sellable dish. The results were very mixed.

From April 2015 until the end of July 2015, a crew of volunteers and project staff spent at least eight hours per week maintaining the weed population, trimming back the excess growth from around the base of each plant and ensuring proper vertical plant training. In June 2015, a population of aphids (*Aphididae*) was observed to increase within the hop yard. Luckily, there was a sufficient population of ladybugs (*Coccinella*) that preyed upon the aphids at such a rate that was enough to keep the aphids under control and stop it from damaging the crop. A similar instance occurred in late July, just before harvest, except with an emerging population of spider mites (*Tetranychidae*). At this time, the ladybug population was not as high so we introduced store-bought ladybugs to the yard, which worked again to control the pest population. This success can be attributed to the practice of Integrated Pest Management, where *Kochia* was left in between rows of hops to serve as a habitat for beneficial insects.

Once the cones were ready to harvest, volunteers and project staff of five spent at least thirty hours per week to hand pick cones. Since each different variety became ready for harvest at slightly different times, it was possible to get the cones harvested at the correct moisture content. If harvested too wet or too dry, the quality of the cone can be compromised and become less

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<sup>7</sup> In order to carry out the High Desert Hops Project to term, additional funding has been secured for Phase II and Phase III of the five-year project from the Specialty Crop Block Grant program and Nevada Department of Agriculture.

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valuable to brewers. Target harvest moisture is between 70 and 83 percent moisture, and we were able to achieve an average of 72 percent.

After cones were harvested, they were delivered directly to drying racks built out of lumber and stainless-steel mesh. The Depot Craft Brewery/Distillery offered the warehouse space for about thirty days to dry, package and weigh the cones. The process of drying the cones to the proper moisture content involved comparing the harvest weight and moisture level to the weight desired to arrive at ten percent moisture. The dry air in the High Desert made drying the hops quite simple. Typically drying in more humid climates requires forced, heated air through the hops. The only requirement here is moving the dry ambient air underneath each drying rack and waiting an average of twenty hours per daily harvest.

The total harvest weight came out to be about half of what is typically expected from a fully mature third year crop. It is important to consider that a typical hop yard would be planted with a single variety. An acre with ten different varieties leaves a lot of variables open that could potentially affect yield. However, we were able to see quite definitively which varieties were most successful.

Two-ounce (dried) samples of each variety were sent to a testing lab to analyze aspects of the hops that measure the quality and ability of the hops to be stored before use. Alpha and Beta Acids measure ability to provide bitterness and aroma to beer, and Hop Storage Index (H.S.I.) measure how well the hops will store. (Lab results attached at end of report).

Eight ounces of each variety were used by IMBIB Custom Beverages to produce a beer recipe to feature the specific hop as the only variable to be tested for quality and difference. These beers were provided for tasting at a 'Meet and Greet' event in November 2015 that brought together producers and brewers to collaborate about planning for a new specialty crop market in Nevada. Five local brewing companies and four potential hop producers attended.

Once the 2015 harvest was dried and packaged, The Depot Craft Brewery and Distillery, Great Basin Brewing Company, IMBIB Custom Beverages, and Under the Rose Brewing Company all used hops from the project for a commercially made beer.

In November 2015, a winter cover crop consisting of wild rye, clover, and mixed legumes was planted at the hop yard to increase nitrogen levels in the soil.

In February 2016, project staff attended the Nevada Small Farms Conference and participated in a discussion with Nevada producers and brewers/distillers. A better connection with the Nevada Craft Brewers Association was established and future collaboration is currently being discussed. Furthermore, project staff was able to connect with Bentley Ranch (planted ¼ acre of hops in 2015) and learned they will be adding another 1¼ acres to production in spring 2016.

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In April and May 2016, as each hop variety emerged from its dormancy and began to grow vertically, one twenty-five foot length of coir twine per plant was tied to the wire grid and anchored at the base of each plant. The owners of Under the Rose Brewing Company volunteered roughly 30 hours at the hop yard each during this period.

From April 2016 until the end of June 2016, a crew of volunteers and project staff spent at least eight hours per week maintaining the weed population, trimming back the excess growth from around the base of each plant and ensuring proper vertical plant training. By the end Phase II (June 2016), significant populations of aphids (*Aphididae*) had not been observed within the hop yard. This could be a result of the healthy population of ladybugs (*Coccinella*).

### Goals and Outcomes achieved

**Outcome #1:** *Identify hop varieties that produce high yields and possess desirable qualities, grown in our bioregion.* The main objective of the High Desert Hops project is to identify which hops can be economically produced in Nevada and meet the standards of the local craft-beer industry. By conducting a survey of Nevada brewers, ten varieties of desirable hops were identified and successfully planted at the University of Nevada's Main Station Field Laboratory. Through two growing seasons, hop varieties to note (in regards to local brewery demand) are: Chinook, Crystal, Galena and Vanguard. However, these are dried, whole-cone hops. Once the harvest is able to be processed (pelletized), brewery demand is expected to grow.

**Outcome #2:** *Develop a network that connects Nevada hop producers to Nevada brewers that will drive the economic impact of this specialty crop in Nevada.* Throughout the project, researchers (University of Nevada and Desert Research Institute), producers, and consumers have been contacted to develop a Nevada network to support and grow a local hop industry. Project staff has attended multiple events in order to promote developing a hops industry in Nevada and build relationships with industry professionals. Events during Phase II include: Nevada Small Farms Conference (2015, 2016), University of Nevada's Agricultural Field Day (2015, 2016), and multiple craft beer events in northern Nevada. Furthermore, in fall of 2015 project staff organized a 'Meet and Greet' event at IMBIB Custom Beverages that brought together producers and brewers to collaborate about planning for a new specialty crop market in Nevada. Five local brewing companies and four potential hop producers attended. Due to the many setbacks experienced in this project, the manual will not be a deliverable until the hops project out of 15-SCBGP-NV-0036 is completed. The new project lead has confirmed that the hops manual will be established within the next 6 months that will include a feasibility study on research into local markets, producers, and post production/harvest processing. The manual will include metrics on Alpha and Beta acids and yields and any other relevant outcomes of the project that would support hops growers. This manual will be distributed to local producers and brewers which will be used as a measurable. Although this component was not completed during the award, the project outcomes details will be released to benefit new and existing hop growers, it will however be delayed.

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Outcome #3: *Create an established, locally adapted source of hops for rhizome harvesting that will spur new plantings in the bioregion.* In spring 2014, 1,000 hop plants (ten varieties) were planted at the University of Nevada's Main Station Field Laboratory. Once a hop plant reaches maturity, a single plant can produce over 25 viable rhizomes without endangering the plant. Rhizomes from the High Desert Hops Project will be made available to local producers after the 2018 harvest in phase III of the project which is underway in the 2015 award.

\*Growing hops typically requires 3 years upon planting to yield a high quality hops. This grant has greatly been infrastructure development and crop testing. The final year of the 2015 SCBGP project will be the final hops harvest assessment with reports and best practices disseminated to potential growers. The project experienced several setbacks with the project director under Polygrarian leaving the project and with little arrangement to implement the project in interim. This issue has since been resolved and a reliable team has been developed that will ensure the education, research and crop outcomes are executed in the final year of the third phase out of the 2015 award. This is not ideal, and the proposed education activities should have taken place within this award, however to ensure that stakeholders are still informed of hops viability in Northern Nevada, these activities will take place out of the ongoing award in 15-SCBGP-NV-0036.

### Beneficiaries

During Phase II of the High Desert Hops Project, project staff continued to build relationships with most of the craft breweries in the northern Nevada region (28 as of this report) as well as the Nevada Craft Brewers Association. The majority of those breweries are highly interested in sourcing hops from local growers but availability of the crop is still highly limited.

Furthermore, project staff has been working with growers to establish new hop yards. In 2015, Bentley Ranch (Gardnerville, NV) established a ¼ acre hop yard and added another 1¼ acre in 2016. Additionally, Bentley Ranch is installing a malting facility (for beer and distilled spirits) that can double as a drying warehouse for hops.

Hops ENVY (Gardnerville, NV) established a .5 acre hop yard in 2015. The owner of Hops ENVY was a University of Nevada intern on the High Desert Hops Project in 2014.

### Lessons Learned

Through Phase II of the High Desert Hops Project, discussions of a lacking infrastructure network were common amongst growers and identified as a barrier to enter the market. While the High Desert Hops Project has demonstrated that hops grow well in our environment, equipment necessary for harvesting the crop efficiently is expensive. The alternative to harvest the crop by hand is not economically viable either. To address this issue, Phase III of the High Desert Hops Project includes the purchase of a hop biner (harvesting machine) that will be made available to producers looking enter the local hops market.

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## Contact Person

Neil Bertrando

[neil@renofoodsystems.org](mailto:neil@renofoodsystems.org)

203 Division Street Yakima, WA 98902  
 Phone: 1-877-875-6642 | Fax: 1-509-895-7968  
 E-mail: info@alphaanalyticstesting.com



## Certificate of Analysis

Date Issued: September 22, 2015

Analysis Results Issued To: Urban Roots Garden Classrooms

### Brewing Values

Sample ID	Analysis Date	Variety	Description	Alpha Acids	Beta Acids	HSI
H150479	9/21/2015	Cascade	cascade	8.1	6.4	0.235
H150480	9/21/2015	Centennial	Centennial	9.3	3.7	0.218
H150481	9/21/2015	Chinook	Chinook	10.5	2.8	0.195
H150482	9/21/2015	Crystal	Crystal	7.0	6.7	0.178
H150483	9/21/2015	Fuggle	Fuggle	3.4	2.4	0.271
H150484	9/21/2015	Galena	Galena	15.1	8.3	0.188
H150485	9/21/2015	Northern Brewer	Northern Brewer	7.3	4.0	0.242
H150486	9/21/2015	Nugget	Nugget	10.9	7.1	0.216
H150487	9/21/2015	Vanguard	Vanguard	5.6	6.0	0.226
H150488	9/21/2015	Willamette	Willamette	4.8	3.4	0.177

### Method of Analysis

ASBC Hops 6a –  $\alpha$ -acids/ $\beta$ -acids by Spectrophotometry

ASBC Hops 12 – Hop Storage Index (H.S.I.)

Issued By



Ashley Trenkenschuh  
 Alpha Analytics Laboratory Supervisor

**Project Title**

Best Practices Raspberry Production in a Nevada Hoop House

**Project Summary**

Nevada specialty crop farmers are continuously looking for ways to gain fresh fruit and vegetable market share and to increase their customer satisfaction. One way that farmers approach this is to offer a full complement of fruits and vegetables. Since Nevada has a challenging growing environment for many specialty crop fruit varieties, specifically tree fruit, it is necessary to invest wisely in crops.

The purpose for this Specialty Crop Block Grant was to provide documentation and education to encourage Nevada farmers to consider including raspberries as part of their specialty crop plan, increasing the number of farmers growing raspberries in the state. The UNR Desert Farming Initiative grew raspberries over a period of three years to gain an understanding of raspberry varieties and growing methods. Also as part of the education plan, the project team developed an online training application which recommends what actions to take on a monthly basis to care for their raspberry plants and other cane varieties.

This information is important as it will help Nevada farmers (and other farmers that have online access) to properly plan and care for their raspberry plants for best economic success.

**Project Approach**

The Work Plan as outlined in the grant proposal has been completed with a few modifications that were approved in the Annual Reports. Year 3 maintenance of the raspberries and data was collected on time. Below is a graph of the data in Year 3.

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Date	Total Grams				Total Quantity			
	Blue	Yellow	Green	Orange	Blue	Yellow	Green	Orange
30-Jun	3	8	28	0	1	5	9	0
5-Jul	22	30	28	16	8	12	11	9
8-Jul	8	24	42	66	4	11	21	22
10-Jul	62	38	110	80	31	19	51	30
13-Jul	126	92	202	130	53	46	95	54
17-Jul	268	94	348	318	133	54	184	159
21-Jul	268	176	332	330	181	118	184	188
25-Jul	180	158	456	414	140	101	284	241
28-Jul	314	148	640	538	214	91	398	336
2-Aug	266	216	508	528	162	117	302	320
8-Aug	646	288	996	946	398	185	554	612
11-Aug	542	276	612	422	321	485	351	276
15-Aug	788	366	844	462	434	225	494	267
18-Aug	700	334	750	398	431	175	431	241
23-Aug	856	480	772	600	542	313	772	385
29-Aug	430	338	550	286	318	214	345	190
1-Sep	392	484	374	238	307	327	337	227
5-Sep	350	570	340	302	279	348	271	147
8-Sep	584	592	612	376	409	347	325	224
12-Sep	342	740	580	288	273	473	362	210
15-Sep	302	500	316	166	204	301	178	113
18-Sep	364	588	454	286	243	367	284	192

Notes: Blue=Heritage, Green=Joan J, Orange=Polana, Yellow=DoubleGold  
The data from Year 2 and Year 3 were calculated to show the performance of each berry variety.

Year	Total Quantity		Average Gram	
	2016	2017	2016	2017
Joan J	2783	6243	1.23	1.79
Heritage	2718	5086	1.24	1.72
Polana	2097	4443	1.19	1.77
Double Gold	1523	4334	1.08	1.68

As you can see from the data totals, Joan J was the best yielding berry variety. From Year 2 to Year 3, the berries tripled or doubled in yield depending on the berry. The berry weights also increased by almost 0.5g.

This information helps us in working with Nevada farmers on raspberry production, but also gives us an insight on which berries yield better in a Nevada hoop house.

### Conclusion

At the beginning of the project in 2014, there were 6 berry producers in the state of Nevada. As of September 2017, there are 14 berry producers in the state of Nevada. Four of the berry producers listed by the Nevada Department of Agriculture are elementary schools so we have

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taken them out of the total count (18) as we are assuming their berry plants are for education and not production purposes. Our goal was to double the amount of farmers growing berries in the state and we have accomplished that goal.

Our second measurable outcome was to produce a best practices document to be distributed to Nevada farmers. Rather than produce a paper document, the product team developed a web application so that it would be widely available to Nevada farmers and other berry growers as well. The Raspberry and Blackberry Maintenance Guide is available on our website, [www.highdesertfarming.org/projects](http://www.highdesertfarming.org/projects). It is a step-by-step guide on raspberry production separated by variety and month. By selecting a specific month, the web application provides farmers with a suggestion on what to do to maintain health raspberry plants.

All partners named in this grant served a significant role in the grant outcome. The Nevada Department of Agriculture and Nevada Small Business Development Center provided administrative and industry support. The two farmers named in the grant, Lattin Farms and Jacobs Berry Farm, provided invaluable insight to their own berry growing operations so that we could include blackberries as part of the web application guide. The last partner, Urban Roots, did not participate as planned because of internal issues with that organization in Year 1. I requested that funds allocated to Urban Roots be shifted to UNR interns for Years 2 and 3. There was very little participation by Urban Roots in this grant.

### Goals and Outcomes Achieved

The project team planted raspberries inside a hoop house, measured growth and created a working document all in an effort to further support the increase of berry production in Nevada.

The number of farmers in Nevada growing cane berries has more than doubled in the three years of this grant project (from 6 farmers to 14 farmers). Although it is difficult to tell whether the increase is a direct result of the grant project, the project manager and two farm partners have been talking to producers around Nevada about the details of this project and the production methods for growing raspberries, both in hoop houses and uncovered.

The project team created an online best practices document that is interactive to the type of berry grown, flouricane vs. primocane, and the month of the year. This online document was created in favor of a paper document so that information could be updated as necessary and the document could reach a wider audience.

The project manager and one of the project farmers will present the best practices document and an overview of the project at the Nevada Small Farms Conference on February 2<sup>nd</sup> and 3<sup>rd</sup>, 2018.

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### Beneficiaries

The beneficiaries of this project are specialty crop farmers in Nevada looking to expand the fruit products offered to their customers. They are not beginning farmers, but those with existing assets and looking to expand and/or diversify.

University of Nevada, Reno agriculture students that worked as an intern on this project also benefited as they were able to take ownership of this project and learn both agriculture and data collection techniques that will be useful in agriculture careers.

### Lessons Learned

- The project team learned many lessons on the specifics of raspberry production by collaborating with the project farmers. All members of the project employed new techniques learned from each other to increase the berry yield and decrease the instance of weeds and invasive pests. For example, the project team began removing leaves on the bottom 18 inches of the canes to remove the habitat for spider mites.
  - The project team will continue to share this information in a collaborative manner with other farmers in the state.

### Contact Person

Jennifer Ott  
707 280 9479  
[jmott@unr.edu](mailto:jmott@unr.edu)