

FARMERS' MARKET AND LOCAL FOOD PROMOTION PROGRAM (FMLFPP)
Final Performance Report

The final performance report summarizes the outcome and activities of your FMLFPP award objectives. Failure to submit acceptable closeout reports for an existing grant within 90 calendar days following the grant end date may result in exclusion from future AMS grant opportunities.

This final report will be made available to the public once it is approved by FMLFPP staff. Write the report in a way that promotes your project's accomplishments, as this document will serve as not only a learning tool, but a promotional tool to support local and regional food programs. Particularly, recipients are expected to provide both qualitative and quantitative results to convey the activities and accomplishments of the work.

The report is **due within 90 days** of the **project's performance period end date** (as noted in box 15 of your grant agreement (AMS-33), or sooner if the project is complete. The report must be typed single-spaced in 11-point font, not to exceed fifteen (15) 8.5 x 11 pages (excluding existing Final Performance Report form content). For example, if the Final Performance Report form is six (6) pages before you begin entering your project information into the form, your report may be up to 21 pages (6 pages + 15 pages).

Provide answers to **each question** and all applicable outcome and indicators as it applies to your project. If you are unable to provide a response explain why. It is preferred that you email your completed performance report to your assigned FMLFPP Grants Management Specialist to avoid delays. In case of any extraordinary reason a faxed report can be accepted; please notify your assigned Grants Management Specialist to inform about your submission.

Report Date Range: <i>(e.g. October 1, 2016 -September 30, 2017)</i>	September 30, 2016 - March 31, 2018
Date Report Submitted	June 23, 2018
Grant Agreement Number: <i>(e.g. 14-LFPPX-XX-XXXX)</i>	16LFPPCO0016
Recipient Organization Name:	Mancos Valley Resources
Project Title as Stated on Grant Agreement:	Specialty Processing for Local Heirloom Apple in Southwestern Colorado: Feasibility Study and Business Plan
Authorized Representative Name:	Jude A Schuenemeyer
Authorized Representative Phone:	970-565-3099
Authorized Representative Email:	morp@montezumaorchard.org
Year Grant was Awarded:	2016
Amount of Award:	\$42,400

FMLFPP staff may contact you to follow up for long-term success stories. Who may we contact?

X Same Authorized Representative listed above (check if applicable).

X Email: morp@montezumaorchard.org ; Phone: 970-565-3099

1. Executive Summary—In 200 words or less, describe the project's need, purpose, goals, and quantifiable outcomes:

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581- 0287. The time required to complete this information collection is estimated to average 4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable sex,

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Southwestern Colorado is home to hundreds of heritage apple orchards that contain rare and unique varieties of heirloom apples. These old varieties hold tremendous value in their rarity, resilience, unique characteristics and potential for rebuilding a local fruit economy. Through survey and market analysis, the Montezuma Orchard Restoration Project (MORP), has identified several emerging local food markets for heirloom apples: juice for schools and cider makers, wholesale distribution cooperatives, and agritourism.

This project tackled the question of how to get heirloom apples to new markets by 1) assessing the feasibility of a mobile cider press/pasteurizer/packaging unit for making juice from heirloom apples; 2) analyzing production capacity of heirloom orchards and desired varieties; 3) assessing storage and aggregation needs; and 4) piloting the use of a mobile press in southwestern Colorado heritage orchards. The ultimate quantifiable outcome of this project was to develop a Business Plan for mobile juice processing to serve fruit-growers in accessing new local food markets.

2. Please provide the approved project's objectives:

Objectives		Completed	
		Yes	No*
1	Conduct a needs assessment and feasibility study for a mobile cider press/pasteurizer/packaging unit to serve southwestern Colorado fruit growers in accessing new markets.	Yes	
2	Develop food safety practices to meet regulatory requirements for mobile processing.	Yes	
3	Understand presence and distribution of heirloom apple trees, their condition, production potential, and management needs.	Yes	
4	If analysis shows mobile processor is likely to be a successful enterprise, prepare business plan.	Yes	
5	Pilot the use of a mobile processor in program area orchards.	Yes	
6	Engage fruit growers in feasibility study.	Yes	
7	Assess aggregation and storage needs, existing facilities, and opportunities to share facilities with Southwest Farm Fresh Cooperative	Yes	

**If no is selected for any of the listed objectives, you must expand upon this in the challenges section.*

3. List your accomplishments for the project's performance period and indicate how these accomplishments assisted in the fulfillment of your project's objectives. Please include additional objectives approved by FMLFPP during the grant performance period, and highlight the impact that activities had on the project's beneficiaries.

Accomplishments	Relevance to Objective, Outcome, and/or Indicator
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<p>Market analysis updated. Needs assessment and feasibility study completed.</p>	<p>Worked with contractor CapLog Group to update the 2015 market analysis and complete the needs assessment and feasibility study completed per outcome 1., indicator 1a.</p> <p>Outcomes of the Market Analysis update provide useful results to Colorado orchardists and cider makers:</p> <ol style="list-style-type: none"> (1) The climate and soils of Montezuma County have shown they can support a diversified landscape of heritage apple tree varieties that celebrate our history and community. Hundreds of different varieties of heritage apple trees are currently standing, ready to be restored and integrated into an overall local economic ecosystem. If the economics make sense, landowners are interested in establishing new, diversified orchards. (2) Large retail customers in Colorado and in other major metropolitan areas considered “local” to Montezuma County (e.g., Denver, Salt Lake City, Albuquerque) would pay a premium price for fresh, whole apples, including heritage apples. The difficulty and cost of getting apples from trees to these destination markets in a consistent and high-quality manner is significant; nevertheless, it is a valuable market that should continue to be pursued for a portion of the Montezuma County harvest. (3) Current regulations make it difficult for apple growers in Montezuma County to press and process juice for sale to the retail or wholesale channels of the apple juice markets. As such, while heritage apples from the region are valued by juice manufacturers, it is difficult to generate profit from sales of juice apple. Priority should be given to the whole, fresh apple market segment and the hard cider market segment. (4) The national hard cider market is projected to continue to experience strong growth. Hard cider vintners within and beyond southwestern Colorado value heritage apples, with their specific taste profiles and with stories and attributes that can differentiate their products. Many varieties of heritage apples grown in Montezuma County would meet their needs. (5) Current regulations allow for farmers and organizations providing juice pressing to sell juice to hard cider brewers. In addition, many craft cideries located in metropolitan areas (unable to fertilize fields with waste from the apple pressing) would prefer cider apple juice for fermenting to cider apples. As such, a promising opportunity exists to develop a mobile pressing capacity to process valued cider apples in the field and sell Montezuma Valley apple cider juice at a premium to the growing number of cideries. <p>Results of the Feasibility Study show it is both technically and financially feasible for MORP to own and operate a mobile cider press. The biggest challenge to meet production goals of juice produced is shortage of labor to harvest and prune historic orchards.</p>
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<p>Researched food safety requirements prior to the mobile press trial. Our primary market for the juice is for the hard cider industry as apples for fermentation require the least health department regulation. MORP can also sell pasteurized juice directly to the public, or juice and pasteurized as a service for orchard owners personal use. Wholesale manufacturing requires an HACCP plan which is dependent upon location which cannot be addressed until implementation phase of business plan. Worked with state and local health department officials to understand needed food safety practices and guidelines to include business plan.</p>	<p>The good fruit crop in 2016 allowed the mobile processing trial to be moved forward in the work plan and successfully completed ahead of schedule. Outcome 1., 60 consumers, Farm/Ranch operators, or wholesale buyers gained knowledge on how to buy or sell local/regional food or aggregate, store, produce, and or distribute local/regional food. Outcome 1 part 2, Ten schools district nutritionists were contacted with information about local juice. 0 can obtain juice until the implementation phase of this project due to health regulation requirements. Outcome 2, 1. sales of juice increased from 0 to \$13,200 with juice sales to 5 commercial cider makers. Outcome 2, 2. Customer counts for juice increased from 0 to 5, or 100%. Outcome 3, 1., f., MORP was able to sell regionally produced agricultural products in the form of apple juice to hard cider makers. Southwest Farm Fresh is unable to distribute local boxed and pasteurized juice due to health regulations, 2. a, Number of farmers that reported an increase in revenue 10, b. Number who gained knowledge of new Market opportunities 60. 3. b, 5 jobs created or maintained.</p>
<p>Mapped and assessed 43 orchard locations as a part of this grant. Combined with previous mapping outside of this grant MORP has now documented over 7,000 60-100+ year old apple trees. On a good year, MORP estimates a potential supply of nearly 50,000 bushels (or 2 million pounds) of apples. Currently, most of these apples never make it to market, with most falling to the ground in the fields to be eaten by deer or other animals. The trees themselves have mostly gone feral receiving irrigation plus weed control and organic fertilizing through grazing of livestock and game under the trees. Because of the age of the trees they are considered a cultural landscape and are eligible for service crew labor to better restore their capacity through basic corrective pruning. That the trees are distributed over such a large area, larger than some states, helps to distribute the risk of spring frost. Montezuma County is also home to one of the highest elevation orchard districts on earth, the CSU experimental orchard at Yellow Jacket being the highest altitude research orchard on earth.</p>	<p>Outcome 5, 1. MORP has mapped and documented 43 orchard sites during this project 2. and given management recommendations to 30 orchard owners. As part of MORP work on a recently completed Colorado Department of Agriculture Specialty Crop Grant DNA analysis showed 58 named cultivars, 34 unknown but matching other samples, and 103 unique unknown cultivars. Many of these varieties were discovered during the mapping portion of this LFPP Grant. Outcome 6, 1. More than 60 varieties of apple were identified by cider makers in the Rocky Mountain Region as they became aware of the quality of heirloom fruits. 2. The majority of apple trees in this region are old fashioned Delicious, Jonathan, Rome, Ben Davis and Golden Delicious, all of which proved to be an outstanding cider base. Winter Bananas, Stayman Winesap, Senators, and small amounts of dozens of other varieties were also used in the juice blend. Reviews from the cider makers have been positive, with one cidery winning a silver medal for their MORP Heritage Blend cider.</p>

Developed business plan for mobile processing.

Worked with contractor CapLog Group on Objective 4, indicator 4a to develop a Business Plan for Producing Apple Juice with a Mobile Juicing Unit in Montezuma County, CO, owned and operated by MORP.

MORP seeks to provide juicing services to farmers, cider makers and others looking to turn delicious, heritage apples into pasteurized apple juice for retail consumption and unpasteurized apple juice for use as an ingredient in hard apple cider. The business case for these services is detailed in the business plan and outlined below:

1. On a good year, MORP estimates a potential supply of nearly 50,000 bushels (or 2 million pounds) of apples. Currently, most of these apples never make it to market, with most falling to the ground in the fields to be eaten by deer or other animals.
2. Montezuma County's distance from major distribution hubs -- and the size and dispersion of the historic trees -- make it difficult to harvest and ship fresh apples to metropolitan markets within the needed time window. Doing so requires a qualified and dedicated labor force and a transportation infrastructure able to sort and move apples from tree-to-market in a short time window.
3. Juicing apples locally in Montezuma County extends the window of sale of apples from a couple months to a full year. Apple juice produced for hard cider makers can be made and shipped over a four- to five-month period. Pasteurized apple juice for retail sale can be made and stored in shelf- stable, bag-in-box containers. This product can be sold and consumed over a 12-month period.
4. Farmers in Montezuma County have grown apples for over 100 years. Many of such trees continue to produce apples today. MORP has so far surveyed 111 out of 200+ identified historic orchard sites and estimates over 3,000 living trees were planted before 1920. These apples have a complex and delicious taste as well as a story that is very special and marketable to Colorado consumers.
5. MORP has a core mission that further enhances the value of apple juice and hard cider made from apples from the region. In short, every gulp of apple juice made by MORP and every sip of high-quality cider made with apple juice squeezed by MORP will directly support the mission of restoring historic, heritage apple orchards in southwestern Colorado. MORP will market this message alongside products being sold by farmers and cider makers selling products made with these apples.
6. MORP's will initially make apple juice as an activity of the existing non-profit organization. The plan builds upon MORP's experience with a 2016 pilot of juicing local apples for cider makers. It incorporates collaboration with another business in Colorado that recently acquired a mobile juice unit and sequences the acquisition of its mobile juice unit to follow the development of the needed stationary infrastructure (e.g., docking station) and operating plans (e.g., HAACP plans).
7. This business will increase income for many farmers in the region. We project breaking even in Year 7, assuming a gradual increase in harvests. MORP will seek primarily grant

funding from donors but consider supplementing this funding with low-interest loans from mission-based investors that share MORP's vision for the region. MORP will seek funding to begin this business in 2019.

<p>Piloted the use of a mobile juice processor during the fall of 2016. Over a twelve day period in October, 32 volunteers harvested 32,000 lbs. of apples. These were juiced into eight 275 gallon totes which were sold, on preorder, to five different cider makers at a cost of \$6/gallon delivered.</p>	<p>The good fruit crop in 2016 allowed the mobile processing trial to be moved forward in the work plan and successfully completed ahead of schedule. Outcome 1, 60 consumers, Farm/Ranch operators, or wholesale buyers gained knowledge on how to buy or sell local/regional food or aggregate, store, produce, and or distribute local/regional food. Outcome 1 part 2, Ten schools district nutritionists were contacted with information about local juice. 0 can obtain juice until the implementation phase of this project. Outcome 2, 1. sales of juice increased from 0 to \$13,200 with juice sales to 5 commercial cider makers. Outcome 2, 2. Customer counts for juice increased from 0 to 5, or 100%. Outcome 3, 1., f., MORP was able to sell regionally produced agricultural products. Southwest Farm Fresh is unable to distribute local juice due to health regulations, 2. a, Number of farmers that reported an increase in revenue 10, b. Number who gained knowledge of new Market opportunities 60. 3. b, 5 jobs created or maintained.</p> <p>In 2016, MORP hired Northwest Mobile Juicing to juice 2,200 gallons of Montezuma Valley Heritage Blend raw apple juice. MORP sold and delivered the juice to the following cider makers: C Squared Cider, Clear Fork Cider, Outlier Cellars, Settembre Cellars and Stem Ciders. This experience enabled MORP to test out the process for finding and preparing the right docking station for the mobile juice unit, for getting apples from the trees to the press and for then getting the juice to the customers at the right temperature in totes that met their needs. MORP captured feedback on the quality of the product and the process. MORP learned that there is a market for juice to sell to cider makers. The challenge is to meet demand due to shortage of labor to harvest. A major lesson learned is from a practical standpoint, the mobile unit is not mobile from orchard to orchard due to all the set-up requirements to meet health code. Practically, it is mobile from one orchard district or community to another.</p>
<p>Engaged fruit growers as part of feasibility study. Because of the fruit crop in the fall of 2016 growers were directly contacted about participating in a mobile juicing trial. Growers were also engaged in a dinner presentation on the mobile processor and its economic potential and opportunities after the trial occurred.</p>	<p>Outcome 1, 1, a. 50 growers, wholesale buyers attended a dinner meeting on the potential opportunities for mobile juice processing. Another 20 growers that did not attend the dinner event were reached directly by MORP personnel.</p>

<p>Assesed aggregation, storage needs, existing facilities, and opportunities to share facilities with Southwest Farm Fresh Cooperative.</p>	<p>Outcome 4., 1. Food safety was discussed at growers' dinners attended by fifty persons, 40 of whom increased their food safety skills and knowledge; 10 already had knowledge of food safety and knowledge and added to the conversation of food safety practices related to the mobile pilot. Extensive communications have been conducted between MORP personnel, state and county health department officials. Any wholesale manufacturing requires an HACCP plan which is site specific. MORP directly retailing pasteurized juice is exempt per 21 CFR 101.17(g). Juice for fermentation is also exempted. During the mobile processing trial apples were picked directly from the tree or shaken into tarps. Damaged fruit was discarded at the orchard sites and a second culling was done at the mobile processor. Totes of juice sold to cider makers were immediately put on a cooler at 38 degrees f. The location of the processor trial had clean water, a bathroom, hand washing sink. Harvesters gained knowledge of proper food safety skills.</p>
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4. Please list any challenges experienced during the project's period of performance. Provide the corrective actions taken to address these issues.

Challenges (Issues)	Corrective Actions and/or Project Changes (s)
<p>Greatest challenge was bringing the resources together for the mobile processing trial during the fall of 2016. Fortunately, we were able to acquire enough labor, equipment, and apples for a successful project.</p>	<p>MORP's relationships with orchard owners and cider makers allowed this trial to be successful by harvesting the fruit and selling the juice. Good weather helped the operation run smoothly.</p>
<p>The bulk of the orchard mapping work was moved from fall/winter of 2016 to fall/winter 2017 because of the opportunity with fruit to conduct the juicing trial.</p>	<p>A new GPS unit allowed mapping work to be completed quickly and efficiently. MORP was able to successfully map and assess orchards in Montezuma County throughout the winter.</p>
<p>Many of the orchard owners are older with limited ability to attend meetings or participate through digital formats.</p>	<p>MORP personnel contacted these people directly, by phone or in person, explaining the process of harvesting crops for mobile juicing. These relationships were invaluable in ensuring that enough orchard owners would participate in the pilot.</p>
<p>Due to Colorado health code regulations, MORP was unable to sell pasteurized apple juice produced from the mobile press during the pilot project.</p>	<p>MORP targeted cider makers as the primary market as hard cider is except from a HACCP plan.</p>

5. Quantify the overall progress on the outcomes and indicators of your project. Include further explanation if necessary.

Outcome 1: To Increase Consumption of and Access to Locally and Regionally Produced Agricultural Products.

Indicator	Description	Number
1.	Total number of consumers, farm and ranch operations, or wholesale buyers reached	70
1.a.	The number that gained knowledge on how to buy or sell local/regional food OR aggregate, store, produce, and/or distribute local/regional food	60
1.b.	The number that reported an intention to buy or sell local/regional food OR aggregate, store, produce, and/or distribute local/regional food	50
1.c.	The number that reported buying, selling, consuming more or supporting the consumption of local/regional food that they aggregate, store, produce, and/or distribute	30
2.	Total number of individuals (culinary professionals, institutional kitchens, entrepreneurs such as kitchen incubators/shared-use kitchens, etc.) reached	10
2.a.	The number that gained knowledge on how to access, produce, prepare, and/or preserve locally and regionally produced agricultural products	5
2.b.	The number that reported an intention to access, produce, prepare, and/or preserve locally and regionally produced agricultural products	60
2.c.	The number that reported supplementing their diets with locally and regionally produced agricultural products that they produced, prepared, preserved, and/or obtained	50

Outcome 2: Increase Customers and sales of local and regional agricultural products.

Indicator	Description	Number
1.	Sales increased as a result of marketing and/or promotion activities during the project performance period.	
	Original Sales Amount (in dollars)	0
	Resulted Sales Amount (in dollars)	\$13,200
	Percent Change $((n^{\text{final}} - n^{\text{initial}}) / n^{\text{initial}}) * 100 = \% \text{ change}$	
2.	Customer counts increased during the project performance period.	
	Original Customer Count	0
	Resulted Customer Count	5
	Percent Change $((n^{\text{final}} - n^{\text{initial}}) / n^{\text{initial}}) * 100 = \% \text{ change}$	

Outcome 3: Develop new market opportunities for farm and ranch operations serving local markets.

Indicator	Description	Number
1.	Number of new and/or existing delivery systems/access points of those reached that expanded and/or improved offerings of	
1.a.	Farmers markets	0
1.b.	Roadside stands	0
1.c.	Community supported agriculture programs	0
1.d.	Agritourism activities	0
1.e.	Other direct producer-to-consumer market opportunities	1

1.f.	Local and regional Food Business Enterprises that process, aggregate, distribute, or store locally and regionally produced agricultural products	1
Indicator	Description	Number
2.	Number of local and regional farmers and ranchers, processors, aggregators, and/or distributors that reported	
2.a.	An increase in revenue expressed in dollars	14
2.b.	A gained knowledge about new market opportunities through technical assistance and education programs	60
3.	Number of	
3.a	New rural/urban careers created (Difference between "jobs" and "careers": jobs are net gain of paid employment; new businesses created or adopted can indicate new careers)	0
3.b.	Jobs maintained/created	5
3.c.	New beginning farmers who went into local/regional food production	0
3.d.	Socially disadvantaged famers who went into local/regional food production	0
3.e.	Business plans developed	1

Outcome 4: Improve the food safety of locally and regionally produced agricultural products.
Only applicable to projects focused on food safety!

Indicator	Description	Number
1.	Number of individuals who learned about prevention, detection, control, and intervention food safety practices	50
2.	Number of those individuals who reported increasing their food safety skills and knowledge	40
3.	Number of growers or producers who obtained on-farm food safety certifications (such as Good Agricultural Practices or Good Handling Practices)	0

Outcome 5: Quantify the overall progress on this outcome indicator based on relevant project activities not covered above.

This indicator must reflect the project narrative's required additional outcome indicator.

MORP has mapped and documented 115 orchards, 43 as part of this grant (indicator 1), with 30 orchards receiving management recommendations to increase productivity (indicator 2). Because of unusual local conditions including its distance to markets and a stable population of multigenerational residents thousands of old fruit trees have been able to remain as part of the historic and cultural landscape. Though often 70-100 years old many of these trees are still quite productive, with dead wood pruning being their greatest need to facilitate efficient harvesting. The largest remaining of these orchards, averaging 10-15 acres are mostly 1920s-1940s Delicious, Rome, and Jonathan mix producing 700-1000 bushels per acre.

There are numerous smaller orchards either of older remnants or homestead in use with more diverse varieties able to produce 100-500 bushels each. Special attention is being paid to these orchards because of their rare genetics and the unique market created because of these old trees.

Many of the orchard owners are elderly having grown up in these orchards since early childhood. The age and varieties of the trees, and the stories of the people combine to create a powerful narrative that enhances the marketing of this fruit to the cider industry. Though many of the orchard owners are limited by age and fixed income the historic nature of the trees makes them eligible to benefit from service crew

labor. MORP has been working with and exploring partnerships with AmeriCorps crews, Southwest Conservation Corps, Old Fort Lewis, and CSU Extension to develop a workforce skilled in heirloom fruit tree pruning. The size of the trees, 20-30', combined with the wide, often 25'x25' spacing make pest spraying difficult. The potential use of beneficial insects for pest control helps to create pollinator safe environment aiding the conservation and market value of trees and fruit. The booming cider economy gives opportunity for these once forgotten trees to become commercially viable again.

6. Discuss your community partnerships (include applicant staff and external partners).

i. Who were your community partners?

CoDirectors Addie and Jude Schuenemeyer, contractors Dunmire Consulting and Cap Log Group, and MORP volunteers were responsible for administrative and programmatic duties on this project. Fiscal sponsors Mancos Valley Resources and San Juan Resource Conservation and Development Council provided grant management and fiscal oversight services. MORP community partners included Rocky Mountain Farmers Union, Colorado State University County Extension, Old Fort Lewis College, Southwest Farm Fresh Cooperative, and Montezuma School to Farm Project. Health Department regulations limited Southwest Farm Fresh role in the potential for distributing pasteurized boxed juice at this time, but they have the ability to distribute fresh apples for orchard owners that wish to grow fresh grade apples. Director changes at Montezuma School to Farm Project required MORP to contact school districts directly to ascertain juice consumption in the schools. Our greatest community partners were the orchard owners themselves.

ii. How did they contribute to the overall results of the FMLFPP project?

Montezuma School to Farm Project provided an AmeriCorps crew which was combined with another AmeriCorps crew from Old Fort Lewis for a pruning trial. These crews were able to clearly and safely follow directions and rapidly develop skills specific to heirloom orchard culture. Rocky Mountain Farmers Union provided equipment support for the harvest and helped to sponsor the orchard owner's dinner and meeting. CSU Extension referred orchard owners to this organization. Southwest Farm Fresh provides the ability in the future to distribute fresh apples. The time and access provided by the orchard owners, opening their land and sharing their stories, were our greatest asset. Without their cooperation none of this would have been possible.

iii How will they continue to contribute to your project's future activities, beyond the performance period of this FMLFPP grant?

MORP will continue to use the orchard at Old Fort Lewis as a training ground and trial orchard, work with Southwest Farm Fresh with a goal to meet Colorado health code regulations for them to become a distributor of pasteurized juice, collaborate with Rock Mountain Farmers Union to build a skilled labor market, trial apple varieties and orchard management with CSU, and network with orchard owners to rebuild the local fruit economy by becoming actively engaged in orchard management and fruit/juice sales.

iv. What feedback have the partners provided (specific comments) about the results of the project?

CSU Extension Agent Gus Westerman has repeatedly stated that the rehabilitation and interest in our regions orchards is a direct result of the work that MORP is doing. AmeriCorps crew members reported satisfaction for learning new job skills. Orchard owners have repeatedly expressed their gratitude for the assessment and documentation work that MORP is doing and have expressed hope in a renewed economy.

7. How do you plan to publicize the results?

i. To whom (i.e. people, entities) do you plan to publicize the project results?

The results of the mobile cider press pilot, market analysis, and feasibility study were publicized with social and electronic media, direct mailings, newspaper/press coverage, and classes and presentations reaching

thousands of interested persons including orchard owners, cider makers, MORP members, fruit enthusiasts, local food and other community organizations, and the general public. The completed business plan will be shared with major donors and other potential investors pending decision by MORP Board.

ii. When do you plan to publicize the results?

Publicizing the mobile press operation, market analysis, and feasibility study is ongoing. MORP will promote the business plan to interested persons pending the upcoming July 2018 decision by the MORP Board whether to pursue funding for a mobile press or not.

*If you have publicized the results, please send any publicity information (brochures, announcements, newsletters, etc.) electronically along with this report. Non-electronic promotional items should be digitally photographed and emailed with this report (do not send the actual item).

8. Have you collected any feedback from your community and additional stakeholders about your work?

Yes

i. If so, how did you collect the information?

a) Interested persons made comments via Facebook, email, phone, and even through old fashioned cards.

b) MORP also reached out to the cider makers who purchased juice during the mobile press operation to gauge their satisfaction on our product and service.

ii. What feedback was relayed (specific comments)?

a. Examples include: 1) from an email, "Addie and Jude, Thank you so much for working in my orchard." R. D. "Amazing results", 2) on FB, "This is awesome" and "Congratulations on your efforts", and 3) from a card, "Thank you for all you have done to keep orchards alive in the Southwest." Helen P.

b. Examples include: 1) one cider maker stated, MORP is wonderfully positioned to provide the public and customers with detailed stories of unique Colorado apple varieties, the people who care for these apple trees and the community that is trying to restore the apple economy. He noted that MORP could directly enhance the value of his high-quality cider by providing both ongoing social media support and marketing collateral (pictures and stories) that he could incorporate into his marketing. He expressed interest in coordinating with MORP on the launch of products containing apple juice from Montezuma County, 2) another cider maker reported, overall we were very happy with the juice we got from MORP. The juice was very nice and we liked getting the sheet with the exact blend of fruit, 3) from combined feedback, MORP learned that customers in the pilot expressed a willingness to purchase larger volumes: (a) at that price or higher if there was a higher percentage of "prized-for-cider" varieties in the mix; (b) at a lower price if MORP provided the same quality mix, together with marketing support. We project an average price of \$5.50 per gallon for the apple juice for cider in year 2018.

9. Budget Summary:

i. As part of the LFPP closeout procedures, you are required to submit the SF-425 (Final Federal Financial Report). Check here if you have completed the SF-425 and are submitting it with this report: Yes

ii. Did the project generate any income? Yes No

a. If generated and how was it used to further the objectives of this project: \$13,200 gross was generated and reinvested into the project to cover logistics and coordination of fruit storage and aggregation needs to make the mobile juice press pilot possible. Over \$6000 value of in-kind volunteer

picking labor also made the pilot possible. The pilot resulted in essential information needed to complete the needs assessment, feasibility study, and business plan.

- iii. In the table below include the total amount of **federal funds spent** during the grant performance period (**Do not** include matching or in-kind contributions):

Categories	Amount Approved in Budget	Actual Federal Expenditures (Federal Funds ONLY)
Personnel:	\$21,835	\$22,669.54
Fringe:	\$0	\$0
Contractual:	\$13,375	\$13,450
Equipment:	\$0	\$0
Travel:	\$1,295	\$1,068.75
Supplies:	\$2,995	\$3,144.95
Other:	\$500	\$0
Indirect Costs:	\$2,400	\$2,066.57
TOTAL:	\$42,400.00	\$42,399.81

- iv. **ONLY for LFPP recipients:** Provide the amount of matching funds/in-kind contributions used during the grant performance period.

Categories	Match Approved in Budget	Actual Match Expenditures
Personnel:	\$6,096	\$6,096.50
Fringe:	\$0	\$0
Contractual:	\$3,250	\$4,650
Equipment:	\$0	\$0
Travel:	\$950	\$1,091.88
Supplies:	\$2,000	\$1,199.98
Other:	\$250	\$24
Indirect Costs:	\$1600	\$1,120.40
TOTAL:	\$14,146	\$14,182.76

10. Lessons Learned:

- i. Summarize any lessons learned. They should draw on positive experiences (e.g. good ideas that improved project efficiency or saved money) and negative experiences (e.g. what did not go well and what needs to be changed).

Through the work of the 2016 mobile processing trial, documentation of orchards, and direct outreach to growers MORP has demonstrated the existence of a significant historic agricultural resource. MORP's estimated 50,000-bushel capacity of the orchards in southwest Colorado represents a large, underused specialty crop. The health code exemptions for cider (fermentation) juice enabled MORP to get a small percentage of the 2016 crop to market as juice. Fruit was shaken from the trees using hooks on poles, the fruit dropping onto tarps. Harvesting was a considerable challenge due to the size and age of the trees.

The historic nature of these orchards provides an opportunity for service crews to be utilized in the pruning and restoration of the old trees which would otherwise be considered cost prohibitive to orchard owners. A challenge to the marketing of the fruit is the perception on the part of many cider makers and consumers that Delicious apples are of low quality, not realizing that the heritage strains of this variety are quite different from the grocery store strains. The overall quality of the juice blend will help to dispel some of this bias, but other markets (such as the pasteurized, boxed juice market) for these currently "undesired" apples must be developed.

A major lesson learned is from a practical standpoint, the mobile unit is not mobile from orchard to orchard due to all the set-up requirements to meet health code. Practically, it is mobile from one orchard district or community to another. Furthermore, Colorado health code requirements do not currently allow a mobile unit to receive Hazard Analysis Critical Control Point (HACCP) approval (needed to wholesale juice going into products other than hard cider) when located outdoors (this varies from state to state). We are exploring possible solutions such as locating the unit inside a building or pop up type of tent to manufacture pasteurized juice. This does limit the ease of mobility of the press.

ii. If goals or outcome measures were not achieved, identify and share the lessons learned to help others expedite problem-solving:

Colorado health code guidelines for mobile juicing were researched and implemented for fermentable juice. Because HACCP plans are specific to a location and must be developed by an individual trained in HACCP plans, MORP was unable to create a plan that would allow us to manufacture or sell fresh, pasteurized juice as part of this grant project.

iii. Describe any lessons learned in the administration of the project that might be helpful for others who would want to implement a similar project:

Flexibility to move the juice trial and mapping parts of the project was key to the project's success. In 2016 there was a large crop but the crop of 2017 froze out completely. Existing relationships with growers and an understanding of the resource enabled the scheduling flexibility.

Importantly, learn the health code requirements in your individual state to know any limitations on the use of a mobile press.

iv. Discuss if and how the result of this project can be adapted to other regions, communities, and/or agricultural systems.

Given the historic adaptability of apples, many other regions across the country can use MORP as a template for how to document, preserve, and restore orchards as a form of economic development. MORP project deliverables as part of this grant, are provided as links at the end of this report for people's reference.

11. Future Work:

i. How will you continue the work of this project beyond this grant? In other words, how will you implement the results of your project's work to benefit future community goals and initiatives? Include information about community impact and outreach, anticipated increases in markets and/or sales, estimated number of jobs retained/created, and any other information you'd like to share about the future of your project.

The work of this project will continue through the pursuit of funding to implement the completed business plan for MORP's ownership of a mobile juicing unit. Detailed industry, market, customer, sales, and competition/collaboration overviews are included in the business plan. MORP will also continue the on-going work to further document our region's orchard resources, propagate rare and desired heritage apple varieties, and educate growers and consumers on orchard history and culture. Outreach includes partnerships with Colorado State University experimental orchard trials, direct engagement with orchard owners, and education of the next generation of growers and consumers in MORP sponsored heritage school orchards.

ii. Do you have any recommendations for future activities and, if applicable, an outline of next steps or additional research that might advance the project goals?

Future activities will be focused on the on-going work of 1) rehabilitation of the old orchards and planting of more trees to build market capacity, 2) teaching the story of fruit-growing in Colorado as a means of marketing and encouraging increased production capacity, and 3) acquisition of a mobile juicing unit to help build confidence among orchard owners and consumers to grow and consume Montezuma Valley Apples. Steps include 1) a formal training program for service crews in heritage orchard management, 2) a partnership with History Colorado to develop and teach classes on Colorado orchard history and old

Colorado apple varieties, and 3) launching a fundraising strategy to implement the business plan created under this project for MORP's purchase and operation of a mobile press in Montezuma County's historic orchards.

Specifically related to the developed [Business Plan for Producing Apple Juice with a Mobile Juicing Unit](#), MORP has a core mission that further enhances the value of apple juice and hard cider made from apples from the region. In short, every gulp of apple juice made by MORP and every sip of high-quality cider made with apple juice squeezed by MORP will directly support the mission of restoring historic, heritage apple orchards in southwestern Colorado. MORP will market this message alongside products being sold by farmers and cider makers selling products made with these apples.

MORP hopes to make apple juice production as an activity of the existing non-profit organization. The business plan builds upon MORP's experience with the 2016 pilot of juicing local apples for cider makers. It incorporates collaboration with another business in Colorado that recently acquired a mobile juice unit and sequences the acquisition of its mobile juice unit to follow the development of the needed stationary infrastructure (e.g., docking station) and operating plans (e.g., HACCP plans).

Links to project deliverables:

[Updated Montezuma Valley Apple Market Study](#)

[Needs Assessment for Mobile Juicing Unit](#)

[Feasibility Study for Mobile Juicing Unit](#)

[Business Plan for Producing Apple Juice with a Mobile Juicing Unit](#)

Links to project generated press coverage:

[Montezuma County Apples Pressed into Cider for New Market](#)

[Montezuma Orchard Project Tests Apple Market](#)

[Montezuma Orchard Restoration Project Harvests USDA Grant Money](#)

[Colorado Heirloom Apple Cider from Montezuma Valley Apples](#)

[The Soul of Apple Cider](#)

[Old Apples Find New Market](#)

[2016 Mobile Cider Press Pilot](#)