

Final Report

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Non-Technical Summary

The Southern Pueblo Beginning Farmer and Rancher Project (SPBFRP) proposes to develop a practical approach to meeting the individual production, marketing and financing needs of American Indian Beginning Farmers and Ranchers (BFR's) of the Southern Pueblos in central New Mexico through this three year project. These efforts will assist them in developing sustainable management and production practices and marketing strategies on their farms and ranches in an effort to compete and succeed in American agriculture. These BFR's are located within the Pueblos of Cochiti, San Felipe, Kewa (Santo Domingo), Sandia, Santa Ana, Zia, Jemez, Isleta, Laguna and Acoma in New Mexico. These Pueblos comprise the Ten Southern Pueblos Council. The overall goal of the project is to provide the best possible research based and proven sustainable educational and technical assistance to the Pueblo BFR's through culturally accepted methods in an effort to empower them with the skills and knowledge necessary to compete and succeed in their agricultural business endeavors. This project will serve as a model for future BFR development programs at other American Indian farming regions that share similar characteristics.

Accomplishments**Major goals of the project**

The overall goal of the project is to provide the best possible research based and proven sustainable educational and technical assistance to the Pueblo BFR's through culturally accepted methods in an effort to empower them with the skills and knowledge necessary to compete and succeed in their agricultural business endeavors. This project will serve as a model for future BFR development programs at other American Indian farming regions that share similar characteristics. The project will attempt to accomplish this goal as detailed through these objectives: Objective 1. Identify all BFR's in the target region and make all available efforts to recruit them into the program. Objective 2. Develop a Pueblo BFR educational and technical assistance curriculum with the assistance of BFR's, Pueblo farmers/ranchers (mentors) and project collaborators. Objective 3. Match cooperating Pueblo farmer/rancher mentors with participating BFR's. Objective 4. Provide one-on-one technical and educational assistance to the BFR's participating in the region that will enhance their ability to compete and succeed in the agricultural industry, thus retaining their customs and culture which are closely tied to the land and ultimately preserving their rural communities. Objective 5. Through a coordinated outreach effort, USDA program opportunities and services will be made available and accessible to the BFR's who participate in this project.

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What was accomplished under these goals?

Project was evaluated through an entry one-on-one survey, pre and post workshop surveys and a final one-on-one exit survey of each participant. In addition, the advisory committee also evaluated the overall project strengths and weaknesses. In general, most (80%) of our participating BFR's had not participated in extension educational workshops prior to our project implementation and less than 10% had participated in USDA FSA, NRCS programs, and not one had participated in the USDA Census of Agriculture. Project participation required that all BFR's must register with USDA and develop a farm plan to be eligible for USDA programs and as a result, 100% of our BFR's are now registered with USDA and 45% eventually participated in FSA and NRCS programs which included: farm production and equipment loans, BFR loans, disaster reimbursement programs like NAP, ECP, and SURE, conservation programs like EQIP and others. Project farm strategic planning and record keeping education skills learned and implemented by the BFR's, insured that the BFR's qualified for these USDA programs. 100% of participating BFR's completed the 2012 USDA Census of Agriculture.

The following are examples of direct impacts resulting from project educational activity:

- Over 98% of our BFR's had never conducted soil tests on their farms which had been in production for hundreds of years. 100% of all BFR's participated in the soil testing, interpretation of results and crop nutrition programs, 45% of the BFR's utilized new strategies to improve soil fertility such as cover cropping and rotational legume planting, thus increasing crop yields by 20% and adding up to \$4000 in farm income per farm.
- 100% of our BFR's do not utilize chemical herbicides and insecticides on their farms due to traditional pueblo values. After participating in an IPM program which identified alternative practices, 25% of our BFR's have adopted these practices and are considering to apply for organic certification on their farms with potential monetary gains. The use of organic certified insecticides has prevented crop loss on 28% of BFR's crops which were valued at \$6,000 for each farm.
- Crop season extension has been a challenge in the high desert of central New Mexico. 9% of our BFR's, through the project, were taught to build inexpensive hoop houses and were taught how to manage production in them and are now growing and selling greens at the local markets. In addition, they are starting temperature sensitive plants like their traditional green chile for transplanting in the late spring. This practice has increased farm income by 20% or \$5,000 per farmer.
- Three BFR's have planted 20 assorted fruit trees each in on-farm demonstrations. These fruit trees will provide the BFR's and their peers with the varieties that respond well to the micro climates of the individual pueblos thus creating a great potential for large scale orchard production in the near future. The demonstration orchard plots are visited frequently by other BFR's interested in growing fruit.
- 85% of our BFR's integrate forage production in their farming operations. After participating in forage production workshops and observing three forage variety demonstrations at cooperating BFR farms, 73% have planted and adopted forage varieties that were proven superior in their micro climates, thus increasing forage production by 24% and increasing farm income by \$6,000 per farm.
- About 60% of our BFR's raise beef cattle and prior to project implementation, not one was certified under the Beef Quality Assurance (BQA) program. The BQA program is administered by the NMSU CES and individuals are taught and tested on proper livestock vaccination practices and vaccination/antibiotic record keeping. Cattle buyers pay a premium (10 to 20%) for these calves as they know that if the seller is BQA certified they know what they are purchasing and do not take chances on purchasing non-vaccinated cattle. 90% of our BFR's who raise beef cattle, through our program, became BQA certified and experienced an average increase of 12% in their calf value sales resulting in an average of \$190 more per calf sold or \$9,500 per rancher.
- Due to continued drought over the past 5 years in the high desert SP rangeland, range monitoring is essential to establish range trend and stocking rates. It does not make sense to graze cattle that are barren when grass is scarce and cattle prices are high. 100% of our BFR cattle producers participated in range management educational programs which included establishing range monitoring sites on their ranches. In addition, herd health and management workshops were conducted. As part of the management curriculum, beef cattle pregnancy diagnosis workshops were conducted. These one-on-one, hands-on workshops trained our BFR's to determine if a cow was pregnant, how far along and her nutritional needs. 35% of our BFR's have become proficient in diagnosis and can now cull dry cows in the fall. This management practice will save our BFR's thousands of dollars in feed costs over the years to come, and may be the tool to keep them in ranching in the future. Direct impact is estimated at 25% increase in ranch income due to a higher percent of calf crop and lower feed costs.
- Bull testing is an essential management tool in a cow-calf operation. Prior to project implementation, only 6% of our BFR's were testing their bulls for fertility and disease. 100% of our BFR's who raise beef cattle participated in the project's bull management program. As a result, 95% are now testing their bulls and increasing ranch income by 10%.

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What opportunities for training and professional development has the project provided?

Based on BFR individual curriculum, project specialists and mentors provide one-on-one assistance to each participant as needed. The Project staff have learned that listening to the needs of the BFR's rather than dictating assessed needs, leads to mutual respect, trust and overall, success for our BFR's. Also, based on traditional Pueblo family culture, we are not just addressing the individual BFR, but the immediate and extended family as well. When we conduct on-farm visits, we will usually visit with not only the BFR but his/her spouse, children, parents, grandparents and others that are interested in the farm/ranch operation. When the project conducts workshops, training programs and conferences for our BFR's, we also prepare for their immediate and extended family to attend our programs. It is extremely enlightening to see several generations of Pueblo farmers and ranchers learning new sustainable agricultural strategies and sharing traditional sustainable agricultural strategies that have been passed down for hundreds, if not thousands of years.

During the second and third years of the project, efforts have been concentrated on risk management training which includes strategic planning. BFR's have been introduced to using strategic planning by looking at their farm or ranch's past and current situations to plan for the future. They have been introduced to identifying threats and opportunities when planning.

Office hours were held monthly at all Southern Pueblos. Appointments with Beginning Farmers and Ranchers were scheduled to enable agents to provide assistance and training to individuals as needed. Over **250** on-farm visits have been conducted throughout the past three years by the SPBFRP staff and project mentors. In the course of the three year project, space does not allow for describing the subject matter workshops and agriculture conferences provided to our BFR's. In summation these are the numbers of workshops and conferences conducted:

2012-2013

58 farm/ranch assessments
58 soil tests conducted
16 subject matter workshops
2 agriculture conference

2013-2014

24 soil tests conducted
15 range monitoring sites established
17 subject matter workshops
3 agriculture conference

2014-2015

6 soil tests conducted
19 subject matter workshops
4 agriculture conference
5 on-farm tours

On-Farm Demonstrations:

The BFR's were asked to develop a farm business plan with the assistance of the project specialists that incorporates their proposed on-farm demonstrations. Completing these farm business plans provide an incentive for the BFR's to be able to utilize up to \$500 in materials to conduct these on-farm demonstrations which are carefully planned and assisted by the project specialists and would contribute to their farm/ranch operation. These on-farm demonstrations are used primarily to buffer the risk factor from our BFR's with incorporating new and sustainable management practices on their farms and to serve as a show-and-tell demonstration for other BFR's in our program. These past three years, we have conducted 12 on-farm demonstrations which include: (3) fruit orchard demonstrations, (1) grasshopper control demonstration, (1) teff grass demonstration, (5) hoop house demonstrations, (2) alfalfa variety demonstrations.

Quotes from some of our BFR's:

"This was a unique program which allowed the participants to further their education of the industry best practices."

"Because of being Beef Quality Assurance certified, we are now getting much better prices at the sale barn."

"The beginning farmer and rancher program has allowed me to get the training I needed to have a profitable alfalfa operation on my 12 acres. Before this program, I was losing money and was ready to give up. Thank you."

"With the assistance of the beginning farmer and rancher program, I have begun an apple orchard that I hope my community members will see and become interested in turning their land back to agricultural production."

"In the past we assumed a cow would have a calf every year, we never saw pregnancy testing as a valuable management tool. We are now making a living in the industry."

"Last summer my traditional sweet corn field was attacked by grasshoppers, the project specialists showed me how to use an

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organic pesticide and saved my crop. Thank you."

"I really enjoyed being in this program, it was very informative and hands-on of the topics I needed assistance."

"In the past, I never kept farm records. After learning the importance of keeping records, I started to keep them. A year later a hail storm wiped out my corn and chile crop. Without my records, I would not have been able to recover my losses through USDA. Thank You."

"I want to thank everyone who was involved with the program for sharing their knowledge of farming & ranching. It really helps us new green thumbs get our hands dirty in a good way."

Others can be found at:

<https://youtu.be/VwSlkmogKIs>

How have the results been disseminated to communities of interest?

Our BFR's are the best source for dissemination of results in their communities as they are very proud of their accomplishments and invite other BFR to visit their farms and ranches. Pueblo leadership is constantly encouraging tribal membership to continue in the custom and tradition of their people. This leadership encourages the local teachers to work with the elders and now the BFR's to host youth field trips to the farms and ranches to promote and encourage new farmers and ranchers.

NMSU CES has promoted the project and project activity over the past three years through newspaper articles that have been disseminated throughout the state and region. In addition, a YouTube video was produced to discuss project activity:

<https://youtu.be/OYqVrHiPDZA>

Annual reports have been presented to the USDA NIFA funding agency as well as through the NMSU Cooperative Extension Service reporting system.

What do you plan to do during the next reporting period to accomplish the goals?

{Nothing to report}

Participants

Actual FTE's for this Reporting Period

Role	Non-Students or faculty	Students with Staffing Roles			Computed Total by Role
		Undergraduate	Graduate	Post-Doctorate	
Scientist	0	0	0	0	0
Professional	3	0	0	0	3
Technical	0	0	0	0	0
Administrative	0.3	0	0	0	0.3
Other	0	0	0	0	0
Computed Total	3.3	0	0	0	3.3

Student Count by Classification of Instructional Programs (CIP) Code

{NO DATA ENTERED}

Target Audience

Agriculture has played an important role in the survival of the Pueblo People of central New Mexico within the past one thousand years. These Pueblo farmers and ranchers have the longest and most continuous history of farming within the continental United States. The custom and culture of the Pueblo People is very much tied to the land and agriculture.

Tribal elders have advised that if agriculture is lost at the Southern Pueblos (SP); custom, culture, tradition and their languages will also be lost. Based on the 2012 USDA Census of Agriculture, the average age of the principal operators in the SP's is 60.7 years of age with very few beginning farmers taking their place. This average age is far above the national average of 58.3 years.

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NMSU CES (1862 LG) in collaboration with the Institute of American Indian Arts (IAIA) (1994 LG) have worked together to provide educational and technical assistance to our targeted SP Native American beginning farmers and ranchers (BFR). In addition, the project collaborated with local pueblo farmer/rancher mentors, pueblo livestock and growers associations and the USDA FSA, NRCS and NASS. These BFR's are located within the Pueblos of Cochiti, San Felipe, Kewa, Sandia, Santa Ana, Jemez, Laguna and Acoma in New Mexico.

Today, there are nineteen Indian Pueblos, the Jicarilla and Mescalero Apache, and the Eastern Navajo Nations located within New Mexico which represents 4,766 small scale farmers and ranchers as reported by USDA NASS based on the 2012 Census of Agriculture. Of these, the Northern and Southern Pueblos represent about one half of this number. These numbers reflect a 1057% increase in Native American farmers/ranchers over the previous 2002 and 2007 Census of Agriculture. New Mexico now ranks 3rd nationally in total American Indian farms behind Arizona and Oklahoma respectively, with American Indian farmers and ranchers representing the second largest group of socially disadvantaged farmers and ranchers in the country, just short in numbers of the Hispanic farmers. The 2012 Census of Agriculture reports that there are 528 BFR's within the Northern and Southern Pueblos which represent 29 % of all Pueblo farmers and ranchers in the target region. The project attempted to serve 50 to 75 BFR's during this three year project period. These BFR's are located within the Pueblos of Cochiti, San Felipe, Kewa (Santo Domingo), Sandia, Santa Ana, Zia, Jemez, Laguna and Acoma in New Mexico. These Pueblos comprise the Ten Southern Pueblos Council.

Project staff conducted a series of community meetings at all SP's in an effort to recruit BFR's. 58 BFR's were initially admitted into the program and after interviewing them individually; individualized program curriculums were mutually developed after assessing their needs. The BFR's (n= 58) common needs centered on: farm record keeping (100 %), access to USDA programs (95%), soil testing and fertility (80%), IPM (60%), growing season extension (60%), specialty and new crop production (40%), forage selection and production (70%), herd health (60%), herd management (60%), range management and monitoring (50%), new marketing strategies (70%), other (4%). Five pueblo mentors were identified and paired with BFR's based on BFR individual goals and farming practices. Based on these BFR identified needs, 52 subject matter workshops and 9 agriculture conferences were developed and implemented at the 8 participating Pueblos. Mentors and project staff provided one-on-one assistance to each BFR and made regular farm visits.

Products

{Nothing to report}

Other Products

{Nothing to report}

Changes/Problems

The SPBFRP has developed an Advisory Committee to assist the Project on conducting culturally appropriate programming, evaluate project activity and advise on improving project delivery. The Advisory Committee is composed of BFR's representing all the targeted Pueblos, the 5 Project Mentors, representatives from the USDA FSA, USDA NRCS and the USDA NASS, as well as the county extension agents from Cibola and Sandoval Counties. On November 21, 2013 the Advisory Committee met at Laguna Pueblo and the Project Director gave an overview of project activity, followed by the project team activity. The Advisory Committee was asked to assess the current project and to provide constructive recommendations for improving project delivery. As a direct result of the project implementation, there have been other BFR's who would like to participate in the program. We have asked that they attend the educational programs, but at that time, did not have the resources to include them in the overall BFR program. The Advisory Committee recommended that we should make an effort to showcase these BFR's at NMSU CES programs so that they may serve as role models for those wanting to begin farming and ranching at both the Southern and Northern Pueblos. In addition, they have asked that we provide more time at our workshops to allow USDA to work one-on-one with our BFR's as they are at the Pueblos and have the BFR's full attention to sign-up for their programs. Again, on August 10, 2015, the Advisory Committee met at Laguna Pueblo and was asked to assess the current project and to provide constructive recommendations for improving project delivery in the event the project would be funded by the USDA BFRVDP for continuation of educational and technical assistance. Overall, by a 98% excellent rating, the Advisory Committee felt that the project was on target and had made every effort to recruit all BFR's from within the Southern Pueblos and that the project was accomplishing what it was intended to accomplish based on project goals and objectives. The Advisory Committee recommended that we should make an effort to showcase these BFR's at NMSU CES programs so that they may serve as role models for those wanting to begin farming and ranching at both the Southern and Northern Pueblos. These individuals were acknowledged at the Pueblo Agriculture Conference held on August 11, 2015 which concluded our project activity. Also, in addition to the data provided on project accomplishment, we will be providing a video on BFR's and mentors testimonials in support of their SPBFRP experience as part of the evaluation process.