

Promoting Safe Practices through Preservation of Food and Native American Culture

CCCC Food Safety Outreach Project at Spirit Lake

Introduction

Food safety is often a low priority for individuals living on a reservation where hunger and poverty are rampant. Community members regularly attend Cankdeska Cikana Community College (CCCC) events just for the meals that are provided. Children come into the library on campus without shoes, asking for any kind of food that staff can give. Emails go out campus-wide after meetings when food remains because it is likely that somebody is hungry for it. Food access often takes precedence over food safety, but this project aims to address both issues with the added benefit of improving food sovereignty. The Spirit Lake Tribe is regaining independence over its local food system and the CCCC Land Grant Extension (LGE) is an integral part of that revitalization.

This project is a sustainable, multi-pronged, collaborative approach with North Dakota State University that addresses food safety, access, and sovereignty issues. The Spirit Lake Reservation, a small community in northeastern North Dakota, is comprised of socially disadvantaged and underserved individuals. This project will create a series of micro-credential curricula with significant food safety components integrating the Food Safety Modernization Act principles to provide support for starting Native American-owned small agricultural businesses and to improve food security on the reservation. The micro-credentials will not focus solely on food safety because food safety alone is not relevant to members of our community. Who cares how long food has been sitting out when you're food-insecure?

To make food safety relevant and interesting to our community, it must be packaged within content that the community *does* care about. CCCC LGE staff have repeatedly been asked for culture-based food preservation and foraging workshops. We plan to use these interest areas as vehicles to share knowledge and provide education on food safety. Food preservation prolongs the availability of fresh or foraged foods (food access) and is a traditional practice of the Dakota peoples (food sovereignty). Traditional practices will be shared, but with emphasis on what we now know about bacteria and perishability (food safety). Experiential learning is widely supported by research, so what better way to share best food safety practices with the Spirit Lake community than by embedding it in hands-on lessons?

Rationale and Significance

This effort is one piece of a larger food sovereignty puzzle at the Spirit Lake Reservation. CCCC LGE has worked for years to build capacity in the areas of local food production, nutrition education, and small-scale sustainable gardening and agriculture. We have the benefit of being able to focus solely on the needs of the tribal community that we serve, so we are very in tune with their wishes. We till gardens at tribal member's homes, provide seeds and seedlings, host gardening workshops, run a community garden, host farmers markets, teach nutrition workshops, and more. We are renovating our kitchen and classroom spaces into a large commercial kitchen and teaching space that will allow Spirit Lake community members to learn from hands-on participation, start their cottage businesses in our kitchen, and sell their value-added products to the local grocery store. In this impoverished area, individuals do not have access to commercial kitchens to get their businesses started, so we can change that. Students and community members can learn how to make nutritious meals on a tight budget by actually cooking them at their own work stations — all on their lunch break! It is an exciting time at CCCC LGE and this FSOP grant would be a critical component of the larger project. The community *wants* these micro-credentials, whether to bolster their larders or to supplement their incomes.

Training opportunities for Native food producers are inconsistent at Spirit Lake. To improve coordination, there is a network of different agencies on the reservation that all deal with health in various aspects; this group is called the Healthy Community Coalition. This group shares monthly events and collaborates on various projects. For example, CCCC LGE was asked by the Special Diabetes Program/Sacred Life Center to do different food and food preservation demonstrations (salsas, pickle-making, etc.) at their location. We are happy to connect and participate with these community organizations, but these offerings are sporadic. Word-of-mouth is still a main form of information-sharing on the reservation, so inevitably someone hears about a workshop they would have loved to attend...about a week too late. We want to use this FSOP grant to make a consistent schedule of regularly-offered, meaningful, and relevant training sessions that culminate in micro-credentials on topics of importance to the community and with significant portions dedicated to food safety education.

Food safety plays a critical role in ensuring food security for families and communities. A host of factors makes food insecurity a challenge for the Spirit Lake community; 36% of the

population of Benson County (where Spirit Lake is located) receives SNAP (North Dakota Department of Human Services 2020) while an additional 282 households participate in the Food Distribution Program on Indian Reservations (Spirit Lake Tribe 2020). A high need for food preservation and food safety education exists at Spirit Lake. This has become increasingly apparent since the COVID-19 pandemic began, when commodities became scarce, prices rose, and many people panicked. Spirit Lake is classified as a food desert by the USDA. The Spirit Lake Reservation is home to more than 6,000 residents, 25% of whom have limited transportation and impaired access to grocery stores. Limited access to safe and healthy food impairs overall health, nutrition, and food security. There is one grocery store on the reservation, but it is near the casino (on an island), its stock is limited due to its size, and it is not walkable. Otherwise, residents must travel 13 miles to Devils Lake, ND to access the larger grocery stores.

A recent study found that nearly 58% of individuals in the Spirit Lake community had incomes of less than \$10,000 (Lindquist et al. 2018). These people faced increasing barriers in trying to access safe and affordable foods in the wake of the pandemic. As a result, a resurgence in interest in gardening, the farmers market/local produce, and food preservation occurred — particularly of traditional foods or wild-forageable goods. The community decided that if they could not buy what they needed, they would make it themselves. This approach is starting to work. This year (2021) we accepted SNAP (Supplemental Nutrition Assistance Program) benefits at our farmers market for the first time and, though staged as a small, pop-up market this year, we and our vendors still sold hundreds of dollars in SNAP goods alone. If more Native producers were trained in how to save and preserve their goods, safely, whether for their families or for sale, part of the gap in food accessibility could be filled.

Objectives

This grant proposal targets FSOP objectives a, b, and c.

a. Identify and justify specific food safety education and training needs and other resources for various target audiences within local communities.

Spirit Lake community members need food safety education and training if they are going to produce and preserve their own food to address issues of food access, security, and sovereignty. People want to do it, but are either afraid to do it themselves (fear of the pressure canner is real, yet what they should fear is their water bath-canned carrots) or they do it the way they were taught by their elders (which is culturally relevant and something to be addressed carefully while

also providing the latest science on proper methods). Through interviews and focus groups, we will use our expertise of working with the Spirit Lake community and identifying their needs while also leveraging our relationships with North Dakota State University Extension (NDSU Extension) to create curricula, package it into micro-credentials and professional PowerPoints, handouts, and other resources supporting a cottage food industry, all while utilizing the latest in food safety science from their resident expert Dr. Julie Garden-Robinson and her connections with the North Central Food Safety Extension Network and the FSMA Regional Center.

b. Support the establishment, development, growth and/or expansion of new or already existing food safety education and training programs within communities, and ensure that they are consistent with new FSMA guidelines.

CCCC Land Grant Extension currently offers a variety of food safety education offerings wrapped up in our food preservation workshops. However, our workshops vary in topic, timing, and do not culminate with a specific sense of achievement besides a nice jar of jam. They are fun and informational workshops and people love them (all of our survey data is positive), but we do not currently have the capacity or expertise to devote to packaging these things into high-quality, turn-key type micro-credentials that are up-to-date with the latest in science and FSMA guidelines. Therefore, we plan to reorganize, redevelop, and expand our offerings with the help of NDSU Extension Specialist Dr. Julie Garden-Robinson, an NDSU program assistant, NDSU Extension Family Nutrition Program staff, and NDSU Agriculture Communication Department. We have the community connections and general knowledge as our CCCC LGE staff have done the trainings and can teach basic food safety with food preservation, but NDSU Extension is the state expert in food safety/food preservation teaching and communication. Our partnership will be a real marriage between our 1994 TCU and their 1862 institution for bringing food safety education into this traditionally underserved community. Additionally, these turn-key type micro-credentials would be available to other Tribal communities. They would be particularly relevant to the Plains Tribes (e.g. Dakota, Lakota, Ojibwe) but a variety of Native and non-Native peoples alike may find them informational. Garden-Robinson (NDSU Extension collaborator) is a FSMA trainer and will provide updates of FSMA certification online and face-to-face workshop offerings in the state/region.

c. Leverage partnerships with non-governmental organizations, community-based

organizations, extension, [...], socially disadvantaged farmers, small processors, and small fresh fruit and vegetable merchant wholesalers.

CCCC LGE is really the “boots on the ground” as far as a community-based organization that works with small and beginning Native farmers. We have a history of working with people who are interested in starting their own small-scale agricultural businesses, providing them with connections to receive technical assistance/training, or training them ourselves when we have the expertise; we have several student apprentices each year who learn how to operate a tractor, maintain a garden, grow crops, sell at the farmers market, etc. We *are* the ones who typically work with these socially disadvantaged farmers. This FSOP grant would allow us to directly provide the food safety education that our community so desperately wants and needs, in a culturally-based and sensitive way, while bringing in the expertise of our partnering 1862 institution and their regional partners.

We are including letters of support from two regional groups, FSMA Central Region Center and the North Central Food Safety Extension Network, who will provide expert review and support. We have partners with the Healthy Community Coalition who would help us to recruit individuals to our micro-credential program or who would host us to present our program at their locations, after it is developed. These include Spirit Lake Tribe Senior Services, Food Distribution, the Special Diabetes Program/Sacred Life Center, and others. We are including a letter of support from the Healthy Community Coalition show their interest in this program as well as the Sacred Life Center in particular, with whom we have worked closely in the past (See “other attachments” section of the R&R form).

Approach (including Communication and Data Management Plans)

Development and Implementation of Curricula Specific to Underserved Native American Audience

The primary audience of this program is the community at the Spirit Lake Reservation, which is in the Pride of the Great Plains Promise Zone. The Promise Zone, designated by the federal government, indicates that this is an area with a high need for programs that promote, among other things, improved education, economic activity, and public health. While the micro-credential programs would be open to anyone with an interest, we are hoping to target those who are interested in either starting a home-based business or those who want to grow/forage and preserve more food for their family to enhance food security.

To make sure that this content is tailored to the community, we will include lessons on the traditional Dakota methods of food preservation, integrating the latest in food safety knowledge and techniques to ensure that the food is safe for consumption. In order to create these curricula, we will consult with Tribal elders and those who have a great deal of knowledge about traditional food preservation. Too often, adapting programs to Indigenous audiences is after-the-fact and inadequately accomplished by the sporadic insertion of a “traditional” food or recipe. This program will be unique in that it will be shaped from its onset with regular input from Indigenous advisors. A train-the-trainer approach will be used, with NDSU Extension staff providing training and CCCC staff providing ongoing education and support. Traditional face-to-face classes, supported by online modules, will be developed by NDSU Extension.

While we focus on the traditional methods of the Spirit Lake Tribe, other Native American tribes would be able to use our materials as a template to add their own traditions to the curricula. In that way, members of another tribe would be able to teach not just modern methods, but add their own traditions and/or teach the Dakota methods to their students as well. With our connections to other tribal extension programs (through NCFSEN), we can create programs that are adaptable for other areas.

Based on CCCC LGE’s experience working with the Spirit Lake community, we have developed a proposed list of micro-credential topics. These will be reviewed with focus groups to confirm interest or adjust specific micro-credential topics accordingly (though all will focus on some aspect of food preservation and food safety). See Table 1.

Table 1: Proposed Micro-Credentials and Composing Courses (Food Safety Woven throughout Each Course)					
Developed in Year 1			Developed in Year 2		
Pressure Canning	Water Bath Canning	Drying Food Safely	Freezing Food Safely	Safe Wild Foraging	Safe Fermentation
Basics/Easy project	Basics/Easy project	Basics/Fruits	Basics/Easy project	Basic safety	Basics/Easy project
Vegetables	Pickles	Corn w/Cultural lesson	Juneberries, plums	Traditional Items	Pickles
Meat (bison)	Juneberry jam/syrup	Wasna (dried meat)	Corn	Mushrooms	Fire Cider
Traditional soup	Pickled beets, beans	Herbs/medicinal plants	Vegetables	Seasonality	Cabbage
		Chokecherry patties			

Evaluation

The goal of the evaluation is to contribute to the overall success of the project. Accordingly, we will employ a mixed method approach to continually assess progress toward the achievement of the project objectives. We have outlined a variety of quantitative and qualitative assessment methods that are both formative and summative in nature. For each micro-credential curriculum, we will identify important and appropriate content areas for pre- and post-assessments and

projects done in class will be graded pass/fail. These will help us assess whether or not the student has gained adequate proficiency in the subject to receive the micro-credential. We will create qualitative surveys for our students to complete before and after each class. These surveys will ask questions about how comfortable they were with the class subject (prior knowledge), how much they knew before (prior experience) and how much they learned (new knowledge), whether or not they felt more informed about how to handle the process (confidence) and how well they understood why foods should be handled in certain ways (checking for understanding of food safety). We also will survey each student after the completion of each micro-credential to ask how CCCC LGE can further help them with their goals and what we can improve or change.

Staff will track quantitative outcomes, such as the number of students enrolled in each course, the number of credentials issued, the number of successfully completed projects, the number who participate in multiple micro-credential courses, and the total number of courses offered. Instructors will also be debriefed by other program staff to review opportunities for improvement and what worked well. At the end of a micro-credential, students should feel confident in their abilities to complete projects relating to the certification, safely handle foods and materials needed in the process, and understand both traditional (when applicable) and modern methods. Upon completion of each micro-credential course series, the data listed above will be analyzed in accordance with the data management plan to determine the success of the course and to make improvements for the next implementation.

Communication Plan

Project partners will connect regularly online and also face-to-face. In addition to regular grant reporting, we will be producing multiple datapoints that we will share with the North Central Regional Center for FSMA Training, Extension, and Technical Assistance. These include the novel education and training materials for our specific, underserved Native American target audience, best practices identified and applied by our community, data on the number of training sessions conducted, the number of participants, and their reported changes in knowledge or behavior. We will communicate outcomes, insights, and any course documents that have been vetted and are ready for other institutions to use. We also anticipate that Extension publications and journal articles with best practices will be an outcome of this program.

The project PI will acknowledge USDA NIFA support in all public-facing materials and participate in the annual meeting to communicate about the project. The micro-credentials will

be widely advertised to the Spirit Lake community and the project progress will be documented in monthly reports to the CCCC Board of Regents, in CCCC Land Grant's Annual Report, and in newsletters that we produce. At the end of the project, the PI will also share about the program's development and success at the annual First Americans Land Grant Consortium (FALCON) conference, which is a gathering of the nation's tribal colleges.

Data Management Plan

Data will be collected using a variety of methods. The CCCC Institutional Review Board will review and approve the project prior to any data collection, and the documents will be submitted to the NDSU Review Board for their approval in this collaborative effort. For the initial development of the curricula, in-person meetings will be held at CCCC with focus groups or with individual experts to collect cultural data and to review the suggested micro-credential topics for interest in the community. If one or more of the planned topics, which are based on our experience working with community members and their feedback, is not of interest as thought, we will work with the community to identify a new micro-credential topic relating to food safety and culture. Data to evaluate the project will be collected via debrief of the staff involved in presenting, but also primarily through tests and surveys given to participants on computer tablets located at each station. These tablets will be used for close-up display of the teacher's station, for pre- and post-tests, and for the qualitative surveys.

All participant data and curricula materials will be uploaded and stored to a secured server housed at CCCC. Records will be retained in accordance with federal record retention policies. Data will be evaluated using standard statistical software using tests appropriate for the type of data. Comparisons will be made to participation in CCCC Land Grant Extension workshops from before to after implementation of the micro-credential curricula. Pre- and post-test data will be analyzed to evaluate the significance in increases in food safety knowledge in the community. There will also be qualitative data on participant satisfaction and interest in starting a small business (e.g. selling value-added products) using the knowledge provided through the micro-credentials.

Summary of Previous Work (including Key Personnel and Project Management)

Cankdeska Cikana Community College Land Grant Extension is well-connected in the Spirit Lake community. We are the 1994 Land Grant Tribal College serving Spirit Lake and we have many partners both on and off the reservation. Much of our work depends on building strong

relationships with tribal members and thankfully this groundwork has been laid and continues to build with every project we do. As mentioned, we have worked for years to build capacity in the areas of local food production, nutrition education, and small-scale sustainable gardening and agriculture. We till gardens at tribal member's homes, provide seeds and seedlings, host gardening workshops, run a community garden, host farmers markets, teach nutrition workshops, and more. Our Extension program is an active member of both the Healthy Community Coalition (HCC) and the Spirit Lake Farm-to-Table Committee (a subgroup of the HCC). These groups are comprised of agencies that work to serve the Spirit Lake Community in areas of public health, nutrition and food sovereignty. Agencies involved in these include Spirit Lake Tribal Health, Food Distribution, the Fish and Game/Bison Herd Coordinator, the Special Diabetes Program, the NDSU Family Nutrition Program/SNAP-Education (FNP/SNAP-Ed), the schools, Head Start, and more. We work to provide programming and education surrounding traditional foods, food sovereignty, nutrition, and other health topics in partnership with these agencies whenever possible.

Outside the reservation, we are connected with NDSU Extension for both 4-H, Food and Nutrition and "Field to Fork" program, regional FSMA Center, regional NCFSEN 12-state group, Soil Conservation Districts, the local/State USDA NRCS and Rural Development, the North Dakota Department of Agriculture, the North Dakota Farmers Market and Growers Association, StrengthenND, the Foundation for Agricultural and Rural Resource Management and Sustainability, and the Northern Plains Resource Conservation & Development Council, among others. We have the connections needed to make an effective, transformational program for the Spirit Lake community and as a resource for other tribal communities. We just need the funding to make it happen.

Key Personnel

Tasks of key personnel are identified in the Table 2. Biographical sketches for each person in the table were submitted in the appropriate form of the grant application. Staff listed in the table include:

- Principal Investigator – Heidi Ziegenmeyer – CCCC Land Grant Director/Instructor
- Assistant Director – Jessica Fish – CCCC Land Grant Assistant Director
- Community Ag. Coord. – Paige Hook – CCCC Community Agriculture Coordinator
- NDSU Extension – Dr. Julie Garden-Robinson – Professor/Food & Nutrition Specialist

- NDSU Extension FNP/SNAP-Ed – Gabriele Krantz-Nelson – Extension Agent
- NDSU program assistant to be overseen by Dr. Garden-Robinson

Table 2: Promoting Safe Practices through Preservation of Food and Native American Culture				
<i>Long-Term Objective: Improve food access, security, sovereignty, and safety at Spirit Lake</i> <i>Aligning with FSOP objectives a, b, and c</i>				
Short-Term Objectives	Milestones	Evaluation Method	Responsible Person	Timeline
Develop culturally-relevant food safety & preservation curricula	Consult with community groups, CCCC Elders Advisory Council	Completion of Task	PI, Assist. Director, Community Ag Coord.	Fall/Winter 2022
	Key personnel meet to organize/plan/refine	Completion of Task	PI, Assist. Director, Community Ag Coord., NDSU Extension	Fall/Winter 2022 to End of Grant
	Develop course content	Completion of Task	PI, NDSU Extension	Winter 2022, 2023
Provide micro-credentials in food safety & preservation	Purchase supplies and schedule dates	# of Course Sessions Planned	Community Ag Coord.	Winter 2022, 2023
	Advertise and recruit participants	# of Participants	Community Ag Coord.	Spring 2023 to End of Grant
	Implement micro-credential courses	# Receiving Micro-Credentials	Community Ag Coord., NDSU Extension	Summer 2023 to End of Grant
	Evaluate and improve courses	Qualitative & Quantitative Data, Staff Debrief	PI, Assist. Director, Community Ag Coord.	Summer 2023 to End of Grant
Increase participation at Farmers Markets or in at-home food preservation	Recruit to Farmers Market during micro-credential courses	# of Participants Interested in/Selling at Market	Community Ag Coord.	Summer 2023 to End of Grant
	Provide local resources on starting small businesses	Completion of Task	Community Ag Coord.	Summer 2023 to End of Grant
	Survey participants for future business goals	# of Participants Indicating At-Home Food Preservation	Community Ag Coord.	Summer 2023 to End of Grant
Share Curricula with Other Tribes, Regional Center	Refine curricula based on evaluations/feedback	Completion of Task	PI, Assist. Director, Community Ag Coord., NDSU Extension	Summer 2023 to End of Grant
	Contact North & South Dakota Tribes, FSMA Center with materials	# of Groups Contacted	PI, NDSU Extension	Summer/Fall 2024

Both CCCC LGE and NDSU Extension are excited about the opportunity that the FSOP grant will provide to better serve the people of the Spirit Lake Tribe as well as other tribal nations. Reservation communities rely heavily on relationships and trust, so it can be difficult for outside groups to gain a foothold. In contrast, CCCC LGE is here, established, and maintains a positive reputation at Spirit Lake. Help us help our community. Thank you.