Zoe Papalia-Beatty, Michael Wagner, Victoria Vouk
ENPH 443
Grant Writing Proposal: FamilyFarmed.org

1. GRANT SUMMARY

The grant request for proposal titled "Development of On-Farm Food Safety Website and Online Food Safety Plan tool for small/mid-scale farmers in the United States" aims to develop a website to aid small/mid-scale farmers in food safety practices. More specifically, the online resource needs to include a tool that allows farmers to create their own "printable and customizable" food safety manual. The online resource also provides education of food safety practices for their users. The website is requested to be user-friendly and easy to understand as it is aimed to be used by a wide variety of educational backgrounds.

2. INTRODUCTION

This request for proposal is aimed heavily at the agricultural industry and FamilyFarmed.org is an organization looking to help small/mid-scale farmers. Small/mid-scale farmers are classified as any farmer that makes less than $250,000 in revenue for one calendar year (Fitzmaurice, 2016). FamilyFarmed.org has identified a knowledge gap within the agricultural industry; an absence of on-farm food safety plans for growers. These food safety plans are important in meeting federal regulation standards, like the Food Safety and Modernization Act, in order to prevent foodborne pathogens from the farm to the market and ultimately making a consumer sick. The agricultural world is a complex mix of economic pressures, biological needs, human needs, educational needs, and regulatory standards. We will explore how some of these needs are impacting small/mid-scale farms in a negative way and provide research that justifies the need for this online resource.

By developing an online tool, FamilyFarmed.org will provide farmers with the information needed to implement safe handling and production practices. The online tool will include an individualized component that builds a food safety manual based on customized features of the operation. With the educational material provided through the website, small/mid-scale farms will have a greater opportunity to compete in the market.

3. LITERATURE REVIEW

In order to understand the necessity of this web-based tool for small/mid-scale farmers, we need to know what challenges these farmers face. One of the many hardships that the nearly 1,900,000 small/mid-scale farmers navigate are market conditions that require constant adaptation and searching for new market niches (Fitzmaurice, 2016). The most prominent niche being the “local food” movement. Since resolutions to the Society of Nutrition Education first introduced “sustainable diets”, a large underground “local food” movement sprouted in the United States (Gussow, 1998). While this movement was met with criticism in the early 1980s, a strong resurgence of the movement began in 2008 with the Farm Bill. This bill emphasized the importance of nutrition: "it provides low-income seniors with vouchers for use at local produce markets, and it added more than $1 billion to the fresh fruit and vegetable program, which serves healthy snacks to 3 million low-income children in schools"(Dannenburg, 2011). This movement thrives in local markets that are not available to all mid/small scale farmers. This manifests itself into other struggles, the bulk of which are rooted in “conventional wholesale markets” and “constraints on liquid cash-flow and time” (Fitzmaurice, 2016). For large scale farmers, constant adaptation is not a problem. They have available time and resources to invest in marketing teams

and to review economic trends. Not only are small/mid-scale farmers unable to keep up with exceedingly high market standards, oftentimes they are not up to date on best practices.

There have also been recent concerns from the agricultural industry after the implementation of the Food Safety and Modernization Act (FSMA). The FSMA act is the first time that the Food and Drug Administration (FDA) has been given the authority to regulate the growing and harvesting of fresh fruits and vegetables to prevent foodborne disease outbreaks. According to one study, fresh fruits and vegetables accounted for 46% of foodborne illness outbreaks from 1998 to 2008. This is the largest portion of foodborne illness outbreaks when compared to other categories of food (Painter et al., 2013). Additionally, the implementation of FSMA was expensive for many farmers. FSMA requires farmers to change operation practices and standards with regards to "agricultural water; biological soil amendments; domesticated and wild animals; employee training and health and hygiene; and equipment, tools, buildings, and sanitation" (Adalja, 2017). This federal oversight has been proven to be necessary, yet the costs of implementing these regulations can also vary immensely based on the size of the growing operation. With unavailable time and resources, these new costs are much more difficult for small/mid-scale farmers to absorb. One study found that the relative cost and burden correlates with farm size, finding that the smaller the farm, the higher the relative cost from implementing food safety practices. This same study found that sustainable farmers spend more on food safety practices on average when compared to conventional farming techniques (Adalja, 2017). There is a clear desire and health need for food safety practices, yet there is an information barrier.

This barrier to information for small/mid-scale farming operations is well understood within the farming community. In one study from the Journal of Rural and Social Sciences, it

was found that some of the largest perceived challenges small/mid-scale farmers were access to new information and challenges with marketing (Goodwin/ Gouldthorpe, 2013). Small/mid-scale farmers also have a slower learning curve due to limited time and resources, something large scale farmers do not experience. To combat this information gap, an important resource for farmers is "extension services" that can aid farmers in expanding their knowledge, efficiency, and hopefully their operation (Goodwin/ Gouldthorpe, 2013).

Other studies have found that education, technology, and outreach are important when integrating new technologies, agricultural practices, and regulatory standards for small/mid-scale farmers. One study in Tanzania found that outreach through education, providing resources, and continued communication was very effective at implementing and maintaining positive change for the small/mid-scale farmers agricultural practices (Nakano, 2018). In this same study, outreach and extension services even helped to alleviate poverty among small/mid-scale farmers.

4. PROJECT NARRATIVE

As previously discussed, food safety remains a concern for consumers and producers alike. As large-scale farms continue to drive out small/mid-scale farmers, it is necessary to equip small/mid-scale farmers with the same certifications and food safety knowledge as large-scale farmers. Our goal is to develop a navigable website that can create individualized food safety manuals and provide federal, state and local food safety guidance for small/mid-scale farmers. Not only will the website be representative of all educational backgrounds, but it will also be provided in different languages. A website is the most appropriate outreach approach to this food safety knowledge gap and will be the most feasible in the 3 month time constraint (approximately 13 weeks).

With the need for food safety research and technical web design, the project requires two teams of diverse educational backgrounds. The two teams will consist of two undergraduate students from the University of Wisconsin- Eau Claire (UWEC) from either Environmental and Public Health (ENPH) majors or Computer Science (CS) related majors. We chose to use the UWEC as we are alumni of the ENPH program and have accessible resources at the university. The ENPH major is a comprehensive bachelor of science degree that is accredited by the National Environmental Health Science and Protection Accreditation Council. It is recognized as one of 32 degrees in the nation with this accreditation and covers topics needed to obtain a Registered Environmental Health Sanitarian certification. We are also very familiar with the information taught in the core major classes, refining our ENPH candidate selection criteria to completed coursework. The research experience we can provide the undergraduate students is both beneficial to their education as well as being of low cost to our project. As this project is three months long, we will perform this project over the summer months to allow students more time to focus on the project.

Within the first half of the first week, we will contact ENPH professors and CS professors at the UWEC to share details of our project and interest in hiring students in the program. We will also create student job announcements for both ENPH and CS students with the job description, timeline, and requirements within the first week of the project timeline. For the ENPH students, we are seeking the following: at least two years into the ENPH major, a class in public policy or equivalent, micro food safety class, availability to work up to 15 hours a week for four weeks and previous research experience that qualifies them for the position. For the CS students, we are seeking the following: experience creating tailored websites, ability to create a

survey tree that will lead to customizable PDFs, knowledge of appropriate website building software, availability to work up to 15 hours a week for 4 weeks and other previous design experience that qualifies them for the position. We will send out the announcements to the ENPH professors and CS professors at the end of the first week. We will review and select candidates based on a submitted resume and 30-minute phone interview conducted within the following two weeks after the announcement has been sent. We will decide on two ENPH students and two CS students at the end of the first three weeks.

The selected two ENPH students will be expected to research the requirements needed for a small/mid-scale farm to sell wholesale. They will also be expected to examine GAP certifications, state law requirements, and other federal farm food safety regulations. The students will compile their research into guidance documents, necessary applications, and corresponding record documents. The students will have four weeks to complete this research and will be limited to working up to 15 hours per week. They will fill out and submit a timesheet with recorded hours and tasks completed that day. Upon approval from the grant proposal team, the documents and information will be given to the selected CS students.

The CS students will be expected to add the following elements to the website: a pop-up window that first asks preferred language, username, and login, search engine, an about us section, a how to use section, a resource section and a build your food safety manual section. Stylistically, the students will be required to mirror the design of the FamilyFarm.org website. The username and login will allow us to verify how many farmers are using the website. Approximately $1,000 will be allocated to the students for software costs. The students will have three weeks to complete the website and will be limited to working up to 15 hours per week.

They will fill out and submit a timesheet with recorded hours and tasks completed that day. Upon approval from the grant proposal team, the website will be edited by a Community Health Educator.

In addition to hiring University students, we will be working with Gina Schemenauer, a Community Health Educator from the Eau Claire City-County Health Department. From previous collaboration editing a radon presentation for a farming Expo in Eau Claire, Gina is experienced in editing language to layman's terms and a 5th-grade reading level. This aspect of the website is extremely important as not all educational backgrounds of the target demographics are the same. The website will account for this discrepancy with an expert editor such as Gina. She will be given one week to check and correct the rough draft of the website and allowed up to 10 hours to do so. Upon completion, the edits will be shared with the CS students for final corrections.

In addition to hiring students, the proposal team will be overseeing and be available consultants for the students and Gina during each phase of the project. We will actively monitor the progress of each phase in order to maintain the project timeline.

5. BUDGET

Item	Time	Max. Hours	Hourly Wage	Subtotal
2 ENPH Student Researcher	4 weeks	15	$10.00	$1,200.00
2 CS Student Designer	4 weeks	15	$10.00	$1,200.00
Website Software	-	-	-	$1,000.00
Gina Schemenauer	1 week	10	$20.00	$200.00
Zoe Papalia-Beatty	4 weeks**	15	$15.00	$900.00
Tori Vouk	4 weeks**	15	$15.00	$900.00
Michael Wagner	4 weeks**	15	$15.00	$900.00
			MAX. COST	$6,300.00*

*Any money left over will be donated back to the FamilyFarm.org.

**4 weeks is determined by first week of hiring process (1 week), interviews and selection (2 weeks), oversight of research (~1 week total work equivalent).

6. REFERENCES

Adalja, A., & Lichtenburg, E. (2017, December 18). Produce growers' cost of complying with the Food Safety Modernization Act. Retrieved May 5, 2019, from https://www.sciencedirect.com/science/article/pii/S0306919216304651

(Adalja, 2017)

Fitzmaurice, C. J., & Gareau, B. J. (2016). *Organic futures: Struggling for sustainability on the small farm*. New Haven: Yale University Press.

https://casfs.ucsc.edu/about/publications/Teaching-Direct-Marketing/pdf downloads/Unit.1.pdf

(Fitzmaurice, 2016)

Goodwin, J. N., & Gouldthorpe, J. L. (2013, July 8). "SMALL" FARMERS, BIG CHALLENGES: A NEEDS ASSESSMENT OF ... Retrieved May 2, 2019, from http://journalofruralsocialsciences.org/pages/Articles/JRSS 2013 28/1/JRSS 2013 28 1 54-79.pdf

(Goodwin/ Gouldthorpe, 2013)

Nakano, Y., Tsusaka, T. W., Aida, T., & Pede, V. O. (2018). Is farmer-to-farmer extension effective? The impact of training on technology adoption and rice farming productivity in Tanzania. *World Development,105*, 336-351. doi:10.1016/j.worlddev.2017.12.013

(Nakano, 2018)

Painter, J. A., Hoekstra, R. M., Ayers, T., Tauxe, R. V., Braden, C. R., Angulo, F. J., & Griffin, P. M. (2013). Attribution of Foodborne Illnesses, Hospitalizations, and Deaths to Food Commodities by using Outbreak Data, United States, 1998–2008. *Emerging Infectious Diseases,19*(3), 407-415. doi:10.3201/eid1903.111866

(Painter et al., 2013)

Gussow, Joan Dye (July 1998) "Dietary Guidelines for Sustainability: Twelve Years Later." *Journal of Nutrition Education*, vol. 31, no. 4, 1999, pp. 194–200., doi:10.1016/s0022-3182(99)70441-3.

(Gussow, 1998)

Dannenberg, Andrew L (November 2011)., et al. *Google Books*, books.google.com/books/about/Making_Healthy_Places.html?id=ITbVtSBwmM8C&printsec=frontcover&source=kp_read_button#v=onepage&q&f=false.

(Dannenberg, 2011)