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Publication Date

2024

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Understanding the Extension Needs of California Farmworkers and Creating Appropriate
Extension Materials for Them.

By

ANDREA G. JUAREZ
THESIS

Submitted in partial satisfaction of the requirements for the degree of

MASTER OF SCIENCE

in

Community Development

in the

OFFICE OF GRADUATE STUDIES

of the

UNIVERSITY OF CALIFORNIA

DAVIS

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2024

Reconocimientos/Acknowledgments:

I want to start by thanking the University of California Agriculture and Natural Resources (ANR) for funding this project. Through this project, I was able to work with a community that I care so much about because my grandparents and great-grandparents were/are farmworkers. To the farmworkers who participated in this project, thank you for having taken the time to be part of these focus groups and being open with us about your answers. This project would not have been possible without you! Dr. Amanda Crump, thank you for being an awesome mentor and having given me the support to apply to graduate school. I wouldn't be here today writing this thesis, had it not been for you always being approachable and keeping me in check. And to the Crump Lab, especially Ana and Sarai, thank you for providing me with the skills and knowledge to collect and analyze data. Tatiana, thank you for holding writing sessions! Thank you as well to the Community Development Graduate Group (CDGG) faculty for making graduate school a safe environment to ask for help and providing the support needed.

To my friends, Ethan, Giana, and Ruby thank you for having made taking classes together fun when assignments or tasks got hard. A big thank you as well to Adela Contreras, you made sure that I felt comfortable conducting focus groups and provided constructive feedback when needed. To my thesis committee, Dr. Natalia Deeb-Sossa and Dr. Susy Zepeda, thank you for providing me with your words of wisdom and the motivation needed to finish my thesis. To my family and friends, thank you for always believing in me and supporting me even when times get tough in graduate school. To my mom and grandpa, thank you for having made sacrifices in your lives so that I could receive a higher education without having taken on the obstacles that you both faced in your lives. And to my younger brother, thank you for always listening to my rants and making me laugh when my academic journey got tough!

Abstract:

The University of California (UC) has worked for decades with California growers to help address agricultural problems through the University of California Cooperative Extension (UCCE) program. However, there has been a disconnect between well-researched Best Management Practices (BMP) and what is implemented in the fields. This has been due, in part, to training and resources being targeted towards growers/farm owners rather than farmworkers. Thus, a UCCE team developed a research and extension project that aims to work directly with farmworkers to help them build culturally and linguistically appropriate extension resources. As part of the research, a needs assessment was conducted; which will further be defined in the following sections. The data were collected by conducting focus groups with nut crop farmworkers throughout the California Central Valley. The focus groups were conducted in partnership with the University of California Agriculture and Natural Resources (ANR) (the umbrella agricultural extension organization) and a predominately Latina/o-serving agency in Fresno County. When performing this needs assessment, I found that most farmworkers showed interest in in-person training on Integrated Pest Management (IPM). This project is only a small step towards addressing the gap between BMPs and what is implemented in the fields. Therefore, further research should be conducted on the effectiveness of the extension resources created by the farmworker findings. As a potential limitation, only a small portion of farmworkers in California were interviewed and may not accurately represent the total California population of farmworkers.

Researcher Positionality:

I grew up in Davis, California, and from an early age was exposed to agriculture. My



maternal grandparents, both farmworkers from Jalisco and Michoacán, Mexico, lived on a farm and played a large role in helping my mother raise me. Since childhood, I learned to appreciate the hard work of farmworkers and took pride in my grandparents. But it wasn't until I was older that I realized how fortunate I

was to have grown up the way that I did. By attending the Davis Joint Unified School District, I had the privilege of being able to receive one of the best educations in the area and from an early age was told that I was going to attend college. Some days, I wanted to become a veterinarian while others I wanted to become a lawyer. Regardless of what career I wanted to pick, my family always made sure to show me support and expressed how proud of me they were.

However, my passion for agriculture truly sparked when I started to understand the history of farmworkers in my family. My grandfather is an agricultural foreman who not only started working in agriculture young but is passionate about his work. From a young age, although I did not work in agriculture, had the privilege of being able to see first-hand the hard work that my grandfather like other farmworkers faced daily so that individuals like me could shop for various agricultural products at the market. On the other hand, my grandmother came from a family of individuals who weren't afraid to advocate for farmworker rights. Recently, I found a picture where my great-grandfather was present at a protest led by Cesar Chavez.



So, I need to acknowledge that it is a privilege to be conducting focus groups on a community that my elders were and are a part of. Although I come from a family of farmworkers, I am conscious of the fact that there are some struggles that I truly have never experienced. I had the opportunity to attend college, am bilingual, and was born in the United States.

Lastly, I am privileged and honored to have been given the trust of farmworkers as a member of the University of California, Davis. Although, at times farmworkers were unfamiliar with the University of California (UC), they allowed me to explain my intentions and the purpose of my research (focus groups). Rather than dismissing my presence, they provided me with insights of their daily lives and at times felt comfortable to talk about topics that can be hard to talk about such as experiencing exploitation or being discriminated for being a woman. When having these conversations, I thought about my great-grandparents and grandparents who had faced these or similar struggles, and the many stories that have gone unheard. But I was also reminded during focus groups of the pride that farmworkers take in their jobs. They enjoy being part of a work sector that helps put food on people's tables. Through our conversations, I was able to first-hand see and hear the faces behind the agricultural sector and was allowed into their community. I was able to do this when I too, allowed them to ask me questions and talked about my background in agriculture and my Mexican roots. I also did my best to be honest about the capacity of this project such as the types of services we could offer and when appropriate I would throw in jokes to make everyone laugh, because I know how uncomfortable it can be to be open with someone that is unknown. Thus, I was honored to have been trusted by the farmworkers interviewed about the purpose of my research. They not only allowed me to interview them, but they believed in me and the outcome of this project.

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Introduction:

The University of California (UC), particularly through the cooperative extension system (UCCE) has worked directly with California growers for over a century to help them find solutions to their agricultural issues. Some examples of issues include pest management, improving crop production, and finding crop solutions to be water efficient during times of drought to be more profitable. Unfortunately, there is a disconnect between Best Management Practices (BPMs), or methods found to be most effective to prevent/manage pollution from farming operations, and what is implemented in the fields. This is partially due to training targeted towards California farm owners/operators rather than farmworkers in California. It is estimated that California employs about 800,000 farmworkers per year which accounts for about “one third to one half of all US agricultural workers” (Medel-Herrero et al., 2023; p. 16). Thus, a team of extension educators from UCCE developed a project with the intent to work directly with California farmworkers to create extension materials such as in-person training, videos, or books that are culturally and linguistically appropriate for them. It is important to treat farmworkers as part of the solution to help address problems that the agricultural sector is facing. Farmworkers have valuable perspectives on barriers to crop production. Without open conversations and offering technical training, BMPs will be under-utilized, and California’s specialty crops will not be able to face future production challenges. This project addresses the priority of creating and implementing workforce training programs to develop and maintain the technical skills required to keep the California specialty crops sector healthy and competitive with other markets, while also helping farmworkers expand on the technical skills that they currently hold.

Due to training farmworkers being a neglected area of knowledge extension, as part of the project, I conducted a needs assessment with the help of farmworkers, extension staff, and growers to identify knowledge gaps, determine appropriate training formats, and address barriers that may prevent the implementation of these trainings with a focus on orchard systems in California's Central Valley (a long, narrow, irrigation-fed valley in the center of the state where most agricultural products are grown). Based on my recommendations, extension staff, farmworkers, and other farmworker advocates will create appropriate extension materials that are culturally and linguistically relevant to the topics identified as a priority. Lastly, training will be implemented on these skills to build a collaborative relationship among communities, farmworkers, and farm advisors. I did the needs assessment for this project as my thesis. Thus, the research question was: *What are some extension needs of California farmworkers discussed during focus groups and what barriers might prevent them from accessing these extension materials?* In addition to this thesis, which offers a critical look at farmworker training and the lack of extension for farmworkers, I have prepared a report to guide the aforementioned project.

Literature Review

This thesis highlights the importance of having conversations that include California farmworkers in creating extension materials that are relevant to them. However, to understand the significance of extension, it is important to get the breakdown of why it was created and how it helps educate. Moreover, this thesis brings awareness to the extension culture in California and how farmworkers are represented to help understand the importance of including and having meaningful conversations with groups that are normally marginalized.

History of Extension & Farmworker Representation in Extension

Since this project is built around trying to offer extension resources to California farmworkers, it is important to understand the history of extension and its relationship with people of color and women. Although, agricultural extension was created to educate farmers about new scientific research and knowledge, the way it has been made accessible to those who can access it and benefit from it was done intentionally. Today, agricultural extension continues to serve the predominately white farmer¹ community. So first, we will look at the history behind the creation of extension and how it has served the United States. Then we will look at the importance of addressing gaps found in extension and potential solutions to these gaps or ways in which diversity in extension can be promoted.

Through the Morrill Land Grant Act, the United States seized land owned by Native Americans to build various institutions across the United States. The Land-Grab Universities project estimates that nearly 11 million acres of land were stolen from almost 250 tribes, bands, and communities throughout the United States of America to create land-grant universities (LGUs) (McCoy et al., 2021). These universities were then built to provide “research-based programs and resources for residents within their state” (Utah State, 2022) with agriculture being one of their focuses or missions. It is important to look at the impact that the creation of Land-Grant Universities had on Native American people which continues to leave them at a disadvantage today in receiving a higher education. When Native Americans were displaced from their lands, states were further able to profit from the occupations of these lands. Through an analysis done by the Land Grab Universities Project, it was found that the institutions either sold the natural resources found on the land or used them to build the land-grab universities that

¹ Farmer, here, is to be interpreted as farm owner/operator. Rarely are farmworkers considered “farmers” although they do most of the labor and make daily operation decisions on farms.

we have today (McCoy et al., 2021). Sadly, these financial gains were not given back to the Native Americans who lived on these lands.

Moreover, building on these lands has failed to take into consideration the loss that Indigenous communities faced due to being stripped of their land such as their relationship with land and stewardship of it. Along with the impact that it has had on future Indigenous generations and how tribal colleges and universities (TCUs) are seen within the land grant university system (McCoy, 2021). According to McCoy et al. (2021) “While the Morrill Acts provided land endowments, the Equity in Educational Land-Grants Status Act (EELGSA) of 1994 conferred land-grant status on tribal colleges without providing land endowments”. This Act further continued to promote the lack of funding and aid offered to TCUs in agricultural research from other Acts. This forced TCUs to compete for grants to fund agricultural extension and compete with other TCUs. This highlights the importance of being aware of how land-grant universities such as the University of California (UC) were created and the need to further fund the education of Native Americans.

Women have also had a history of being left out of extension conversations. Oftentimes, the role of agriculture is associated with men or needing to be masculine. Mary Barbercheck et al. (2008) states, “[W]omen are not viewed as having bodies that enable them to farm, rather their bodies are seen as lacking in masculine attributes leading to the view that women’s work on farms is easier and of less value than men’s work”. In a study conducted on women farmers in Pennsylvania in 2000, it was found that many of the participants felt isolated and did not have women in their support network. This further shows the gap between men and women in agriculture. Because of these inequalities, research has been started to help improve the quality of extension and diversify the field to be more inclusive, including this thesis research. By

changing the way that extension operates there are opportunities for the relationship between farmworkers and extensionists to improve. Research such as the one I conducted is meant to help improve the relationship that the UC has with California farmworkers with hopes that it will be used to further explore ways in which this can be improved.

California Farmworker Representation in Extension

California's agriculture has a history of creating systems in which people of color, especially farmworkers, are left at a disadvantage. The Agricultural Extension Service (AES) was created in 1914 to promote agricultural research and educate farmers by using a "harmonious hierarchy" that benefited the white California community (Firkus, 2010). Californians promoted rulings and laws that excluded non-whites from citizenship forcing them to work cheap farm labor jobs. Acts such as the Smith-Lever Act were used by California to further fund extension activities by having county-level farm advisors and home demonstration leaders, both white, promote the development of extension. According to Firkus (2010), "These educators were chosen, supervised, and paid through the University of California". This highlights the role and influence that the UC played in building a negative relationship with California farmworkers, highlighting a need to diversify the community of agricultural extensionists in California.

Currently, there are barriers in place that perpetuate racism in extension such as having limited Spanish materials and having barriers in place that make it challenging for people of color to become extensionists, which if addressed can help promote extension materials that are relevant to Spanish-speaking farmworkers. For example, papers on the role of governments and finding ways to maintain healthy working and living conditions for farmworkers are limited (Medel-Herrero et al., 2023; p. 16). The production/creation of culturally relevant

information/reading for farmworkers can be connected to the barriers in place that determine who is qualified to be an extensionist. An extensionist agent, or extensionist, typically requires a bachelor's or master's degree in their area of expertise. However, to conduct research or teach at the university a doctorate may be required (FFA, 2024). Requiring higher education to become an extensionist can then influence the culture of extensionists and make it challenging for people of color to become one. In 2021, it was estimated that about 8% of Latinas/os in the United States held an advanced degree (Lopez & Mora, 2023). Thus, the requirements in place to become an extensionist continue to impact who can become an extensionists.

As this literature review has shown, there is a gap in access for farmworkers to receive materials from agricultural extension and a lack of extensionists of color. Using a focus group² methodology to privilege the collective voices of farmworkers, my research has the following question “*What are the extension needs of California farmworkers and what barriers are going to prevent them from accessing these extension materials?*”. Below I outline the methods for uncovering this answer and make recommendations after presenting and discussing the results.

Theoretical Framework:

For this research, I used the Latina/o Critical Race Theory (LatCrit) framework to help guide and inform my research. LatCrit is a branch of Critical Race Theory (CRT)³ that looks specifically at the experiences of Latinas/os and how they are impacted by various factors⁴ in the United States. Through this theory, we can focus on the oppression and challenges that the

² Focus groups are defined as “group interviews in which group interaction and discussion centers on a topic specified by the researcher” and “produce insights that would be difficult to obtain through individual interviews” (Umaña-Taylor & Bámaca, 2004; p. 261).

³ CRT focuses on the racism and challenges that people of color face due to institutions in place in the United States that have promoted inequality through laws and legal systems.

⁴ Some of these factors include but are limited to gender, social class, language, racism, and immigration status.

Latina/o community faces that may not be as common in other marginalized communities due to their unique and overlapping identities. While also being conscious of the need to create a welcoming environment where they feel seen and heard.

Latina/o Critical Race Theory (LatCrit)

Latina/o Critical Race Theory is a framework that offers insight into the ways that racism is more than racially biased attitudes and actions, but a social structure created by White elites to preserve their social status (Gutiérrez & Lechuga-Peña, 2022; p 605). As stated before, LatCrit is a branch of CRT that takes into consideration the experiences of other communities beyond the Black/White paradigm. Latinas/os, like other communities of color, hold multiple identities, or intersectional identities, that require individuals to be conscious that these identities such as race, gender, and immigration status can lead Latinas/os to face multiple systems of inequality (Gutiérrez & Lechuga-Peña, 2022; p 606). Through, structural and institutional racism white elites marginalize communities of color such as California farmworkers, who are predominately of Latina/o descent, by supporting policies and laws that maintain systems in place that promote wealth inequality and racial disparities among other factors. Rather than recognizing the great contributions⁵ that farmworkers play in the agricultural sector and promoting systems that actively help improve the overall quality of life of farmworkers.

This is actively being done through structural racism⁶ which oppresses farmworkers daily. Through laws and economic inequalities, white elites can legally take advantage of farmworkers without facing repercussions. According to Ruqaiijah Yearby et al., “[F]ederal and

⁵ Agriculture is a job that not only labor intensive, but also a job that is low paid for expecting farmworkers to be exposed to harsh working conditions and having little to no health benefits.

⁶ Defined as “a pattern of action in which one or more of the institutions of society has the power to throw on more burdens and give less benefits to the members of one race than another on an on-going basis” (Golash-Boza, 2022; p.132).

state laws limit agricultural workers' union rights, pay, and benefits compared with the rights provided to white workers" (2023). Without legal protection, farmworkers who are predominately Latina/o encounter harsh working conditions, which are exacerbated due to their immigration status. Propositions such as "California's Proposition 187, make it legal for farmers to pay non-US citizen agricultural workers only enough for daily survival" (Yearby et al., 2023). Laws such as these promote unfair wages among agricultural workers, which promotes poverty⁷ for a labor-intensive job and minimizes the access to resources among farmworkers. Resources such as access to healthcare, work benefits, or opportunities for higher education to name a few. Thus, making it important to acknowledge that structural racism needs to be addressed when helping farmworkers to better work with them. Rather than assuming that they are not interested in extension materials, or trainings that can help expand on their agricultural knowledge that can lead to them accessing other jobs opportunities. Instead, it is important to be conscious of the systems in place that work against farmworkers through policies and laws to oppress them.

Methodology:

The research method used for this project was focus groups. Focus groups are a qualitative research approach in which "the researcher introduces the topic for discussion and

⁷ Natalia Deeb-Sossa et al. states, "Although farmworkers' strenuous work and long hours result in abundant food at low cost for most costumers, full-time farmworkers earned only about \$30,000 a year in California in 2015" (2024, p.5). This informs that farmworker although, being vital to the survival of humans, are paid wages that promote wealthy inequality among farmworkers, and they are expected to be able to survive with the cost of living. Thus, forcing them to have limited access to resources and combating stressors that can help improve their overall quality of life.

then invites and moderates for discussion” (Cameron, 2000; p. 84). Focus groups held in groups of 6 to 10 people are found to be useful in obtaining far more information than other methods because participants’ responses and energy can influence others to respond (Cameron, 2000). Although focus groups are meant to get information from participants, I had the opportunity to have personal conversations with farmworkers present. Something that I would have missed out had I taken a more quantitative approach.

Moreover, finding a research method that is created for Latina/o communities and other marginalized groups is limited. Oftentimes, scholars attempt “to accommodate and apply existing research” to work with marginalized communities through methods that were created using white ideology lenses to conduct research (Umaña-Taylor & Bámaca, 2004; p. 261). However, to help develop theory, scholars have found qualitative methods such as focus groups to be effective in understanding the experiences of Latinas/os. Although focus groups are used to collect data, they allow meaningful conversations to be carried out by getting to know the participants and by giving both, the researcher and participants, the opportunity to make changes as needed when asking questions or needing clarifications.

Furthermore, focus groups due to their setting are like círculos, or circles, which is an Indigenous practice of Mesoamerica, that was recognized as a place of importance. But the Latina/o community utilizes this method in present-day. They were places “for people to find, support, comfort, and healing” (Tello, 2017; p. 232). This sacred location, or meeting point, was a safe space where communities came together to reflect and be respectful of each other. So, focus groups are important and highlight the impact that círculos can have on Latina/o communities. But the Circle Keeper⁸, or researcher(s), also plays a large role in establishing the

⁸ I would further like to highlight that a Circle Keeper is part of an Indigenous practice of Mesoamerica and not necessarily a Latina/o practice. Yet, the Latina/o communities use this method at times.

circle's environment. Jerry Tello states, "The Circle Keeper takes on the role of example and guide" (2017). The Circle Keeper, in other words, can be like a facilitator that helps set the tone and helps provide support as needed, beyond asking questions to collect data. So, before having everyone sit in a circle, I tried to start with an icebreaker to help everyone in the room and I get to know each other. This allowed us to engage in small talk, while we ate and gave me the opportunity to address tension in the room. Thus, focus groups, unlike other research methods, are culturally relevant⁹ to Latina/o farmworkers, and help create a safe space where participants can feel comfortable and feel respected.

Lastly, the focus groups for this research were held in settings familiar to farmworkers whether it was at their work site or in a building that they visited to receive services from. We then offered food and drinks that were culturally relevant to farmworkers as a way of sharing a meal. Culturally responsive focus groups (CRFGs) have been found to be beneficial for marginalized communities. Culturally responsive is defined as "instructional strategies which center 'equitable social power or cultural wealth' in the learning environment" (Rodriguez et al., 2011; p. 401). This focus group approach encourages researchers to acknowledge that there are alternative experiences, strengths, and cultures among other factors that shape the lives of participants and to not limit one's understanding to the dominant culture paradigms (Rodriguez et al., 2011). This brings attention to the importance of validating the identities of participants and for "researchers to be reflective of the best environment for their participants" (Rodriguez et al., 2011; p. 410). As a researcher, I also was aware of my various identities and showed my appreciation and interest¹⁰ in hearing about the farmworkers being interviewed experiences. By

⁹ Some examples of culturally relevant food include offering foods that are familiar to farmworkers or supporting small local businesses within the farmworkers' community.

¹⁰ I did my best to maintain eye contact with participants as they spoke and when appropriate asked follow-up questions, or farmworkers to further specify their answers.

being aware of my multiple identities¹¹ such as gender, race, and class I was able to remain aware of the dynamics in the setting and create a safe space for participants (Rodriguez et al., 2011). Thus, it is important to be aware of the structure of the focus group when working with marginalized groups such as farmworkers to create a safe environment and be aware of the cultural relevance of focus groups.

Site Selection & Recruitment Process

Due to the obstacles faced with finding a partnering organization that worked directly with farmworkers, the first eight focus groups were selected with the help of farm advisors throughout the Central Valley. When selecting participants, it was asked that farmworkers were Spanish-speaking and that they worked in agriculture. Thus, the first half of the focus groups were conducted at the farmworkers' jobs during lunch hour to avoid interfering with their work schedule, especially during busy seasons. However, the other half of the focus groups, or eight focus groups, were selected with the help of an agency that provides a variety of social services to individuals across Fresno County. Most of the people that they serve are Spanish-speaking only and farmworkers. Our partners not only helped select focus group participants, but they also helped organize when and where focus groups were conducted. When putting focus groups together, some focus groups were specifically one gender while others were mixed genders. This allowed us to help address power imbalances related to gender roles.

Setting(s)

Although each focus group location varied due to being conducted at 11 different sites, the setting tended to be the same. We requested that each site be at a quiet location free of distractions so that farmworkers had a safe environment to answer the focus group questions. It

¹¹ Although, I am Mexican-American, speak Spanish, and am the granddaughter of farmworkers, I had to be conscious that I was an outside person and that each farmworker had their own story/experiences with agriculture.

was also asked that each site selected had a table and seating available. By having a table, or flat service available, not only was it required for the audio recording equipment to be set up, but it allowed everyone to be facing each other. This gave both the participating farmworkers and facilitators, including myself, to look at the person talking and to identify any distractions during focus groups. Some focus groups were conducted on farms during work hours, while others were conducted in conference rooms at the different locations of one of our partners. For confidentiality purposes, the exact locations and partner names are not provided, but they were conducted throughout the Central Valley.

Moreover, as a researcher, I found it important when entering focus groups to start by addressing any tension noticed in focus groups. Oftentimes, I did this by telling participants about myself and then going into the purpose of the focus group. This helped me find similarities with participants and was useful when I interviewed participants in areas that I was unfamiliar with. Furthermore, I tried to add humor to the focus groups when appropriate. This helped because I wanted to remind farmworkers that although, we were having a serious conversation all of us present were people. I was collecting data, but more importantly, I cared about their opinions, and we didn't have to be monotone.

Data Collection

A total of 16 focus groups were conducted between July 2023 through March 2024. On average, each focus group lasted between 45 to 60 minutes and had about 10 participants per focus group. By limiting the number of participants per group, I wanted to ensure that everyone had an opportunity to talk. To better focus on the responses, at least two researchers were present during focus groups. One facilitated, or asked the questions, while the other took notes of any missed comments or actions of participants while providing additional support as needed. During

this time, 14 questions were asked in Spanish and can be found in the Appendix section of this paper in English. **Some examples of the questions asked in Spanish:**

- ¿Me pueden contar sobre un día normal en el trabajo y sobre sus responsabilidades?
 - What is a normal workday like and what are your responsibilities?
- ¿Les interesan entrenamientos o certificaciones que pueden obtener afuera del trabajo?
¿Obtener nuevas habilidades para obtener un trabajo un distinto? ¿En qué temas?
 - Are you interested in training or certificates that you can obtain outside of your job? How about new skills that could help you obtain a different job? If so, what types of themes interest you?
- ¿Hay algún obstáculo que les impida utilizar estos recursos?
 - Are there any obstacles or challenges that may prevent you from attending training?

Before starting the official focus group recording, we offered food to the participants and used it to get to know each other. This time was crucial because it allowed us, the facilitator and notetaker(s), to get to know the farmworkers and address any questions or concerns they may have. I found it nice to make jokes here and there during focus group sessions to remind farmworkers to not feel intimidated by the questions asked. Next, right before starting the audio recording, I made sure to read the consent form meant to not only further inform the participants about our intentions, but also to remind them that this was voluntary and that at any time they could leave with no questions asked. Lastly, once the audio recording was stopped, farmworkers were offered a \$50 - \$125 gift card as a token of appreciation for taking the time out of their days and trusting us with their opinions. Gift card amounts ranged because the first focus groups were conducted during work hours and the farmworkers were also receiving their pay.

My next step once all focus group recordings were collected was to transcribe the farmworkers' responses and find common trends among all 16 focus groups. This was done by coding the transcriptions in which each focus group was given a number. Once this was done, I created a system in which colors were assigned to different categories, and I looked for common words/themes that kept on popping up throughout focus groups. The five top themes that emerged were: Integrated Pest Management (IPM), Machinery, Plant Production, Grafting, and Chemical Use. Once, I finished analyzing the coding data I went back and listened to the recordings to make sure that I captured the participants' responses correctly to select appropriate quotes. Recordings also allowed me to go back and listen for any missed details that I may have not caught or were highlighted in the notes taken.

The data¹² were then used to create presentations and reports for the partners involved in this project to help guide the partners involved in this project in building culturally and linguistically appropriate extension materials for California farmworkers. In the next few months, we expect to create in-person trainings and offer them to California farmworkers in multiple sites including where focus groups were conducted as a way of providing the found results to our focus group participants. When conducting focus groups farmworkers expressed that they wanted to be invited to the trainings created with the conversations that we had.

Results & Findings:

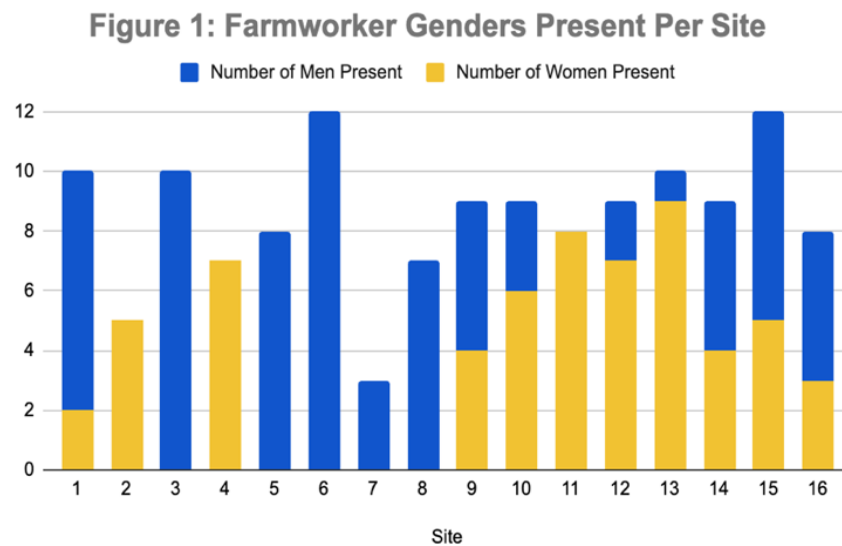
A total of 136 farmworkers were interviewed for this project. It is important to acknowledge that although the majority of farmworkers present were Mexican, about 15% of the farmworkers interviewed were from other countries in Central America. When asked about their

¹² I would also like to highlight that to analyze the data, I also had to translate the focus groups from Spanish to English. This was a step that also took time.

agricultural background, many shared that they had worked in agriculture back home and shared personal stories about their experiences. When asked about how long they had worked in agriculture, experience ranged from having been a farmworker for over 50 years while others were new to agriculture and had only a few months of experience.

Moreover, some focus groups were limited to being of all the same gender, while other focus groups were mixed gender (Figure 1). This was done to help create safe spaces for women who may feel uncomfortable due to the presence of males. Next, although most farmworkers worked in nut crops,

there were various individuals with experience working with fruits and vegetables. About 10% of farmworkers were identified as



not working year-round in California. Instead, they move to states such as Washington in hopes of having employment year-round. Thus, most farmworkers interviewed were found to stay year-round in California.

Overall, the farmworkers who participated in this project are Spanish-speaking only. Other languages spoken included English or a native Indigenous language. But all, if not most, choose Spanish due to it being their main language spoken or the fact that it would be challenging to translate material into a native Indigenous language. One farmworker, who speaks

Mixteco¹³, expressed that even within their native language there are language variations and that it would be difficult to find translators for the materials being created. Furthermore, during focus groups although farmworkers were not asked explicitly about their educational levels, various farmworkers felt comfortable enough to tell us that they had limited reading and/or writing skills in Spanish that could prevent them from accessing these extension materials. This led to a greater interest in having extension resources being offered in-person to help address challenges because of farmworkers having different educational levels.

Thus, the following results were identified with the help of the farmworker focus groups conducted. Farmworkers were asked to identify agricultural topics that they would like to learn more about to expand on their work skills. They were then asked to identify their preferred methods of learning and the types of barriers that may prevent them from accessing the resources once they are created.

Barriers Identified Among Farmworkers

During the needs assessment, the top three barriers identified were childcare/family responsibilities, financial/time barriers, and transportation barriers. Farmworkers expressed that these barriers would make it challenging for them to access the extension material when created even if, they wanted to attend in-person training. So, it is important to understand these barriers and find ways in which these barriers can be overcome to help farmworkers access the extension material. By addressing these challenges, we hope to make extension materials more accessible.

First, childcare/family responsibilities were found to be the number one barrier to being able to access extension material. Childcare and family responsibilities were found to overlap in

¹³ Mixteco is a Mesoamerican or Indigenous language spoken in parts of Mexico such as Oaxaca.

the sense that farmworkers, especially women, stated that to attend training they needed to find childcare for their children.

Yo tengo que cuidar a mi papá saliendo de trabajar, [...] Él tiene 93 años y ahorita mi hermana lo cuida. [...] Y yo, en las tardes, yo me encargo de él.

-Site 8: Male farmworker must look after elderly father in the evenings.

Por ejemplo, si yo no hubiera conseguido niñera, yo no hubiera podido venir.

-Site 10: Female farmworker would not have been able to attend focus group had it not been for having found a babysitter.

El mío serían mis niños porque no tengo con quien dejarlos.

-Site 11: Female farmworker does not have someone to look after her children.

These quotes highlight the need for childcare. Farmworkers have children and, in some cases, other relatives to look after, which prevents them from being able to attend events or access resources that are targeted for adults. This results in the parent having to find childcare or to miss the opportunity due to not having the resources or the support to find additional childcare. Some solutions to this issue would include providing free qualified childcare during in-person trainings or providing economic support to find additional childcare during these trainings. This would help alleviate the stress of finding childcare or the support needed to look after relatives that individuals are responsible for.

Second, financial/time barriers were found to be another obstacle that could prevent farmworkers from accessing extension materials. Farmworkers expressed that they had to work

to provide for their families and themselves. This would make it hard for them to miss work unless there are accommodations made that would not result in the loss of income.

Lo que pasa también es que vivimos de lo que trabajamos. Y si nosotros queremos entrar a una escuela [...] es como ahí, si invertimos tiempo y a veces se invierte dinero y eso nos impide avanzar en lo que estamos haciendo.

-Site 6: Job provides for them and their family. Thus, missing work would impact them economically.

Más uno como mujer, no nos valorizan porque nosotros tenemos que pagar babysitting y a veces no sale [...] y venimos pagando más de lo que ganamos. Pero como somos mujeres trabajadoras, seguimos allí aunque no nos sale.

-Site 11: A female farmworker expressed that they spent most of their earnings on childcare. But, due to being hardworking continue to work in agriculture even if most of their gains went to childcare.

Pues yo pienso que todo depende en las clases y también la situación. Porque, pues, si uno viene a las clases cuando no hay trabajo y no hay dinero, pues ¿con qué las va a pagar uno?

-Site 13: A farmworker expressed that they are interested in trainings but would not be able to attend if they don't have the income to do so.

These quotes serve as a reminder that farmworkers are interested in expanding on their agricultural knowledge, however, they cannot miss work or there are times when income is limited due to their work being seasonal. To make ends meet and be able to provide for their

families, they are discouraged from accessing resources that impact their economic situation. Thus, it is important to offer extension materials during times when farmworkers are not working or, if possible, offer these trainings during work hours and have compensation for their participation. To make the training accessible, it was expressed that training would be more accessible if offered on weekends (Saturday/Sunday) according to 13 out of the 16 focus groups. Preferably during winter when nut crop farmworkers are less busy.

Lastly, transportation barriers were an issue brought up that could prevent farmworkers from accessing extension materials. The transportation needs ranged from not being able to drive at all to not being able to drive long distances. Some farmworkers expressed that this barrier would make it challenging for them to access extension resources depending on the distance needed to travel.

Yo, porque no sé manejar [...] Pues ni si crea que tanto, porque ayer me fui caminando a la tienda [...] Y estaba bien caliente y tuve que regresarme.

-Site 4: A farmworker laughing expressed that sometimes people have excuses to access resources. However, another farmworker laughing replied that they didn't know how to drive and that they had gone to the store walking, but due to the heat had to return home.

Porque si están retiradas las pláticas que van a dar, y si no puede uno o si no encuentra quien lo lleve. Sería un obstáculo ese.

-Site 13: A farmworker expressed that they would need transportation to attend trainings far away.

Creo que todos los que estamos aquí tenemos bicicleta

-Site 14: The farmworker lightheartedly expressed that they all had bicycles to attend trainings. So, if they had the opportunity to attend trainings, they would find a way to get to the trainings. Others in this focus group agreed.

These quotes remind us that there is a transportation need that would make it challenging for farmworkers to access extension resources if offered in locations that require traveling outside the area where farmworkers currently reside. Some solutions to this would include offering extension resources locally or providing additional transportation resources to help farmworkers get to these trainings.

Most Common Agricultural Topic of Interest & Understanding “Why?”

The top topic of interest among farmworkers was Integrated Pest Management (IPM). Farmworkers found these topics to not only be relevant to their professional/advancement interest but also to their interest. Farmworkers expressed that they wanted to expand on their knowledge and better understand observations seen at work. They also expressed the want to learn from professionals and mentioned wanting to obtain higher pay or willingness to change positions if the occasion arose.

Siempre andaba como en donde estábamos, nos encontraba y nos decía si estábamos bien o si alguna cosa le habláramos a ella. [...] Sabía bien mucho.

-Site 4: The farmworkers in this focus group expressed liking having a bilingual professional accessible to them.

Hay unos insectos para la plaga. [...] Qué tiene que dejar una plaga que unos animalitos se comen a las otras. [...] Y antes se usaba mucho el insecticida.

-Site 7: Farmworker expressed an interest in learning more about natural enemies to combat plague in place of insecticide.

Dos de mis hijos estudiaron FFA en la high school [...] Cuando él estaba en ese proceso, a mí me invitaba a ser voluntaria. Pero me sirvió porque yo estaba aprendiendo un poco, no nomas de los animalitos, sino también un poco de las plantas. Entonces yo también quería tener un certificado como el de él. Entonces decidí estudiar la high school ya como adulta [...] pero no me dieron la opción de obtener ese certificado que yo quería igual que mi hijo.

-Site 15: Farmworker shared that both of her sons were in FFA during high school and that this allowed her to be a volunteer for FFA. While also giving her the opportunity to learn about insects and plants. So, she was inspired to enroll in adult education in hopes of obtaining an FFA certificate like her sons. Unfortunately, she was unable to do so.

These quotes further support the concept that farmworkers are interested in expanding on their agricultural knowledge beyond personal interest. They are interested in expanding on their professional interest. They want to better understand the observations that they are making at work and be able to learn from agricultural professionals to ask them questions. Moreover, if given the opportunity they are interested in obtaining certificates that help them expand on their knowledge but serve as proof of what they have learned.

Understanding the Difference Between Farmworker Communities

When conducting focus groups, it was found that each focus group was different from one another. Although there were similarities among focus groups, some of the greatest differences noticed were age, gender, and community differences. This is important to take into

consideration because it highlights the importance of not seeing all farmworkers as one-size-fits. It is important to be aware that community needs can vary from location to location which can further impact how they access resources, especially extension materials.

First, the relationship between farmworkers of different age groups varied. During focus groups, older individuals tended to lead the focus groups. This resulted in us the facilitators either having to encourage younger farmworkers to join the conversation or for older farmworkers to include their peers. Younger farmworkers also expressed that they felt like older farmworkers didn't like younger individuals to promote. While others expressed that family dynamics influenced the opportunities of farmworkers in agriculture to expand on their work skills.

No quieren ver a una persona menor que ellos trabajando en un puesto más grande que ellos, pues. Y les molesta a la gente mayor, a veces o familiares, también depende.

-Site 12: A younger farmworker expressed that their older peers, or even relatives, at times gave their younger peers a hard time when they were in higher work positions.

Yo lo que he mirado es que si el mayordomo tiene familia, de preferencia le da la [oportunidad] a él.

-Site 15: Foremen prefer family members over other farmworkers.

These quotes highlight the power imbalances that may arise when older farmworkers are present and the types of relationships that they may have with their younger peers. Also, that there are going to be times when the researcher, or person working with farmworkers, must take the initiative of addressing power imbalances or has to encourage equal opportunities to access resources among farmworkers.

Next, gender differences were noticed especially when comparing focus groups. Women farmworkers expressed more concerns over childcare/family responsibilities, discrimination, and exploitation such as unpaid work or sexual harassment. This is not to say that male farmworkers do not experience this as well, however, there was little to not mention of these topics on their behave.

Pero como las que tenemos, pues niños chiquitos, es a veces como más difícil veda [...] Yo llego a la casa y ya me están esperando, ya tengo hambre [...] Trato de que si algo, les llevo algo de la calle o algo rápido para que coman porque sé que me están esperando.

-Site 4: A female farmworker lightheartedly expressed that having small children is an obstacle, since they have children waiting for them after work to make them food. So, she tries to get them fast food or make them food quickly to eat.

No sé en qué tiempo se dará la blueberry aquí [...] y el señor [...] y nos roba los botes. Y no sé por qué nos hace eso. [...] Como es por contrato, se aprovechan porque la gente anda bien rápido. Y dicen que lo ponchan, pero lo hacen en el mismo hoyito.

-Site 11: A female farmworker expressed that they weren't being paid correctly for their work. They were contracted and paid per bucket collect of blueberries, however, the person in-charge of keeping tabs of the buckets would hole punch the same hole again. Another farmworker expressed that they had a similar issue and had to make sure that the number of buckets they collected was reflected.

En el empaque donde trabajé yo, es bien chistoso. Porque siempre, si hay un puesto mejor para el que nos contrataron, van a mirar a las mujeres. [...] Quien es la apariencia más bonita, a esa le vamos a dar el puesto.

-Site 12: A farmworker shared that at her work, men would look at women's physical appearance and that that would help them promote.

These quotes bring awareness to some of the concerns that women in agriculture continue to face such as having family responsibilities, being paid unfairly, or being judged on their physical appearances to promote. As a researcher, I knew that women continue to face challenges such as these but hearing them in-person reminded me that not everyone has the same access to resources.

Lastly, community differences were noticed when comparing farmworkers among the Central Valley. In other words, each farmworker community had different resources available to them which serves as a reminder that not all farmworker communities experience the same opportunities. Some differences included topics of having access to trainings, job security, and exploitation.

Hace poco, en Octubre, mi esposo estaba trabajando y estaba solo con su compañero y de repente le dio un paro cardiaco. Y nadie estaba a cargo de allí. [...] Como trabaja cerca de los [campos] de Fresno State, y lo bueno que pasó una muchacha que está estudiando de medicina. Y ella le dio los primeros auxilios. Por eso es que se salvó él. [...] Que las personas que estén encargadas que estén entrenadas para dar todo ese tipo de esa emergencia.

-Site 9: A farmworker shared a story where her husband and his work partner were working out in the fields in October, when his coworker suddenly suffered a cardiac

arrest. Since they work near Fresno State, a medicine student happened to walk by, and she performed CPR. The farmworker expressed the importance of having foreman and other people in-charge to be training in responding to medical emergencies.

Pues depende cómo esté el bolsillo. [...] Sí, porque tampoco puedo decir que voy a pagar igual que ello, porque si ahorita no estoy trabajando y tengo que dejar de darle de comer a mis hijos para tomar la clase. Primero les voy a dar de comer a mis hijos.

-Site 10: A farmworker expressed lightheartedly that their ability to pay for trainings would depend on their ability to work. However, if it came down to choosing between feeding their child or attending trainings, their family came first.

También se nota mucha discriminación y todos trabajamos por una necesidad.

-Site 13: Farmworker expressed that farmworkers face a lot of discrimination and that they worked due to necessity.

Therefore, it is important to be aware of differences between farmworker communities and that factors such as age, gender, and community location impact the experiences of farmworkers. In other words, when creating extension materials, it is important to be conscious about the fact that each farmworker community is different. So, it is important to work with local community members or people within the farmworker community that we are working with to gain a better understanding of their experiences and needs. This can help insure that each community is being heard and that there is a greater opportunity of addressing their needs correctly.

Discussion:

The findings of this project indicate the importance of having conversations with California farmworkers about the skills they have and ways in which these skills can be expanded on. The majority of farmworkers present showed excitement towards the idea of being able to expand on their skills and expressed that they looked forward to the outcomes of our focus group findings. This project served as a reminder that when conversations like these are made accessible to farmworkers there is an interest to want to be involved. It also highlights the need for the University of California (UC) to work with farmworkers to create extension materials that are both culturally and linguistically relevant. Thus, further extension outreach should be conducted to reach populations beyond growers/farm operators.

Moreover, this research showed that farmworkers are interested in learning and expanding their agricultural knowledge. However, there are barriers in place that prevent farmworkers from having the opportunity to use BMPs in the fields. Through additional funding, whether it be local, state, or federal funding training could be promoted among farmworkers to help incentivize the use of BMPs. This would not only expand farmworkers' agricultural knowledge but also help improve the agricultural sector. Some of these benefits could include but are not limited to having farmworkers be knowledgeable on pest and disease identification which can help manage or prevent damage to crops, or further promote farmworker safety to prevent work injuries. Thus, if funding is provided to promote extension outreach farmworkers would not only benefit, but the agricultural sector as well.

Linkage to Theory

The LatCrit framework helped provide me with an understanding of the intersectional identities that California farmworkers hold. These identities can then lead to multiple system of

inequality so, it important to acknowledge the various factors that impact can impact farmworkers and daily decisions. For example, some non-agricultural topics that were brought up during focus groups included topics of sexual harassment, legal status, and job security among other topics. Due to not being able to speak English and/or being undocumented, some farmworkers felt like they could not speak out and if they did, they felt like there would be repercussions. Thus, they felt like they had no other choice but to accept their work conditions to provide for themselves or their families.

It also highlighted the structural racism that farmworkers face that prevents them from being able to improve their quality of life due to not having access to competitive wages and limited career opportunities. Farmworkers showed interests in the focus groups, and many expressed that if the results of these trainings lead to other job opportunities or high pay, they would be glad to be part of the extension materials created. Moreover, this brings awareness to the fact that there is a desire for farmworkers to learn and to be included in conversations that can improve their quality of life and expand their job opportunities. The University of California (UC) by getting involved with farmworkers can help not only help fight structural racism, but build a stronger relationship with a community that is vital to the production of food across the United States.

Limitations and Lessons Learned

There were limitations to this project. However, it is important to acknowledge that this is one of the first projects of its kind. First, focus groups were limited in both capacity and by when they needed to be conducted. This was mainly because it was challenging to find a trusted partner to work with, especially since we are working with a vulnerable population. This caused the project to be pushed back due to having a challenging time connecting with farmworkers

across the Central Valley. Next, a limitation I noticed was that due to timing purposes, the time allocated to get to know the farmworkers being interviewed was limited. Before starting focus groups, it was crucial to address any power imbalances or identify families to allow everyone to feel like they could speak out. At times, the opportunity was missed to address these power struggles because we were conscious of respecting everyone's time.

Moreover, only a small portion of farmworkers were interviewed for this project. Most farmworkers were nut crop farmworkers who worked in the Central Valley, and all spoke Spanish. This is an important detail to highlight because not all farmworkers in California are of Latino descent and speak Spanish. I also had to be conscious and respectful of the different farmworker literacy skills. Although we had printed materials, not all farmworkers were able to read and write. So, I learned quickly to not assume that everyone was able to do so or that not everyone was comfortable enough to tell me.

Next, there were focus groups where farmworkers were unable to join due to having to work or having overlapping commitments that prevented them from being able to participate. This served as a reminder that extension materials should be offered during times when farmworkers are not working or if possible, offer these trainings during work hours and have compensation for their participation. Rather than assuming that farmworkers were not interested enough to join the focus groups. I had to remind myself that not everyone has the privilege of getting paid to attend training or has the support from their employers to get time off whether it be paid or unpaid.

But, regardless of the limitations present, it is important to acknowledge that it was a learning process for all involved and that farmworkers were truly interested in the types of extension materials that the University of California Agriculture and Natural Resources (ANR)

can offer. As a researcher, I learned that no matter how much planning was placed into running focus groups it was important to be flexible and that leading focus groups is a collaborative effort.

Future Research

Further, research is still needed with farmworkers across the state. When conducting focus groups, farmworkers expressed interest in the different tools and services that the University of California (UC) and ANR could offer beyond agricultural-related topics. Some interests included legal advice, improving farmworker working conditions, and having access to services that can help with addressing toxic work environments among other topics of interest.

Moreover, not all farmworker communities were taken into consideration. Due to Spanish being the other language spoken by individuals on the project, there was a focus on the Spanish-speaking farmworker community. However, there are other non-Spanish-speaking communities of farmworkers. Also due to having struggles with finding a partner early in the project, focus group numbers were limited due to timeline restrictions, and only farmworkers in the Central Valley were interviewed. So, it is important to continue working with farmworker communities across the state to better understand the different community needs and wants.

Lastly, it is crucial to continue updating extension materials created with time and to continue working with communities that work with farmworkers. Especially, with new technological advances in agriculture being on the rise. This would help keep extension materials relevant and useful to farmworkers. But, by working with communities that work with farmworkers we can continue getting insight on farmworker needs. When conducting focus groups in different areas, I quickly realized that each farmworker community had different, but similar needs. However, by working with a diverse group of researchers, extensionists, and a

Latino-serving community we were able to support each other with offering information or details that we may not know. It also helped because farmworkers were able to identify one of us as being part of their community.

Overall, this project is only the start of something greater. Farmworkers expressed an interest in being a part of more focus groups in the future and being kept in the loop of the extension material being created. At times, some individuals expressed that they knew other farmworkers who would have enjoyed being part of our conversations. So, there is plenty of room to continue having conversations like these with California farmworkers. I strongly recommend for extensionists to work with a diverse group of people. There are going to be times when we feel uncomfortable and that is fine. But the fact that we are making the effort to have conversations with farmworkers is appreciated.

Conclusion:

When conducting the needs assessment, I found that farmworkers showed an interest in expanding their knowledge of various agricultural topics and other resources that the University of California (UC) can offer with time. Although some farmworkers were hesitant at first with or unfamiliar with the University of California, especially me being a member of the UC, they allowed me to explain my intentions and the purpose of my research. Through focus groups, I had the opportunity to try and create a safe space for each farmworker community to come together and reflect on their extension needs. This provided me insight into the agricultural interests of California farmworkers which will be turned into culturally and linguistically relevant extension materials for Spanish-speaking farmworkers. This project is only a small step towards addressing the gap between Best Management Practices (BPM) and what is

implemented in the fields. Only a small portion of California's farmworker population was interviewed. However, it was a project that when interviewing farmworkers across the Central Valley was well received and highlighted the importance of giving farmworkers a voice on agricultural-related topics. Thus, it was a privilege to have been part of these focus groups.

Appendix:

Farmworker Focus Groups – Nut Crops

Focus Group Questions in English

Opening Questions to gauge general population:

1. Please raise one of your hands if your first agricultural job was in another country other than the U.S.
2. Please raise one of your hands if you have participated in agriculture in another country for other reasons (not job-related)
 - a. Farming with family
 - b. Subsistence farming
3. Please raise one of your hands if you have worked in California for less than 5 years ...
 - a. Between 5 to 15 years
 - b. More than 15 years
4. Please raise one of your hands if you work in California year-round.
 - a. Split time between another state or country?
5. Please raise one of your hands if you have worked in orchards (fruit, nut)
 - a. Fruit or vegetable cultivation (tomatoes, melons)
 - b. Grain cultivation (wheat, rice)

Set of Questions: Introduce the project and illustrate what we want to achieve → Finding ways to improve their lives by performing targeted skill-based interventions.

6. What is a normal workday like and what are your responsibilities?

- a. Are there activities that you do daily?
 - b. Are there opportunities to learn more?
 - c. Are there activities that you can select to do?
7. What are some operational farming skills that you would benefit from?
- d. Examples (if they get stuck can ask about):
 - a. Machinery
 - b. Leadership
 - c. Planting
 - d. Pest Management, Disease Control
 - e. None
8. In your job, does obtaining these training or certificates result in higher wages, more experience, or opportunities to be promoted?
9. Outside of your work duties, are there themes or agricultural concepts that you would like to learn about?
- e. Examples:
 - a. Something interesting seen?
 - b. Questions about field observations?
 - c. Other focus group participants have shown interest in learning about diseases that they have seen on plants, would you also like to learn more about things that you have observed while working?
10. Are you interested in training or certificates that you can obtain outside of your job? How about new skills that could help you obtain a different job? If so, what type of themes interest you?

- a. Examples (if they get stuck can ask about):
 - i. Machinery
 - ii. Leadership
 - iii. Planting
 - iv. Pest Management, Disease Control
 - v. None

11. What are your preferred learning methods?

- a. Videos, TikTok, YouTube
- b. Asking Peers or Experts
- c. Training
- d. Radio or Podcast
- e. Brochures, notecards
- f. Web pages or online sites with information

12. If you could create your ideal training to learn more about agricultural production, what would it look like?

- a. What type of information would it offer?
- b. How would it be presented?

13. When do you have free time to learn new things? How much time do you spend learning new things?

- a. Weekends?
- b. After work?
- c. During lunch
- d. 10-15 minutes

- e. In-person or online classes when time permits
14. Are there any obstacles or challenges that may prevent you from attending training?
- f. Time
 - g. Money (Paid time from employer)
 - h. Transportation
 - i. Childcare (family responsibilities)

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