



FARMERS' PERCEPTIONS

of Information and Resources for Navigating Economic Hardship and Stress

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I. PROJECT BACKGROUND

The following report is based on results of a community-engaged research project coordinated by the Rural Advancement Foundation International - USA (RAFI-USA) with funding from the Southern Sustainable Agriculture Research and Education (SARE), U.S. Department of Agriculture National Institute of Food and Agriculture (NIFA) grants and outreach program (Grant #LS20-336). The project began in April 2020 as a collaboration between RAFI-USA, university partners, the Land Loss Prevention Project (LLPP), and the National Center for Appropriate Technology (NCAT), along with farmer collaborators¹ from various southern states. University partners for the project were the North Carolina Agromedicine Institute (NCAI) and North Carolina State University (NCSU).

The major goal of the project was to understand the experiences of financial and emotional distress among farm households in NC, SC, and VA. A specific goal was to identify the resources that farmers undergoing distress found useful in negotiating the stress process. Additionally, the project sought to differentiate these experiences based upon race so that culturally-relevant resources could be developed in the future

From April 2020 to December 2020, the research team developed a survey questionnaire with sets of closed- and open-ended questions to be employed in a semi-structured interview (see Appendix B). The team also developed a set of screening questions to determine eligibility for participation in the study (see Appendix A). The draft research instruments were tested in five practice semi-structured interviews scheduled with farmer collaborators. Based on their feedback, the research instruments were revised (practice interviews are not included in the final dataset). The draft questionnaires were also revised based on additional reviews from other members of the research team.

All members of the research team completed training in human subjects research. The university members completed modules and certifications (e.g., CITI modules) required by their respective universities. The NCSU IRB provided training for the community members of the research team, including farmer collaborators and representatives of farmer advocacy and non-profit organizations. In addition, to prepare for the potential distress of questionnaire subject matter for farmer informants, the research team completed trainings in mental health awareness. These trainings included the following: Navigating Financial and Mental Health Crisis, QPR

¹ Farmer collaborators are members of the research team who assisted with the data collection and analysis process, but who were not interviewed for the study

Suicide Prevention Training and Talk Saves Lives. All farmer informants² were provided with information on state-specific mental health resources, such as the NC Farm Stress Resource Directory developed by NCAI, a South Carolina provider list, and a Virginia brochure on farm stress resources. Farmer informants that demonstrated signs of experiencing an acute mental health crisis during their interview were provided with additional mental health resources. Farmer informants that had specific questions about farming practices, finances, or policy were directed to appropriate resources.

Research instruments, informed consent and recruitment scripts, and data analysis procedures for the project were reviewed and received NCSU Institutional Review Board (IRB) approval (Project #21146). Following safety procedures to reduce potential for COVID transmission, all data collection was done via phone or internet using Zoom.

In the following sections we present summary information on methods, results, discussion and recommendations. The appendix contains copies of the research instruments (e.g., see Appendix C for example of the feedback table used for analysis) and selected graphs of results (see Appendix D) from the farmer informant interviews.

II. METHODS

The results presented in this report are based on the results from completed survey questionnaires with closed- and open-ended questions employing a semi-structured interview procedure administered to 30 farmer informants in North Carolina, Virginia, and South Carolina from January 2021 to March 2022.

A. Recruitment, Sampling and Farmer Informant Participant Eligibility

The overarching sampling strategy used to identify farmer informants for this research is non-probabilistic. This means that the sample is not a random selection generalizable to the population of farmers as a whole. Identification and recruitment of potential farmer informants relied on farmer collaborators operating as members of the research team. In addition, other members of the research team used their networks and connections with university researchers, non-profit organizations, extension agents, and farmer advocates to identify and recruit potential farmer informants. Finally, farmer informants who completed the interviews were asked to provide the names of other farmers who might be potential informants (i.e., snowball sampling).

² Farmer informants are farmers who were identified as eligible to participate, interviewed, and provided the data analyzed for this report: they are also referred to as "farmers" in this report

The farmer collaborators utilized their community ties to connect the research team with potential farmer informants. Most importantly, these farmer collaborators acted as a bridge between the interviewers and potential farmer informants, establishing trust and confidence in the interview process. This was a step-by-step process, with farmer collaborators first contacting possible farmer informants, establishing a time and day that interviewers could call, and sharing interviewer phone numbers to assure that the calls would be recognized and answered. It is important to note that farmer collaborators operating as members of the research team were monetarily compensated for supporting participant recruitment.

To supplement the work of the farmer collaborators, the members of the research team from universities and non-profit organizations communicated directly with extension agents and farmer advocates to ask for their assistance in identifying potential farmer informants. Some contacts were cooperative, while others refused for a variety of reasons (e.g., to protect farmers they knew and considered emotionally vulnerable). Additionally, listservs and social media were employed as channels to distribute a call for participation. Potential farmer informants that learned of the project through listservs and social media e-mailed the research team directly to discuss the possibility of participating. In addition, as the interviewing progressed, a few farmer informants that participated in and completed the Zoom interview assisted the research team in snowball sampling by providing contact information for farmers they knew who might match the selection criteria.

In total, 57 potential farmer informants were contacted by the interviewers. All potential farmer informants were contacted via telephone by either Laketa Smith or Andrew R. Smolski to establish their formal eligibility utilizing an IRB-approved script and screening questionnaire. The screening survey had questions that covered basic demographics, identification with farming, the experience of financial distress, and possible stress and mental health systems. Eight potential farmer informants did not meet the selection criteria and 19 potential farmer informants either did not respond or decided to not participate in the study. Some reasons given for not participating were not wanting to relive a traumatic incident in their lives, the IRB requirements were considered burdensome, and scheduling an interview did not fit with their current time commitments. Thirty farmer informants met the eligibility criteria and agreed to participate in the interview and completed the data collection process. Farmer informants who completed the interview and data collection received an honorarium to compensate them for their time commitment.

To ensure racial diversity among the farmer informants, the research team worked with a diverse set of farmer collaborators and contacted a diverse set of organizations. The potential

farmer informants that were identified as interested in talking with us and completed the interviews were almost equally divided between Black farmers and White farmers. This is a reflection of the types of networks and organizations that agreed to assist the project and were successful in identifying potential farmer informants.

A major eligibility criterion for participating involved the farmer informant having experienced a financial crisis. This criterion is based on the project research question: How do farmers navigate resources and information to address financial crises and stress? The screener survey contained the following core eligibility question relating to financial distress: *“In the last 5 years (since 2015), have you had at least one period or episode of financial crisis (i.e., that threatened the loss of farm assets, land, or severely impeded your ability to continue farming)?”*

Farmer informants that answered “Yes” to this screening question were considered eligible for participation in the study. Farmer informants Participants that answered “Other” were asked a follow-up question to understand their response and were considered eligible to be included in the study if their responses indicated that they perceived having experienced a financial crisis. Farmer informants Participants that responded “No” were considered ineligible for the study.

At the end of the screening survey, farmer informants who were eligible were asked about their willingness to participate in a detailed and lengthy closed- and open-ended survey questionnaire utilizing a semi-structured interview process about financial and mental health crises. A time commitment and appointment for a later date was made to complete the semi-structured interview, if not at the same time of the screening questionnaire. Furthermore, if a potential farmer informant was not eligible or declined to participate, her/his answers to the questions on the screening survey were erased/destroyed.

The project set a goal to include an approximately equal representation of Black and White farmers, with a specific emphasis on the inclusion of Black Farmers because they are not typically served by existing resources and institutions.³ This follows from the research question, how do culturally diverse experiences based on race impact resources and formats that farmers consider useful for navigating financial and mental health crises? Therefore, the research design called for finding farmer informants who represented different racial groups in Virginia, North Carolina, and South Carolina. Race was determined primarily by response to the following question on the screening survey:

³ Labels for race were decided upon by the research team, relying on the Census of Agriculture categories, the original terms from the grant proposal, and internal discussion. We were cognizant of how labels for race are contested and are not fixed, with historical, cultural, and geographical variation.

“Race (please check all that apply):

- American Indian or Alaska Native*
- Asian*
- Black or African American*
- Native Hawaiian or Other Pacific Islander*
- White*
- N/A”*

Thirteen farmer informants identified as White. Two identified as White and Indigenous. After reviewing their completed interview data, we decided to include these two farmers informants with the 13 farmer informants who identified only as White for the purpose of analysis. Based on this decision, we have data from a total of 15 White farmer informants. Fourteen farmer informants identified as Black or African American. One farmer informant gave a lengthy answer in which multiple words used to designate a person as African-American were discussed in the course of a refusal to give a direct answer to the standard survey question for racial identification. Upon review of her/his response to the race demographic category question and other questions in the complete transcript, we decided to place this respondent in the Black or African-American category. The end result was fifteen completed interviews with African-American farmers. Therefore, we have data from the responses of 15 white (13 responded white and 2 that responded white and some other group) and 15 Black farmer respondents (14 direct answer and 1 re-coded answer).

The initial goal of the proposal included interviews with Native American farmers. We tried to capitalize upon network links to find research collaborators who would identify potential respondents from the Lumbee and other Native American communities across the three states. However, our efforts to use network informants to identify potential Native American farmer informants did not produce eligible data. Interviews with Latino/a farmer informants are being planned as part of a study by researchers at another university utilizing this project's research instruments.

B. Survey Questionnaire and Semi-Structured Interview Protocol: Procedures and Questions

After the screening survey and prior to the date of the semi-structured interview, an IRB-approved informed consent form was delivered to the farmer informant via e-mail and/or U.S. mail. On the day of the semi-structured interview, farmer informants provided verbal consent to participate in the research project and were asked if they had questions concerning the informed consent form. Each interview lasted from 1 to 2 hours and was conducted remotely utilizing

Zoom for audio recording. Farmers either called into the Zoom room or accessed it via the internet. Audio recordings were then transcribed utilizing a third-party firm (Rev.com). Transcriptions were sent to farmer informants via Google Drive and/or hard copy via U.S. Post Office to check for accuracy and to make modifications if requested.

The closed-ended questions on the questionnaire part were read in systematic order. Although, because of the semi-structured interview process, if farmer respondents began to address questions from the open-ended questions, interviewers shifted toward those questions and then returned to the closed-ended questions. This did not change the wording or possible answers for the closed-ended questions. It did allow for farmers to elaborate, even when responding to close-ended questions.

The closed-ended questions involved several different categories and included questions about farm and household characteristics, self-reported mental health symptoms, experiences of stress and economic hardship, and preferences for information about farm, financial, and stress resources. The farm and household characteristics section consisted of questions about length of time farming, whether they inherited the farm, gross farm sales, how many generations their family had been farming, if multiple generations worked on the farm, what they produced, where they sold what they produced, if they had off-farm work, if they hired labor or had family labor, if they owned, inherited, or leased land, and if they had clean title to their land.

Farmer informants' experiences with emotional and mental health stress were measured with sets of questions based on the research literature and that have been used in other surveys of stress among farm operators. The first set of questions, titled “Mental Health Symptoms”, asked about difficulty sleeping, no longer feeling enjoyment, constant worry, weight loss or gain, increased alcohol or substance abuse, irritability, fatigue, and if they had changed the way they acted. The second set, titled “Perceived Control”, asked respondents about capacity to deal with an irritating problem, control over time, and confidence to handle personal problems. The third set, titled “Psychological Distress”, asked respondents if they had a change in diet, trouble with attention, if activities required a major effort, if they felt fearful, sad or blue, and if people were unfriendly. Lastly, a question was included to ascertain whether they had sought assistance for their stress. The fourth set of questions was added to assess “Perceived Economic Hardship”. This involved three questions asking if within the past year the farmer and household had experienced medical, food, or clothing insecurity.

The preference for information and resource access questions focused on where, if they needed information, farmer informants would go for information on farming

practices, farm financial issues, household finances, and stress management. Importantly, some farmer informants interpreted this question in terms of where they would go and where they do go for information and resources. Other farmer informants responded to these questions normatively, and observations were provided about why they do or do not currently rely on a given source for information or resources. In addition, questions were included about what format they preferred to receive information, such as direct contact, online, or hard copy. A list of possible organizations and people were provided to farmers, including Land Grant Universities, County Extension, Universities, USDA, Farm Advocacy Organizations, Farmers, Family, Church, or their community. As well, an “Other” category was provided to collect data on organizations and people not listed.

Following the closed-ended questions, the next part of the semi-structured interview involved open-ended questions about the stress process and how farmers coped with their stress experiences. The open-ended questions included four sections: Background, Crisis/What Happened, Resources to Confront Crisis, and Coming Out on the Other Side. Background focused on their life as a farmer, how they described their farm, and whether the COVID pandemic had altered their farming activities or relationship to creditors and/or the government. The Crisis/What Happened phase utilized open-ended questions to about the conditions leading to financial crisis and how this impacted their mental health. The Resources to Confront Crisis phase involved open-ended questions on how farmers coped with the challenges they faced and what resources they found beneficial and which resources they perceived as barriers to addressing their concerns. Coming Out on the Other Side focused on how they have continued to farm, what advice they would offer to other farmers, and their plans for the future.⁴

C. Data Analysis and Complementary Strengths

The data from closed-ended questions was entered into a spreadsheet and imported into STATA. Dummy variables were created for the race variable, which had multiple categories. A dummy variable is a statistical term for a variable that has the value of 0 or 1. We created a dummy variable for the race of the farmer informant. This dummy variable for race was coded with ‘0 = White Farmer’ and ‘1 = Black Farmer’. The recoded dummy variable for race was then used to compare descriptive statistics between groups. Indices were created for Mental Health Symptoms, Perceived Economic Hardship, Perceived Control, and Psychological Distress by summing the scores

⁴ Additional detailed analysis of this data will be contained in future publications. Currently in process are a narrative analysis of the different paths for navigating financial and mental health crisis and a thematic analysis of Black farmer informants’ livelihood strategies.

from the individual variables that compose each index. Indices were also created for the information access questions on farming practices, farm financial problems, household finances, and stress management by summing the scores from the individual variables that compose each index. Utilizing STATA, a series of tables with columns separated by the race dummy variables and including percentage were developed to describe the 30 completed farmer informant interviews. Additionally, graphs for the indices and information format variables were created.

Interview transcripts were analyzed for resource-specific feedback. A spreadsheet was developed to input qualitative data. The feedback spreadsheet categorized data by institution type, information it provided, how the information flowed, positive and negative assessments, which farmer informant provided the assessment, and what type of recommendation arose from their discussion of the resource (see Appendix D for an example). Direct quotes and paraphrases from farmer informants were inputted into the positive and negative assessments. This provided details about how farmer informants perceived resources and formats impacting their capacity to navigate financial crises and mental health. Through the feedback spreadsheet, information was catalogued and utilized as results in the sub-section “Organizations that Provide Resources and Preferred Format of Information”.

The mixed method approach, bringing together two different types of data, allows for complementary strengths. Their integration provides a thicker description and explanation of the social phenomena under study, providing a novel methodological tool for analyzing differentiated farmer experiences of resource access.

D. Data Limitations

Due to the recruitment strategy, the results of this non-probabilistic sample may not be generalizable to the overall farmer population. For example, responses from some of the Black farmer informants could be biased by their participation in organizational and farmer-to-farmer networks that provide frames for understanding access to information and resources. Similarly, some of the White farmer informants could be biased by their interactions with universities and extension, providing different responses than farmer informants who did not have access to those institutions. Therefore, this report is not a comparison of farmers based upon their participation with different institutions and networks and how that impacts access to information and resources.

Additionally, local factors could also be impacting the data. There is an oversampling of farmer informants from NC, which could have different capacity to address financial and mental health crises in comparison with other states in the study. That

differential capacity could arise from how resourced extension and universities are to serve farmers, number of farm advocacy organizations, and number of farmer-to-farmer networks and community-based organizations. As such, this study is not a comparison between states.

III. RESULTS: FARMER INFORMANTS⁵

A. Description of Farm Characteristics and Classifying the Participants

Out of 30 completed interviews, 23 farmers were from North Carolina, 5 were from South Carolina, and 2 were from Virginia. There were 17 Male Farmers and 13 Female Farmers. The youngest farmer was 22 years old, and the oldest farmer was 75 years old, with a mean age of 47 and median age of 45. White farmers, with a mean age of 43, were younger than Black Farmers with a mean age of 52. Fifteen out of the 30 farmers could be classified as a beginning farmer or rancher, having 10 years or less experience farming. White farmers were more likely to be beginning farmers than Black farmers: 8 out of 15 White farmers fell into this category compared to 7 out of 15 Black farmers. Overall, 73% of the farmer respondents had some college education including sixty percent of the Black farmers and 87 percent of the white farmers. Approximately one-third of the respondents first became involved in agriculture through inheritance (53% of Black and 13% of White farmer respondents).

The farmers produce a variety of crops and livestock, such as beef cattle, pork, goats, vegetables, cut flowers, and soybeans. Only 5 out of 29, all of whom were Black farmers, produced under a contract. The majority of farmers, 15 out of 29, participated in direct markets, which was more likely for White farmers, representing 60 percent of this channel. 3 out of 15 Black farmers that participated in both commodity and direct markets discussed being in a transition to solely direct markets. 6 out of 29 farmers were participating in specialty markets as their principal point of access.

Out of the 26 farmers reporting gross farm sales, 69 percent had gross farm sales of \$50,000 or less. The mean for gross farm sales was \$57,733, while the median was \$21,000, demonstrating the skew toward lower gross farm sales. Three respondents reported that they had no gross farm sales, indicating that the farm was being used for household subsistence. The farmers interviewed could be labeled as “limited resource farmers”, but we do not have sufficient data

on household income to make this designation. Additionally, four respondents did not provide a number for gross farm sales, all of them Black farmers. That data was treated as missing. So, while White farmers (80 percent) were more likely to have gross farm sales of \$50,000 or less than Black farmers (55 percent), this could be an artifact of the missing data. And, although there is a range of gross farm incomes reported by the farmer respondents, only one farm in the sample would meet the USDA classification of a mid-size family farm, with gross farm cash income of more than \$350,000. Farms in our group of participants are all family operations, meaning they are family owned, managed, and worked on a daily basis by members of a farm family household. In addition, 13 (43%) out of 30 farmers report multiple generations working on the farm. The farm household provided the majority of labor on the farm, with 26 out of 30 farmers reporting family members providing labor for the farm and a range of 1 to 7 family members participating in the farm operation. Seventeen out of 30 farmers reported having no hired labor on their farm, with the other 13 farmers reporting hiring between 1 to 5 laborers, often on a seasonal basis.

Questions were asked about off-farm work and income for the farm household. With regards to the percent of total household income from off-farm sources, the farmer informants were distributed broadly across the five response categories ranging from 0 to 20 percent of household income coming from off-farm sources to 81 to 100 percent of household income coming from off-farm sources. Five White farmers and 2 Black farmers reported 0 to 20 percent of household income coming from off farm source. One White farmer and three Black farmers reported 21 to 40 percent of household income coming from off farm sources. Three White farmers and three Black farmers reported 41 to 60 percent of household income coming from off farm sources. One White farmer and three Black farmers reported 61 to 80 percent of household income coming from off farm sources. 4 White farmers and 3 Black farmers reported 81 to 100 percent of household income coming from off farm sources (see Appendix D for a graph distribution of off-farm income). Ten out of 30 farmers reported that farming was not their principal occupation, with a range of non-farming work in trucking, administration, and retirement (i.e., collecting social security and other benefits).

Based on data collected from this group of farmers and using the USDA farm types classifications, 29 of the 30 farms would be classified as small-scale family farms. However, their education levels and off-farm income and work stand out as important characteristics of the farmer informants in this study. *Therefore, we can say that the majority of farmer informants operate farms that can be classified as Small-Scale Family Farms with a variety of crops and livestock and sources of income across three Southern States.*

⁵ The total number of farmer informants reported for each characteristic may vary because of missing data or no response/refusal to answer responses, which are not included in the calculations.

B. Land Ownership

With regards to land tenure, the survey data results show that 7 out of 30 farmers inherited land, 11 out of 29 farmers leased land, and 20 out of 29 farmers had a clear title to their land (i.e., they owned the land, regardless if they are currently paying a mortgage). For the Black farmers, 69% responded that they had clear title to the land they owned. For White farmers, 75% responded that they had clear title to their land. Black farmers (6 out of 15) were more likely than White farmers (1 out of 15) to have inherited land. The one White farmer that inherited land mentioned that they considered the land they inherited as actually being a debt they inherited, and therefore not a beneficial inheritance. White farmers (7 out of 15) were more likely to lease land than Black farmers (5 out of 15).

Farm size, measured in acres, was under 9 acres for thirty percent of respondents. Seventy-three percent of the farmers responded that they farmed 100 acres or less. Of the 7 out of 30 farmers that were farming more than 100 acres, 4 were farming on land that was in part leased.

Four out of 30 farmers reported having no farm debt, and another 20 out of 30 farmers reported having less than \$100,000 in farm debt. One White farmer with between \$250,000 and \$500,000 of farm debt stated that this was a significant source of stress, and that they were concerned with their ability to continue farming, especially when lacking access to credit. Other farmers noted that they had lost land due to a financial crisis. For instance, a Black farmer stated that “after going through our battles with FSA...we’re down to really 23 acres of the original 94 because they basically sold off 72.” At the same time, the farm was often considered as a source of wealth, with 18 out of 29 farmers reporting that they would pay more than \$250,000 for their farm land.

Interview data noted various legal challenges related to family and property. One Black farmer discussed heirs’ property as a problem. He noted that the “title is not clear at this time due to siblings not wanting to sit down at the round table.” This farmer had developed a solution in the form of a “heir’s property management contract, meaning my company managed each tract of land or each parcel in terms that ensured the property would not be sold, that taxes will be paid every year, that we manage a lot of the land and farm it.” In another instance, a White farmer had been granted access to farmland for production by family members who owned land. However, when that farmer encountered challenges related to divorce, the family ended access to the land. This was described as leading to stress from family, finance, and farming that produced an acute crisis.

There may be other legal issues that are causing emotional stress that were not explicitly part of the questions that were asked about land ownership. For instance, in informal conversations, some farmer informants noted that property line disputes were

a challenge, and that these disputes have impacted their stress levels. This could be an avenue for future research.

C. Comparison of NC Farmer Informants to General NC Farmer Population

In this sub-section, we compare data from the NC farms interviewed to the 2017 Census of Agriculture data for North Carolina. Although not all the farms interviewed were from North Carolina, this can provide a demonstration of how representative our informants are when compared to a general population of farmers.

According to the 2017 Census of Agriculture, approximately 87 percent of farms in North Carolina are small size farms in terms of having sales less than \$250,000⁶. This matches with our group of 23 NC farmer informants. Of the 22 NC farmer informants that reported gross farm sales, 20 reported sales less than \$250,000, or 91 percent. Similarly for farm size data, Census of Agriculture data for NC shows that 81 percent of farms had 179 acres or less⁷. Of the 23 NC farmers in this study, 20 NC farms reported less than 179 acres, or 87 percent. This means that the NC farmer informants participating in this study are relatively similar to the NC farmer population in terms of farm size as measured by sales and acreage.

Additionally, 27 percent of NC farmer informants reported that farming is not their primary occupation, which is distinct from the overall NC farmer population, in which 57 percent report an occupation other than farming as primary in the Census of Agriculture data. Thirty-six percent of NC farmer informants in this study reported 5 or less years farming, which is higher than the 15 percent reported in the Census of Agriculture NC farmer population. Fourth-four percent of NC farmer informants in this study reported being 44 or less years old at the time of the screener, which is higher than the 15.9 percent in this age range in the Census of Agriculture NC farmer data. Thirty-nine percent of NC farmers informants in this study reported having graduated from college (i.e., earning a bachelor’s degree or above), which is higher than the overall Census of Agriculture US farmer population’s percentage of college graduates at near 30 percent for farms with between \$10,000 and \$349,999 of gross cash farm income.⁸ Therefore, this purposive, non-probabilistic sample is more likely to be a younger, college educated, full-time, beginning farmer group of farmers than the general NC farming population.

6 The next range provided by the 2017 Census of Agriculture, \$250,000 to \$450,000, contains mid-size farms and was excluded from the calculation, making 87 percent an underestimate for NC small size farms

7 Farm size ranges are from the 2017 Census of Agriculture

8 For NC, this data point was not available. Therefore, we substituted the US data point, available from the USDA – <https://www.ers.usda.gov/data-products/chart-gallery/gallery/chart-detail/?chartId=103144>

According to the 2017 Census of Agriculture, Black farmers accounted for approximately 3.1 percent of farmers in North Carolina, while they are 50 percent of NC farmer informants that participated in this study. Thus, while this sample is clearly in line with the NC farmer population in terms of farm size, we have oversampled for Black farmers. This is consistent with one of the goals of the project, which was to understand how race conditions the experiences of financial and emotional stress.

D. Description of Responses to Closed-Ended Survey Questions on Mental Health, Control, Stress and Economic Hardship

The Mental Health Symptoms index consisted of the summated responses (yes; no) to nine questions about problems such as difficulty sleeping, increased alcohol use, and irritability (see questions in Appendix A). The majority of the farmer respondents regardless of race reported yes to many of these questions. Specifically, yes responses included difficulty sleeping (80%), no longer feeling enjoyment (63%), a tendency to worry (73%), irritability (67%). Additionally, the majority of White farmers reported weight loss or gain (60%), feeling like they can't get out of bed (60%), and changing their activities (60%). Thus, the respondents report experiencing specific symptoms of stress. This could be a demonstration of ongoing chronic stress for this purposeful sample of farmer informants. We summed the responses to the 9 specific mental health symptoms questions into a Mental Health Summary Index. Eighteen out of 29 farmers had summed scores of five or more out of 9 on the Mental Health Symptoms Index, with high scores being more likely for White farmers than Black farmers.

The Psychological Distress Index consisted of summated responses (often; little; never) to six questions such as feeling fearful, feeling sad or blue or feeling fearful (see questions in Appendix B). Sixteen out of 29 farmers had scores of six or more out of 12 on the Psychological Distress Index. White farmers (9 out of 15) tended to have higher scores and have more respondents fall into the high end of the summary index than Black farmers (6 out of 14). These higher scores could be considered representative of an acute crisis. Once more, the majority of the farmer respondents regardless of race gave positive responses (responding little or often) to many of these questions. Specifically, little or often was expressed by all races in the majority when discussing change in diet (77%), trouble paying attention (53%), feeling fearful (77%), feeling sad (67%), and that people were unfriendly (66%). Overall, the responses to the Mental Health Symptoms and Psychological Distress indices tend to show a population experiencing high levels of stress, whether acute or chronic. As compared to

Black farmer informants, the responses of the White farmer informants tended to fall into the higher ranges for this index.

The Perceived Control Index summed the responses (often; little; never) to three questions asking about controlling the way you spend time, dealing successfully with irritating problems, and ability to handle personal problems (see questions in Appendix B). The majority of farmers (23 out of 25) had responses that indicated that they felt that they had control over the problems that they confronted. Responses by Black and White farmers were relatively similar in their positive affirmations of control over their situations. For instance, the majority of responses stated they felt to be in control of their time (73%), able to deal with an irritating problem (87%), and confident in their ability (83%) often or a little bit. Thus, while confronting chronic and acute stress, the responses of the farm informants indicated a positive overall sense of control over some aspects of their life situations.

The Perceived Economic Hardship index consisted of the summated responses (often; sometimes; never) to three questions about how often the responded lacked the food, clothing, or medical care that their household should have (see questions in Appendix). On this index, 14 out of 28 farmers reported a score of 3 or more out of 6. Some expressed sometimes or often not feeling able to afford either food (13 out of 28) or medical care (16 out of 28) they felt their families needed. The reality that 13 out of 28 farmers expressed these levels of food insecurity is a dark irony, considering that they produce food as a part of their livelihoods. The index numbers could also be underestimates of hardship, as one question, clothing insecurity, had responses with farmers noting that they did not perceive clothing as a need. As one Black farmer said in response to the clothing insecurity question, "we were not spending unnecessary money for anything."

Looking at the totality of responses to the sets of questions about mental health, stress, control, and perceived hardship, there are indicators of long-term (chronic) and short-term (acute) financial and emotional stressors producing mental and behavioral health outcomes. For Black farmer informants, responses to the open-ended questions revealed a strong consciousness of the history of discrimination against family members in particular and Black farmers in general. White farmers tended to be more likely to report higher incidences of acute and chronic stress and discussed in responses to the open-ended questions feeling excluded from support because they were small-scale family farmers. Thus, there is data to support further research into how race-based framing and social support condition the stress response.⁹

⁹ The research team is currently working on a qualitative content analysis of the Black farmer interviews and will then compare the results with the White farmer interviews.

E. Organizations that Provide Resources and Preferred Format of Information

In general, channels for information access to farm finance (27 out of 28), household finance (28 out of 28), and stress management resources (28 out of 28) were 5 or less out of a maximum possibility of 12. This is in contrast to farming practices, where 7 out of 29 farmers expressed preference for 7 or more channels to access information. In terms of where they would prefer to access information, farmers described a changing set of preferences dependent upon the type of information sought, which we report in the following subsections.

1. Farming Practices

If farmers needed information on farming practices, many of the farmer informants identified their County Cooperative Extension office (15 out of 30), with Black farmers (6 out of 15) less likely to do so than White farmers (9 out of 15). Farmers also identified USDA (10 out of 30) and NGOs (11 out of 30) as sources where they would go for information on farming practices.

Within the interviews several farmers spoke about the support that they received from their County Cooperative Extension agent. It appears that some of the key attributes of helpful Extension agents include responsiveness, support, advocacy, and the ability to provide relevant information. For instance, a Black farmer noted that:

“Extension agents [inaudible] they’re doing a terrific job, they just need more of them in order to help, uh, have hands-on, on, on with these products in order to educate uh, the farmers”

In contrast, some farmers reported negative feedback for County Extension offices with concerns around cultural competency and equal opportunity to tangible resources (i.e., promotional items, seeds, etc.). For example, a Black farmer stated that:

“County Extension, definitely not [laughs]...There’s nobody of color, there’s not, come on, if you walk in there, they think, you know, no...yeah, yeah, you know, not only would they not recognize, they wouldn’t have any empathy and they wouldn’t be able to help you because the only thing they could do is uh, send you someplace else.”

For information on farming practices, Black farmers (10 out of 15) were more likely to identify 1890 land grant institutions than White farmers (2 out of 16). White farmers (6 out of 15) and Black Farmers (6 out of 15) were equally likely to identify 1862 land grant institutions.

One Black farmer in particular noted the usefulness of educational programs offered by 1890 institutions with opportunities to gain information from others who are familiar with key topics of interest:

“...every time we do meet um, they have this, a, a certain subject, that they gon, you know, kinda inform everybody about. And they’ll have somebody, um, maybe several people who’s familiar with that subject. They’ll come in and talk, they’ll have um, um, videos, a um, slide shows and then they give us hard paperwork, you know, to take, you know, take with us because, you know, some, you know, the, you know, some, you know, a lot of, some of the older farmers, they still want their stuff on paper. They, they, they wanna see it.”

However, another Black farmer noted a concern of a need for more funding to help the institutions to further support Black farmers:

“And that makes me mad because really, the purpose of 1890 was to be there for small, Black farmers...with all that, funding has been short too. Their funding is optional, it’s not magic.”

One Black farmer noted how helpful funding support was when discussing a compensation program that they were able to participate in. Although, there was also a request for more business education to be provided along with the other farming practice information.

The clear preference though for seeking information about farming practices was from other farmers, with 22 out of 30 farmers reporting this as a channel. This was similar for Black (12 out of 15) and White farmers (8 out of 15). For instance, a Black farmer stated about a family member that is also a farmer:

“Well, the most useful is you know learning directly from [Farmer]. We consult with him about how to grow stuff, you know. We don’t know how much fertilizer to put in, he always knows. So, for me the most useful [laughs] is directly from family members.”

The internet was identified as an important source for information about farming practices, with 23 out of 30 farmers reporting they would use this resource. In addition, respondents identified a preference for getting farm practice information through conversations with individuals (21 out of 29). This aligns with the preference for using other farmers as the sources of information about farming practices. So, although there appears to be some level of race-based differentiation in the terms of preferences for the organizations that supply information on farming practices, there is also a shared preference for direct communication with other farmers.

Therefore, in terms of farming practices the reviews are mixed in terms of how farmers perceive the organizations that are possible sources of information about farming practices. Addressing these concerns, such as expanded programming, increased funding for farmer-supporting organizations, and training for cultural relevance, could improve farmer trust. Importantly, leveraging farmer preference for accessing resources through other farmers could be a key strategy for resource delivery.

2. Farm Financial Problems

If the farmer informants needed information on farm financial problems, Cooperative Extension was identified as a key source, with 11 out of 28 farmers stating they would and/or did utilize this as a resource. This was evenly spread across race. One White farmer described how a County Extension Agent supported them navigate rules on financial program:

“I want to know the legal stipulations for this.” Um, he always gets me the information. And he, and it’s not like I have to wait days and days to hear from him. Like, he is, he is always right there.”

Another White farmer also noted how an extension-based program supported them in navigating finances:

“... [program name] has been wonderful. Um, so they’ve- they’ve really helped us the most with our financial, um, stuff...”

Eight out of 28 farmers stated the USDA was a resource, which was more likely for White farmers (5 out of 14) than Black farmers (3 out of 14). However, while examining the organizational feedback for farm financial resources, feedback on USDA and their local Farm Services Agency (FSA) office was often critical. Several farmers noted interactions where they personally felt like they had a negative experience or rather, they learned of a negative experience from someone they knew and it impacted their decision to avoid the USDA and FSA. For instance, Black farmers considered FSA as a discriminatory institution:

“also, racism within the farm service agency and how they handle this process”

Farmers also perceived other problems with FSA, such as when a White farmer reported an experience of an agent being commodity-specific:

“One FSA agent told me that he can only think in pigs, and to make sure my business plan was just about pigs, even though it’s, like, a quarter of my business income. Um, I’ve been, I mean, just basically, like, not willing to learn...”

As mentioned prior, farmers also discussed feeling that the USDA did not serve them as small-scale family farmers. As a

White farmer stated, “Well, I mean, everybody that’s a small farmer ‘cause see these big, huge, giant farmers, they get subsidies from the government. You know, the government is not gonna give me a subsidy, they could care less.” This sentiment of small being excluded was more generalized, with another White farmer describing their feeling that:

“It’s almost as if, it’s almost as if the small creditor, uh, you know, the small, um, small businessperson or small borrower is penalized so that the less responsible, but bigger players keep doing what they’re doing.”

Thus, farmers spoke about grant opportunities and the loan process where many felt like it was made to be too complicated. And they considered the rules to be arbitrarily applied, often to their disadvantage, with loans that ended up resulting in a loss or near-loss of land. To add to that, there was a sentiment that programs for small-scale farmers were either non-existent or insufficient to their needs. Financial strain is a key stressor, considering several of the financial challenges noted by farmers were due to debt incurred as they sought to begin and operate their farms. Several farmers struggled to keep up with repayment while navigating various farming challenges, such as difficulties with contracts and/or selling their products.

There was positive feedback of USDA programs that directly supported farmers financially. For instance, a Black farmer discussed the food box program as beneficial:

“Um, well the government, especially the, uh, USDA part, uh, they are more interested in, um, um, programs where uh, people can buy you vegetables and stuff too, especially, uh, let’s see, I think since, I want to say June of last year, something like that, where they had these, uh, programs um, for nonprofits, um, to get grants from, from, the nonprofit got grants from the government to buy the food to, you know, make food boxes for whoever needed it”

This was a shared sentiment, as another farmer noted how happy he was to have been able to participate in one of the USDA grants programs. However, that positive feedback for programs and grants supporting farms financially is outweighed by a desire for simpler loans and more accessible grants, expressed throughout several of the interviews.

For information on farm financial problems, NGOs were also important, with 9 out of 28 farmers reporting these as a source they would access. For instance, farm advocacy organizations were reported as important for keeping land by one Black farmer:

“Um, [farmer advocate] was a huge factor, um, in kind of assisting to maintain property within the family.”

That same farmer also noted that a legal resource was important to navigate the institutional rules:

“lawyer from the [NGO], um, office in [City Name]. And that was very helpful because he was very knowledgeable about, um, the USDA, the policies and the different games they like to play in order to, to take property from Black Americans.”

Also, while not a source identified by the majority of farmers, farmer informants generally had positive comments about universities and their role in providing information for navigating farm financial problems. One Black farmer noted that:

“...professionals from [1890 Land Grant University], who were also helpful um and going with us to the regional Farm Service Agency office to secure the loan...”

It is important to understand that much of the work being done is translational, whereby advocates, Extension agents, and university personnel are interpreting rules and regulations for farmers, grant writing, and program access. From the interviews, interpretation of rules and regulations, and being present during meetings with financial officials, appears to be more critical at times when there is a threat of farm loss or loss of farm assets.

Six out of 28 farmers reported their banks/lenders were a source of information on farm financial problems. While there was one piece of positive feedback from a White female farmer about being able to access their financial institution for useful advice, much of the feedback was negative. One Black farmer stated bluntly, “they set you up from the beginning so that you fail.” A White farmer related a story of how financial institutions would not file documents to return a large sum of money that was inadvertently wired to the wrong account. Another White farmer talked about being rejected at a financial institution because they did not have a credit history and their high debt-to-income ratio, which then meant they could not get the equipment they felt they needed to efficiently farm. There was distrust, and it was explained by one Black farmer as in part due to the economic instrumentalism of the relationship:

“how can I go to a person and tell them about uh, something that, you know, say, like a financial institution, only thing they worried about is money, can you pay, can you pay it back if you get it...”

Once again, the main source of information for farm financial problems was fellow farmers with 12 out of 28 farmers reporting this source. This operated similar to USDA programs supporting market access. One Black farmer noted that:

“meetings they, uh, it’s more about how can we, uh, especially before COVID, how can we grow the food and, and then find a place to sell it so that we can make a profit out of it, stuff like that...these farm meetings that we’re going to try and

make avenues for a smaller farmer to just be able to sell his, his produce.”

Despite the positive role of fellow farmers, this is not a panacea. During research meetings, one of our farmer collaborators has noted that there are still insufficient resources on financial planning, record keeping, and other business activities. And this is key, because as another Black farmer noted:

“my files were taken from one office to two other offices and misplaced whenever I turned in what I had, I was told that my documentation, my copies, were not acceptable because they were not the originals...”

As such, farmers can access guides to support them navigate what they consider an opaque system. And, while there are grants and programs to support farmers, farmers largely consider this insufficient. They trust other farmers, but do not trust the USDA, FSA, or creditors to support their interests.

That lack of trust was one reason 6 out of 28 farmers stated they wanted information in hard copy from financial institutions. Although, the number one format for receiving information on farm finances was direct contact with another person.

3. Household Finances

For information on household finances, the farmer informants identified very few potential sources that they would access. None of the sources identified in the prior questions about where they would go for information received very many identifications as sources of information about household finances. There were two or fewer identifications for 1890 institutions, 1862 institutions, and Cooperative Extension. Banks were identified as a source of information for 8 out of 29 farmers, with more Black Farmers (5 out of 14) reporting this as a source than White farmers (3 out of 14). However, as reported in the prior sub-section, even though this was a possible information source, many of the comments about banks were negative.

The internet was a more likely source, with 10 out of 29 farmers reporting that they would access this resource for information on household finances. However, the specifics about what kinds of information on the internet they would access was often omitted in the responses to this question.

Only 3 out of 29 farmers mentioned other farmers as a source of information about household finances. Many farmer informants responded that they just did not think about talking to other farmers about household finances or that other farmers should know about their personal financial situations.

Family was identified as a source of information by 8 out of 29 farmer informants. For instance, a White farmer stated that he has nightly chats with his spouse that in part focus on

household finances. And, family was reported by a few farmers as a possible resource for small amounts of financing. However, in two other interviews with White farmers, household financial strain led, in part, to a divorce. And, one Black farmer reported that his family was not supportive of farming, and often questioned why he remained a farmer.

This lack of sources of information for household finances is an important finding. Our sample consists almost entirely of small-scale family farms. In these instances, the farm is a household, the household is the farm. This can be seen in the use of family labor and multiple generations working on the farm. Sharing information about household finances with family members is a source of strain for farmers. This issue does not appear to be addressed by many organizations dedicated to supporting farmers in the United States, whether governmental or non-governmental. One farmer advocate that the research team talked with about the project even stated that it is a red flag for them when a farmer states that the family does not know about farm financial/household difficulties.

4. Stress Management

The farmer informants identified relatively few sources that they would go to if they needed information on stress management. Fellow farmers was a source for 8 out of 29 farmers, with Black farmers (5 out of 14) reporting this more often than White (3 out of 15). For instance, one White, female farmer noted that a farming group was helpful for them to discuss their stress from the loss of farm assets. Another Black farmer also noted that she had a support group, and that this operated in lieu of a psychologist, because “it will be very difficult to talk to a psychologist, or psychologists are something that they have no idea what we do or how we do every day.”

The internet was a source of information on stress management for 4 out of 29 farmers. Specifically, farmers mentioned social media as a place for farmers to share their stories with one another having a positive impact.

Five out of 15 Black farmers reported the Church as a resource. Also, in many interviews farmers noted that their faith, outside of an institutional setting, was a source of strength for them when navigating stress. As one Black farmer noted, they will “just pray about it and keep going. And that’s okay.”

Family was an important source of information on stress management. Twelve out of 29 informants reported this as a resource. Family was identified more by Black farmers (7 out of 15) than by White Farmers (5 out of 14). For Black farmer informants this involves conversations with family members about their stress. On other occasions, it is a symbolic function, whereby they work through the stress because of a sense of obligation to provide for their family. One example is a Black farmer that stated his “children...keep me going.”

Ten out of 29 farmer informants noted that they had sought assistance for their stress, representing less than half. Farmer informants that were also veterans accessed this assistance through the VA. Another farmer accessed support through their primary care physician. And some farmers noted having visited with a psychiatrist or counselor.

There are varied reasons that farmers gave for not accessing assistance for stress management. One was financial. Unsurprising, considering that more than half of the farmers had reported medical insecurity. As one Black farmer noted:

“Afford it, and you might not, because you got eight visits on your insurance. And if you don’t have insurance, you only have eight visits. And then you ain’t telling nobody your business and then people might think you crazy.”

Another was the prior noted sense that psychologists do not understand farmers, or that farmers do not understand psychologists. Tied to this was also the sentiment expressed by a Black farmer that psychologists do not understand the Black American experience. As they stated:

“You literally have to tell them what it is to be Black. And they still really don’t understand. They don’t want to understand, because you can tell by about whitish things that they say. They really don’t know what we deal with.”

It is important to note that with regards to seeking information on stress management, many of the main farm-supporting institutions were almost unanimously absent from farmer informant responses. Considering that farmers consider operating the farm as a source of stress, this appears as a fundamental disconnect between operating a farm for production and the stresses associated with maintaining the farming operation and providing for one’s family.

IV. SUMMATIVE DISCUSSION AND RECOMMENDATIONS

A. Summative Discussion

The data collected from the farmer informants participating in this study point toward interesting conclusions, many of which follow from prior research. The majority of the thirty farmer informants who completed the interviews operate small-scale family farms. Their responses indicate that these farmers are experiencing chronic stress, at times at levels that indicate an acute crisis. Additionally, indicators of acute crisis were higher in White farmer informants as compared to Black farmer informants. The responses by the farmer informants to the

“Perceived Economic Hardship” questions indicated heightened levels of food and medical insecurity. Considering that they are farmers, the heightened level of food insecurity should be highlighted for a focus of programming and further research.

In terms of resources, it is clear that 1862 institutions, 1890 institutions, and County Extension are preferred sources for farm-level information, although differentiated by race to a certain degree for farming practices and farm finances. The role of fellow farmers across the types of sources of information is an important finding, and one that deserves further attention from public and non-profit organizations. Considering that farmers are noting the importance of direct communication, fellow farmers could be an important source of resource delivery. The paucity of responses to identify sources of information for stress management and household finances points toward gaps in programming that should be addressed, especially given the chronic and acute stress experienced by farmers. Also, the internet is an important source of information. More in-depth analysis of how farmers utilize the internet is needed to understand how organizations could improve what and how farmers access information. The data from the farmer informants show some race-based differentiation in how certain sources of information are used and accessed. However, this is also a topic that would benefit from additional research on how race and farm scale and size (in terms of acreage and/or gross farm sales) might condition what sources are accessed and the preferred methods of receiving information.

B. Recommendations for Service Provision

Based on the results of this study, we provide the following general recommendations (which, are not in a ranked order):

1. Teams-Based and Networking - Existing organizations should attempt to operate as teams and form networks that rely on existing strengths to reinforce overall service provision. In certain instances, information and resources, such as legal, are already provided by organizations that are not necessarily working with providers of other resources and information, like farming practices. A lack of coordination between organizations leads to an uneven capacity to implement the comprehensive toolbox, nor should a single organization take it upon itself to provide all resources and information. A teams-based approach could help overcome segmented and siloed service-provision.

It is important to identify the relevant groups and networks at different geographic scales, such as the state- and regional-level Farmer and Rancher Stress Assistance Networks, local faith-based groups, or community coalitions, that could support teams-based collaborations. This community-engaged project is an example of a

teams-based approach, as it brought together various organizations with different expertise into dialogue, developed trust, and worked together to accomplish project goals.

2. Farmer-to-Farmer and Farmer-Led Community-Based Organizations - Results demonstrated a role for fellow farmers in providing information and resources for the problems confronting farm households. The interview data indicated that there was a shared experience that united farmers and aided in building trust. Additionally, social support has been shown in prior research to be positive in mediating the impacts of stress. Identifying and resourcing existing farmer-to-farmer networks and farmer-led community-based organizations to provide social support could have an overall positive impact for improving farmer wellbeing under conducive conditions.
3. Expansion of Financial and Mental Health Services – Results from this study point toward a need to expand financial and mental health services for small-scale family farmers and their households. This will entail expanding information and resources for addressing farm finance problems and adding household finances and stress management information and resources to existing repertoires currently employed by farmer-supporting organizations, whether these are formal, government agencies, such as cooperative extension or USDA, or non-governmental organizations. Women, both as farmers and as members of farm households, should be included in such services.

Currently, FR-SAN NC and universities are working toward expanding mental health resources, through programs to pay for mental health services for farmers, through the farmer-to-farmer peer support program at NC Agromedicine Institute and through expanded trainings on mental health for individuals that provide services to farmers, such as extension agents. RAFI-USA has a long-standing financial crisis support system that could also serve as a model for expanded financial services.

4. Comprehensive Toolbox - The farm is a complex organization integrating farming practices, farm finances, household finances, family relationships (male and female members of the farm household and division of labor), and legal rules and regulations. Therefore, interventions directed at financial and emotional stress require a toolbox that encompasses each of these components. Furthermore, each farm household faces distinct challenges and should be provided resources and information on a case-by-case basis, developing a plan specific to their situation for support. A case management approach for one-on-one interactions is one possible model.

5. Facilitation and Translation - Resource providers play an important role as facilitators and translators of information for farmers. Resource providers facilitate linkages with organizations, like universities and non-profits, with farmer-led community-based organizations. Resource providers need to take into account the preference by the farmer respondents in this study for direct personal communication of information. Furthermore, resource providers need to be able to translate materials, like crop-insurance regulations, into a language that farmers are able to utilize in the operation of their farms.
6. Positionality - Farmers have different historical and contemporary experiences. For example, the Black farmer informants in this study repeatedly noted the role of direct and indirect experiences with discrimination as impacting their preferences for sources of information and resources. By not attending to these race-based differences, overall quality of service provisioning is reduced. Another example is the feeling expressed by some farmer informants of being excluded from programs and services because they are small-scale family farmers. Considering that the majority of farmers in the U.S. fall into this category (as do many beginning farmers and ranchers), targeted programming and trainings for their specific needs appear likely to increase the chances of their being able to successfully navigate farm financial and emotional hardships

C. Future Research

This is a pilot study, with a small number of farmer informants, largely from NC, and a larger scale study is warranted. Prior studies found that there are a complex interplay of factors that impact farmer mental health and well-being. These factors include social, economic, and environmental forces such as weather, government programs, commodity prices, and family/household dynamics. Therefore, one should not expect that one single intervention can solve all the problems related to farm financial and emotional stress. A comprehensive approach is needed for farmer and farm family well-being; what we are calling a toolbox of best-practices interventions and a community coalition intervention team.

Reviews of previous studies show that peer support and community support are important for interventions to assist farmers with the stress process. Prior research studies also note a preference for resources and services to come from farmers themselves or from providers that understand the complex factors related to farm stress. Some studies indicate that participation in farmer-based organizations, such as co-ops, faith-based, or community/political action groups, are important organizations for providing social support. Such organizations, by attempting to exercise some control over the farm environment or by providing a framework other than self-blame for farm stress, may also influence farmer mental health, although the specific pathways may be unclear. Further research into the roles of farmer-to-farmer peer support and advocacy organizations in ameliorating the farm stress process is needed to fully understand the roles that they may play in navigating farmer and farm family well-being.

V. APPENDIX

A. Screening Questionnaire

Mailing Address: _____

Age: _____ Gender: Male Female

Race (please check all that apply): American Indian or Alaska Native Asian Black or African American
 Native Hawaiian or Other Pacific Islander White N/A

Ethnicity: Hispanic or Latino Not Hispanic or Latino N/A

Education Level: Less than high school High school diploma or GED Associate degree
 Bachelor's degree Master's degree Doctorate Other; specific: _____

How did you become involved in agriculture? Inherited Back to the Land

Do you live on the land that you farm? Yes No

Recent research found that some farmers would say, "*I am the farm, and the farm is me.*" Thinking about yourself, and using a scale of 1 to 10, where 1 is strongly disagree, 5 is neutral and 10 is strongly agree, how do you think this phrase describes you and your farm?

1. Strongly disagree
2.
3.
4.
5. Neutral
6.
7.
8.
9.
10. Strongly agree

If you couldn't farm, what would you do? _____

In the last 5 years (since 2015), have you had at least one period or episode of financial crisis (i.e., that threatened the loss of farm assets, land, or severely impeded your ability to continue farming)?

_____ Yes _____ No _____ Other; specific: _____

Have you experienced any of the following impacts? (List common symptoms)

_____ Difficulty sleeping

_____ No longer feel enjoyment from activities you normally do

_____ Worry about anything and everything as opposed to just one or two things

_____ Weight loss/gain

_____ increased alcohol use

_____ substance abuse

_____ irritability

_____ fatigue, feeling like you can't get out of bed in the morning

_____ have you changed your activities, not doing things you normally do?

_____ if you have experienced any of the above, have you seen someone for assistance? _____

Do you have a reliable internet connection at your farm? _____ Yes _____ No

B. Closed- and Open-Ended Questionnaire for Semi-Structured Interview

Alright, with informed consent done, it is time we move into the first part of the interview, a basic set of survey questions.

1. County of Residence: _____ 2. State of Residence: _____

3. How many generations has your family been farming the land that you are on now? _____ generations

4. Are there multiple generations currently involved in the farming operation? _____ Yes or _____ No

5. How many years have you been farming? _____

How many years have you been farming on your current farm? _____

6. Size of the Farm: _____ acres

Do you have clear title to your land? _____ Yes or _____ No, and then ask follow up question about current status:

What is the current ownership status of your land? _____

How many acres of land do you own? _____ acres

How many acres do you lease from someone else? _____ acres

How many acres did you inherit? _____ acres

7. What were your gross farm sales in 2020, or in your last year of farming? _____ dollars

If in your last year, what year was that? _____

8. Which of these ranges represent the percentage of your annual household income from off-farm sources?

0-20% 21-40% 41-60% 61-80% 81-100%

9. Is farming your primary occupation? Yes No, my primary occupation is: _____

10. What do you consider to be your primary crop or livestock in terms of gross farm sales? _____

11. If you were to introduce yourself to a stranger, what sort of farmer would you say you are, like a tobacco farmer, a poultry farmer, or a row crop farmer? _____

12. Do you produce any livestock and/or crop under a production contract?

Yes No Other; specific: _____

13. What do you consider to be your primary market, commodity, specialty, or direct?

Commodity Specialty Direct

14. Not counting yourself, how many people work on your farm? _____

Of these, how many are family? _____ Of these, how many are hired? _____

15. What was your total amount of farm debt on January 1, 2020?

0 or no debt Less than \$100,000 Between \$100,000 and \$250,000
 Between \$250,000 and \$500,000 More than \$500,000

16. About how much would you be willing to pay for your present farm if it was on the market and you were looking to buy a farm?

0, or would not pay for the farm Less than \$100,000 Between \$100,000 and \$250,000
 Between \$250,000 and \$500,000 More than \$500,000

17. What was your total amount of household debt as of January 1, 2020?

0 or no debt 1 to 49,999 50,000 to 99,999 100,000 to 199,999 200,000 or more

18. During the past 12 months, how often did it happen that you did not have enough money to afford:

food you thought your household should have

Often Sometimes Never

clothes you thought your household should have

Often Sometimes Never

the kind of medical care you thought your household should have

Often Sometimes Never

19. How often in the past month did you:

Deal successfully with irritating problems?

Often A little Never

Control the way you spend time?

Often A little Never

Feel confident about your ability to handle your personal problems?

Often A little Never

19. How often in the past week did you:

Did you have a change in your dietary intake (eating too little or eating too much)?

Often A little Never

Have trouble keeping your mind on what you were doing?

Often A little Never

Feel that everything you did required a major effort?

Often A little Never

Feel fearful?

Often A little Never

Feel sad or blue

Often A little Never

Feel that people were unfriendly?

Often A little Never

21. If you needed information on _____, where would you go? Select all that apply.

A. Farming practices

1890 Universities and Extension, such as NC A&T, VA State, SC State

1862 Universities and Extension, such as NC State, Clemson, VA Tech County Extension

University Researcher Sellers/Dealers USDA officials RAFI or other non-profit organizations

Banks or your lender Fellow farmers Internet resources Community Groups

Churches/Clergy Family Members

Other: _____

If yes, what kind or type of information did you use? Select all that apply.

Hard Copy Publications Talking directly with the person Read Publications Online

Videos on the Internet Listened to podcasts Email Exchanges

Other: _____

Which one was the most useful to you? _____

b. Farm Financial Problems

- 1890 Universities and Extension, such as NC A&T, VA State, SC State
- 1862 Universities and Extension, such as NC State, Clemson, VA Tech County Extension
- University Researcher Sellers/Dealers USDA officials RAFI or other non-profit organizations
- Banks or your lender Fellow farmers Internet resources Community Groups
- Churches/Clergy Family Members
- Other: _____

If yes, what kind or type of information did you use? Select all that apply.

- Hard Copy Publications Talking directly with the person Read Publications Online
- Videos on the Internet Listened to podcasts Email Exchanges
- Other: _____

Which one was the most useful to you? _____

c. Household Finances

- 1890 Universities and Extension, such as NC A&T, VA State, SC State
- 1862 Universities and Extension, such as NC State, Clemson, VA Tech County Extension
- University Researcher Sellers/Dealers USDA officials RAFI or other non-profit organizations
- Banks or your lender Fellow farmers Internet resources Community Groups
- Churches/Clergy Family Members
- Other: _____

If yes, what kind or type of information did you use? Select all that apply.

- Hard Copy Publications Talking directly with the person Read Publications Online
- Videos on the Internet Listened to podcasts Email Exchanges
- Other: _____

Which one was the most useful to you? _____

d. Stress Management

- 1890 Universities and Extension, such as NC A&T, VA State, SC State
- 1862 Universities and Extension, such as NC State, Clemson, VA Tech County Extension
- University Researcher Sellers/Dealers USDA officials RAFI or other non-profit organizations
- Banks or your lender Fellow farmers Internet resources Community Groups
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- Other: _____

If yes, what kind or type of information did you use? Select all that apply.

- Hard Copy Publications Talking directly with the person Read Publications Online
- Videos on the Internet Listened to podcasts Email Exchanges
- Other: _____

Which one was the most useful to you? _____

Thank you for answering these questions, as they help us to have comparable data with other studies. Now, we are going to move into the open-ended questions. I want this to be more of a guided conversation.

Interview Phase 1 - Background

1. Let's begin by having you tell me about your farm.
 - a. Alternate wording: Please describe your farm for me. / If you were going to tell someone about your farm, what would you say?
 - b. Listen and probe for: location, size, commodities grown, operations, people on the farm who live and/or work there, their roles on the farm, etc.
2. What is/was your role on the farm?
 - a. Alternate wording: What are/were your activities on the farm? What do/did you do on the farm from day-to-day?
 - b. Listen and probe for: farm wife, farmer, bookkeeper, housewife; assist with operations or production, processing, i.e., labor
3. What is/was life on the farm like?
 - a. Alternate wording: How do you feel about being on the farm? / How do you describe farming?
 - b. Listen and probe for: physical and emotional descriptions
4. Why did you get into farming?
 - a. Alternate wording: Would you describe farming as an occupation? A part of what makes you who you are?
 - b. Listen and probe for: ideas about place, about lifestyle, about work, about autonomy
 - c. Follow-up: What's one of the best things about being a farmer? Would you want your son/daughter to go into farming?
5. Has the recent COVID crisis changed the way you farm?
 - a. Alternate wording:
 - b. Listen and probe for: levels of stress
6. Has the recent COVID crisis changed the way you interact with creditors and government?
 - a. Alternate wording:
 - b. Listen and probe for: Levels of stress

Interview Phase 2 - Crisis/What happened?

Ok, now we are going to change course a bit, and begin focusing more on economic challenges the farm faces/faced and how this impacts you.

7. There has been a lot of talk about farmers and financial problems. In your community, have you noticed examples of financial problems?
 - a. Alternate wording: What stories have you heard from other farmers about financial hardship?
 - b. Look and probe for: the extent to which financial hardship is prevalent, how farmers are narrating that hardship, community-level understanding, etc.

8. What happened or is happening to you in terms of farm financial hardship?
 - a. Alternative wording: How did your farm enter into a financial difficulty? / What was the worst moment as a farmer?
 - b. Listen and probe for: role of debt, government programs, weather, prices, disease, decision-making process, etc.
9. Did or does farm financial hardship affect your health?
 - a. Alternate wording: How did financial hardship affect your stress level? How did the financial hardship affect your physical health?
 - b. Listen and probe for: discussion of emotions, stress, well-being, access to mental health services, isolation.
10. How did or does financial hardship affect your ability to make decisions for managing the farm?
 - a. Alternate wording: Did or does financial hardship impact how you make decisions for the farm?
 - b. Listen and probe for: obstacles to making decisions, such as stress, economic resources, information, etc.

Interview Phase 3 - Resources to Confront Crisis

Now, considering what you have told me about the crisis you confronted, let's focus on what gave you strength and supported you. As we talk, think about how this information would help fellow farmers to confront similar economic obstacles.

11. How have you been able to cope with the challenges you faced?
 - a. Alternative wording: How have you been able to overcome financial hardship? How do you plan to overcome financial hardship?
 - b. Listen and probe for: strategies for dealing with challenges, what worked, did they leave the farm, etc.
12. In coping, what tools and support did you/are you access(ing) during your economic woes? Mental health support? Extension?
 - a. Alternate wording: Was there a conversation, a publication you read or something that you saw that made a big difference for you and helped you turn the corner? What information and support would you have liked to access, but couldn't?
 - b. Look and probe for: documents, programs, extension, government, community, friends and family, etc.; how did you get a hold of this information that was effective?; What information and support would you have liked to access, but couldn't?
13. Who did you interact with that was the most helpful? What was the most helpful conversation?
 - a. Alternate wording: What people and/or community organizations did you lean on for support?
 - b. Look and probe for: social relationships and their role in support, offering information, and whether farmers felt they could access their social networks during this period
14. Have you had a negative experience interacting with any organization or agency in the last 12 months who you went to for help? If so, why?
 - a. Look and probe for: Discrimination, poor quality of information, not capable of addressing their problems
 - b. Follow-up: How could the information have been improved?

Phase 4 - Coming Out on the Other Side (?)

Now, in this last section of our conversation, I want to talk with you about what you learned, how it continues to shape you, what you could pass on from your experience, and your thoughts about the future of farming.

15. How does what happened affect you now?
 - a. Alternative wording: How do you continue to be affected by financial hardship?
 - b. Listen and probe for: ongoing stress, shifts in identity, changing ideas, etc.

16. What do you do for yourself to help you and your family to deal with hardship?
 - a. Alternate wording: How did/do you take care of yourself and your family? What activities do you do just for you? What things do you do just for you?
 - b. Listen and probe for: personal activities (ex. read, relax, exercise, shop, visit others, etc.)

17. What lessons/wisdom can you share with others based on your experience(s) with financial hardship.
 - a. Alternate wording: What information would you provide to others on how to navigate financial hardship?
 - b. Look and probe for: ideas about what was successful, what helped, what did they learn, etc.

18. Have you made any plans about how to transfer the land that you own to the next generation? If so, what are they and why?
 - a. Alternate wording: What do you want to happen with the farm when you are no longer able to farm? What do you think will happen with the farm?
 - b. Look and probe for: intergenerational farming, thoughts on the future of family farms

Before we wrap up, I just had three quick questions about your transcript review and helping us connect with more farmers.

1. When we send you the transcript for your review, would you rather it be hardcopy sent by US mail or electronically using NC State Google Drive or as an attachment to an email message?

Hard Copy via US Mail: _____ NC State Google Drive: _____ Email attachment: _____

2. Do you know any farmers or someone who has left farming in the last 12 months that you would recommend we reach out to for an interview like this one?

Who: _____ Contact: _____

3. Would you be willing to participate in a focus group in the future to help us create better resources for farmers?

_____ Yes _____ No

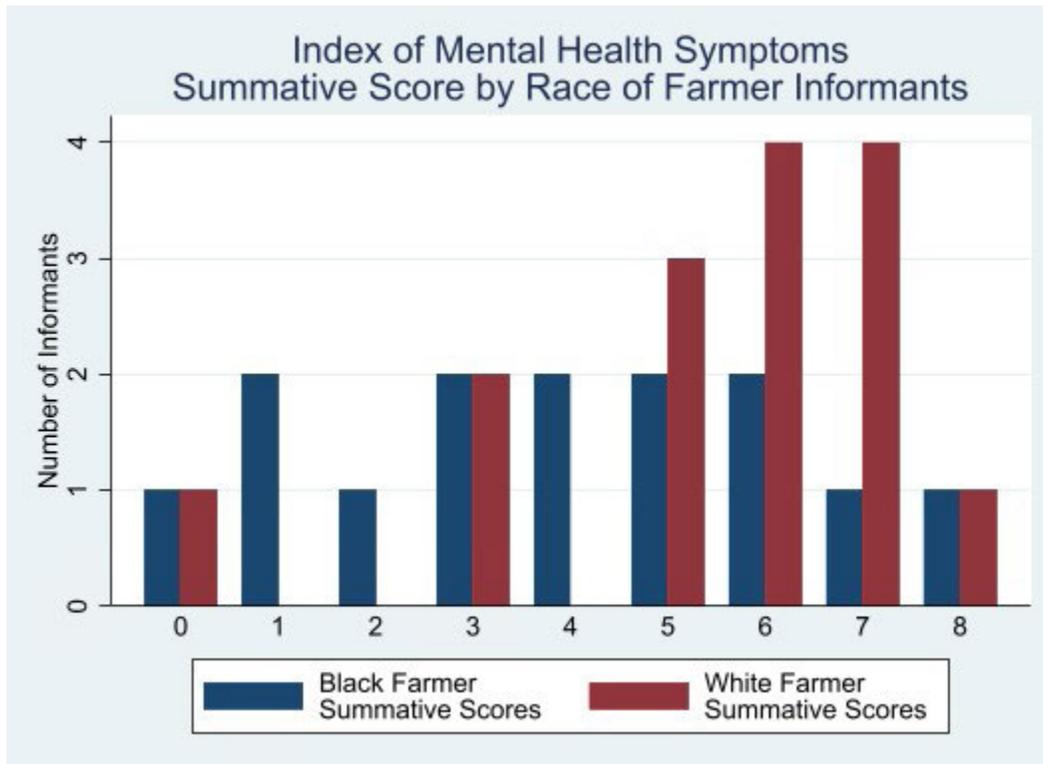
C. Example of Resource Feedback Table

Resource	Type	Information Provided	Information Flow	Positive Assessment	Interviewee/ Scale of Farm	Negative Assessment	Interviewee/ Scale of Farm	Recommendation
Ex. Org 1	Bridging	Advocacy	Agents to farmers	The agent provided valuable insight.	F52-4th gen-74 acres	They don't offer any support for small farms.	F57-1st gen-5 acres	Additional programming for small-scale farmers.

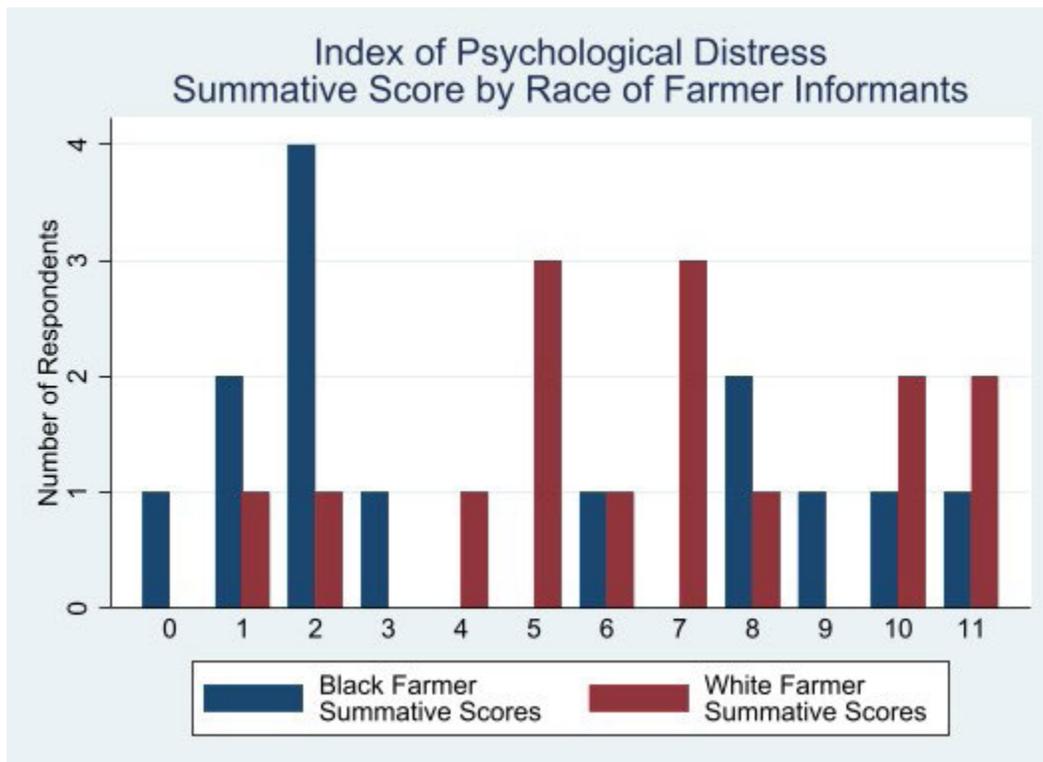
D. Selected Graphs

Source Note: Data for this set of graphics comes from analysis of the data from the 30 farmer informant interviews conducted for this report.

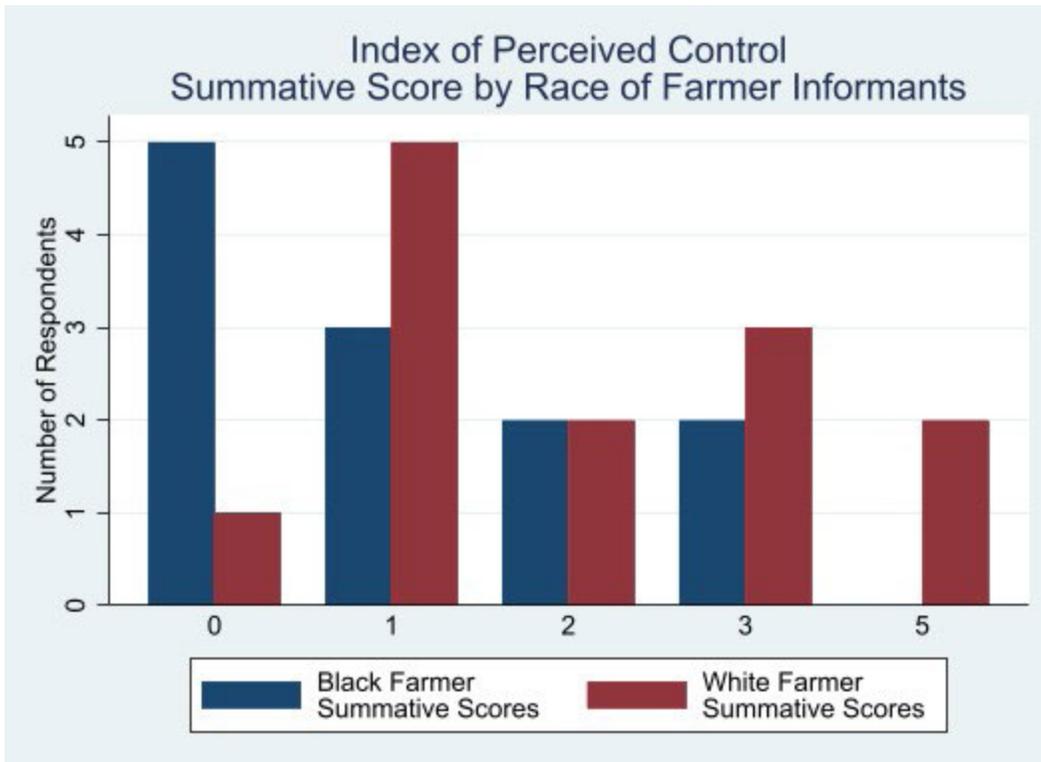
1. Stress and Hardship Indices



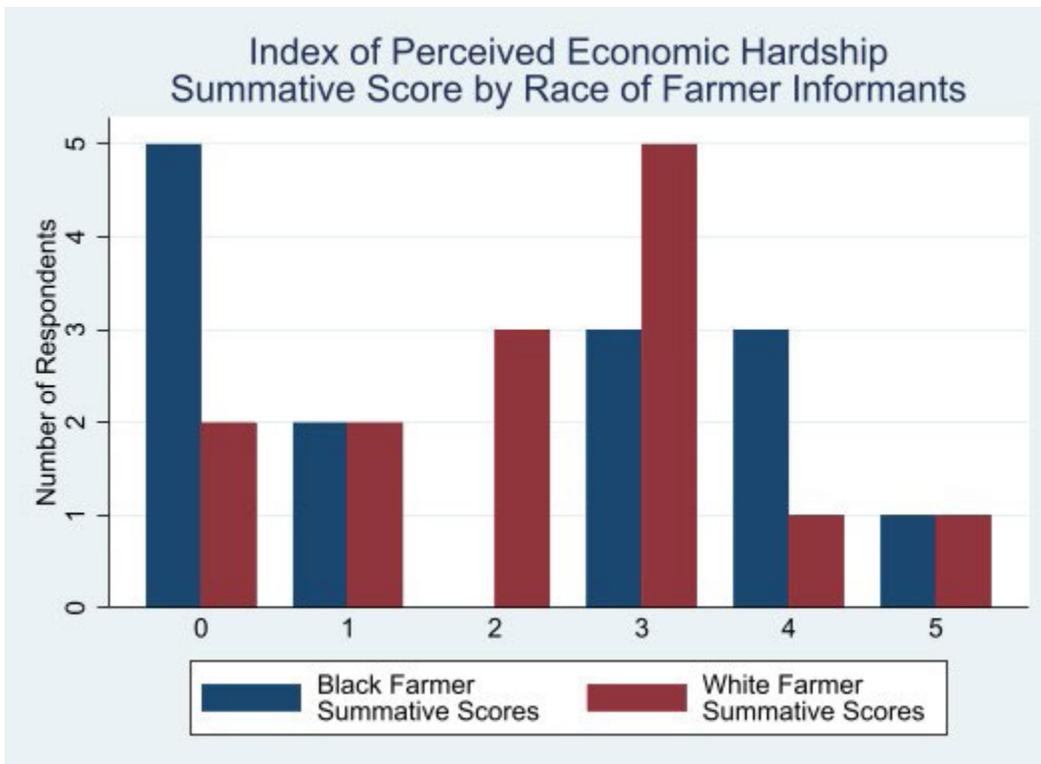
Note: Mean = 4.69, Median = 5, Summated responses (yes=1; no=0) to nine items



Note: Mean = 5.66, Median = 6, Summated responses (often=2; a little=1; never=0) to six items



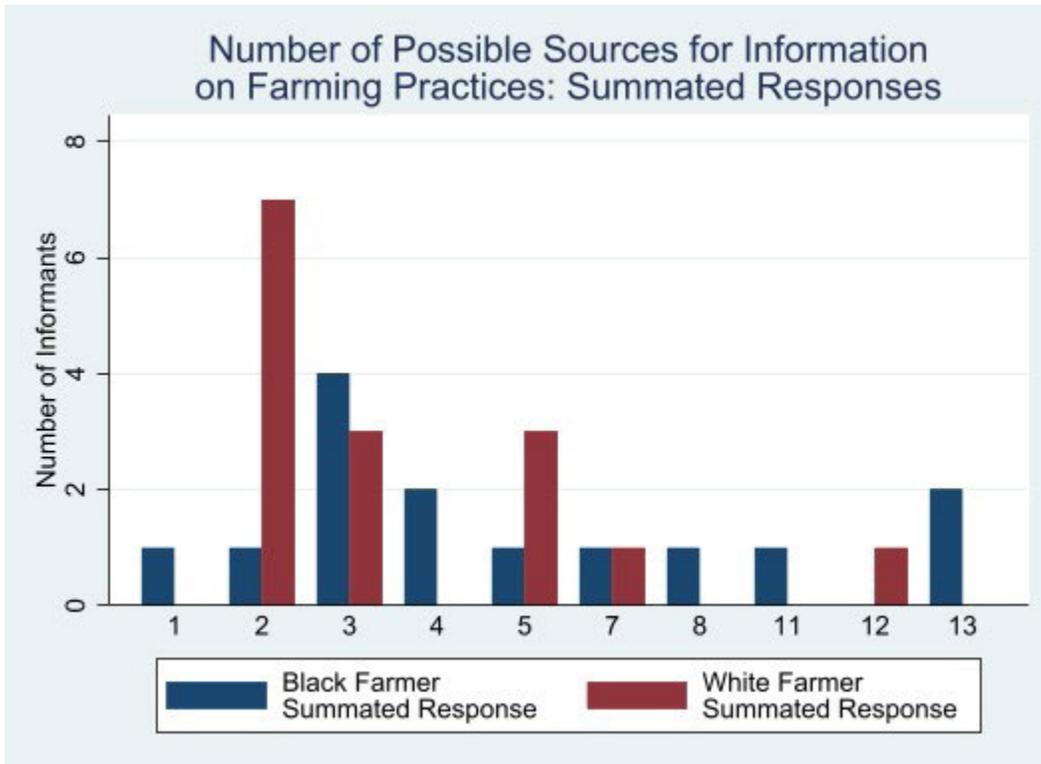
Note: Mean = 1.64, Median = 1, Summated responses (often=2; a little=1; never=0) to three items



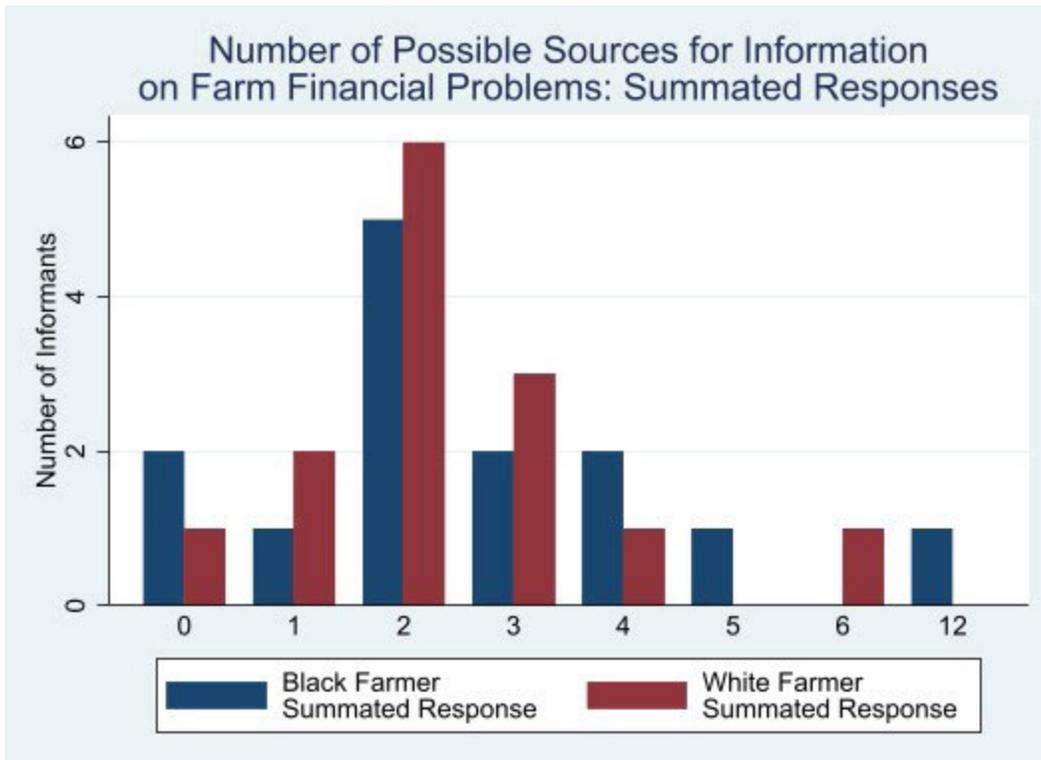
Note: Mean = 2.14, Median = 2.5, Summated responses (often=2; sometimes=1; never=0) to three items

2. Summated Responses to Possible Sources of Information

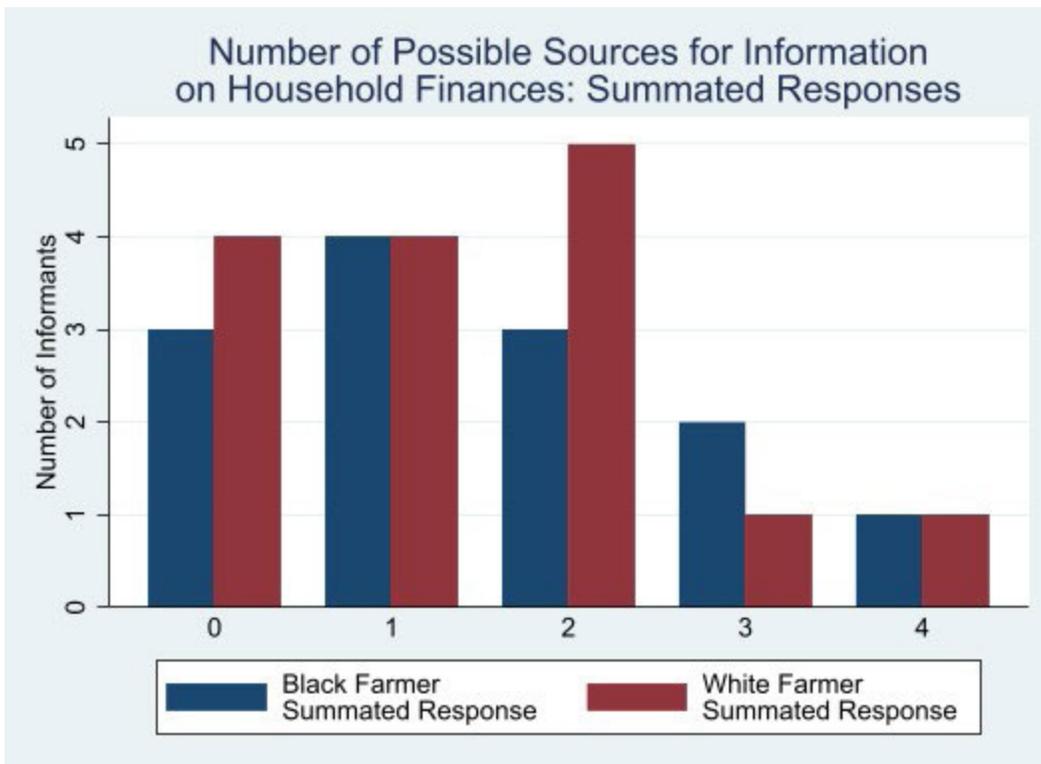
Data Note: Summated responses (yes=1; no=0) to 14 items for all graphs in this section.



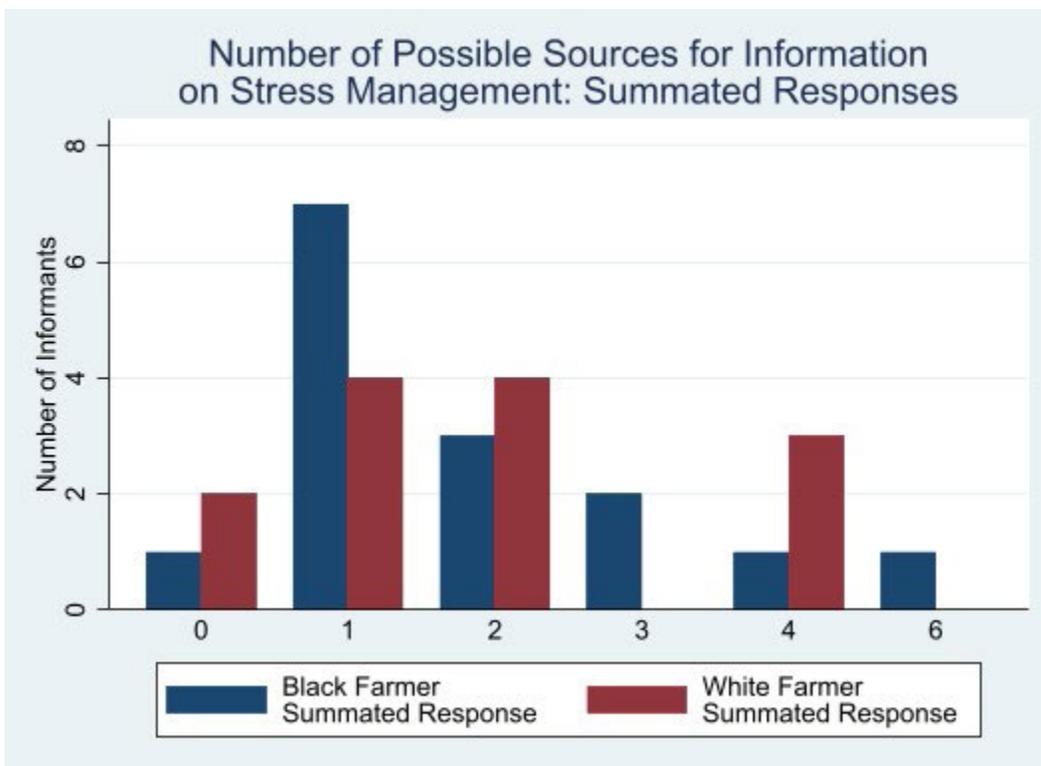
Note: Mean = 4.72, Median = 3



Note: Mean = 2.68, Median = 2

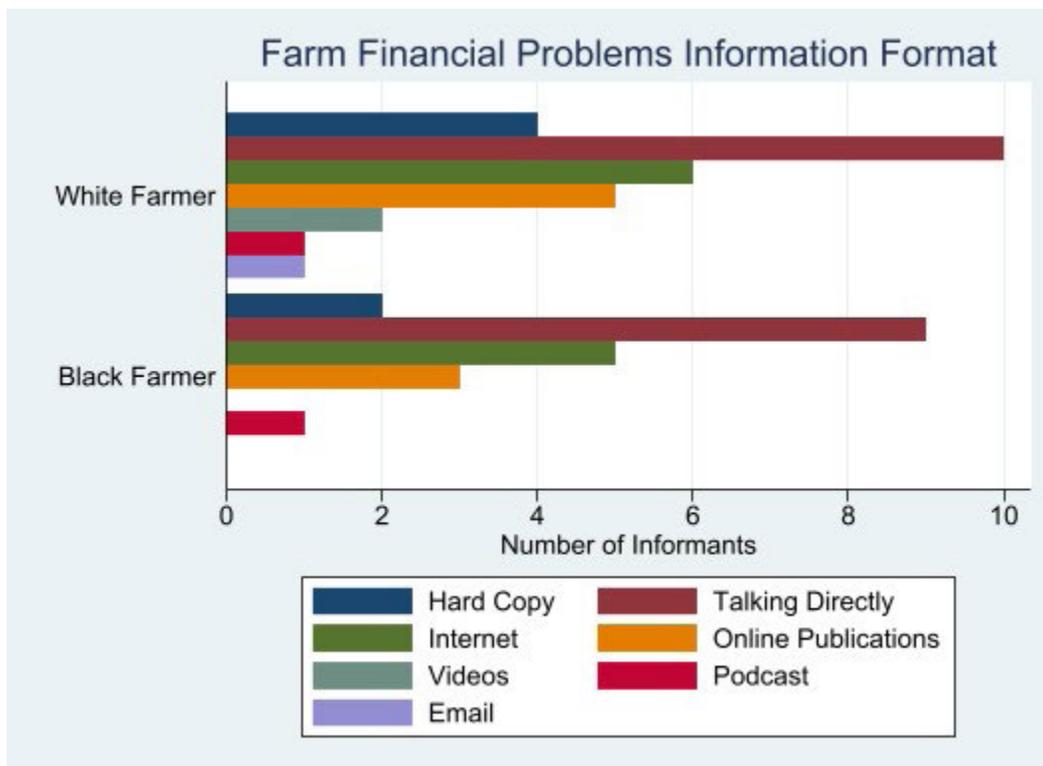
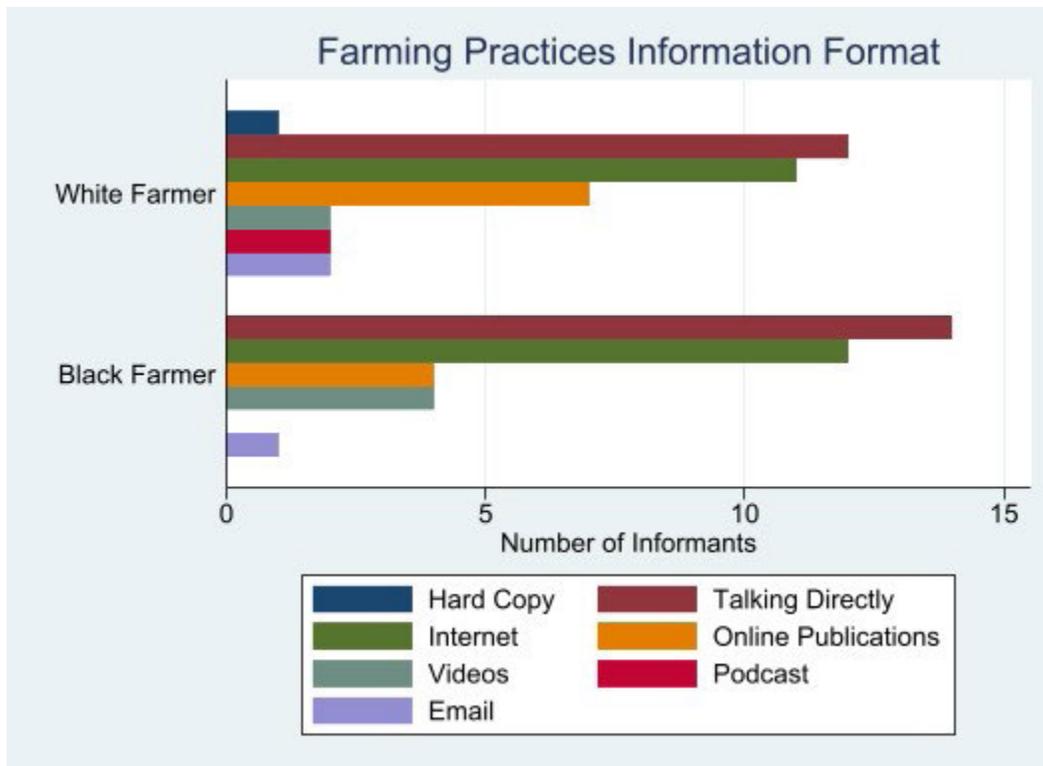


Note: Mean = 1.46, Median = 1

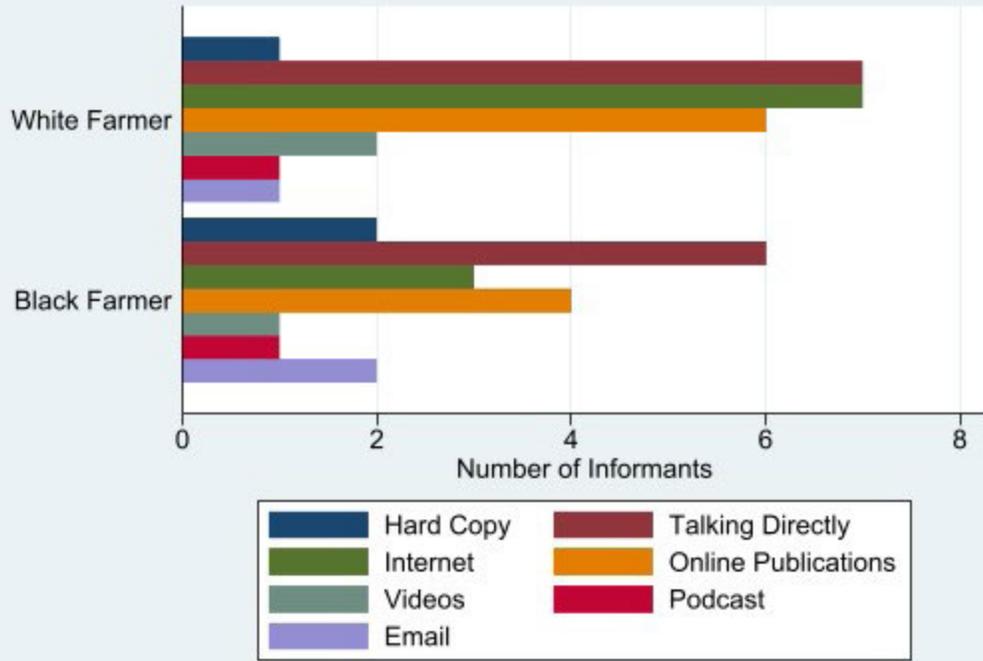


Note: Mean = 1.89, Median = 1.5

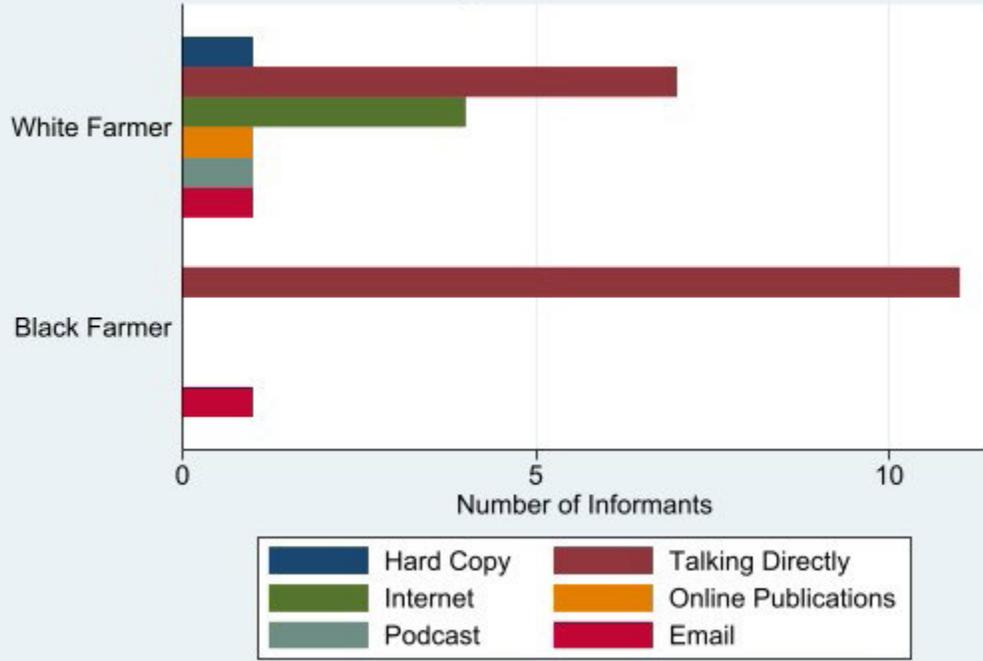
3. Information Format Preferences



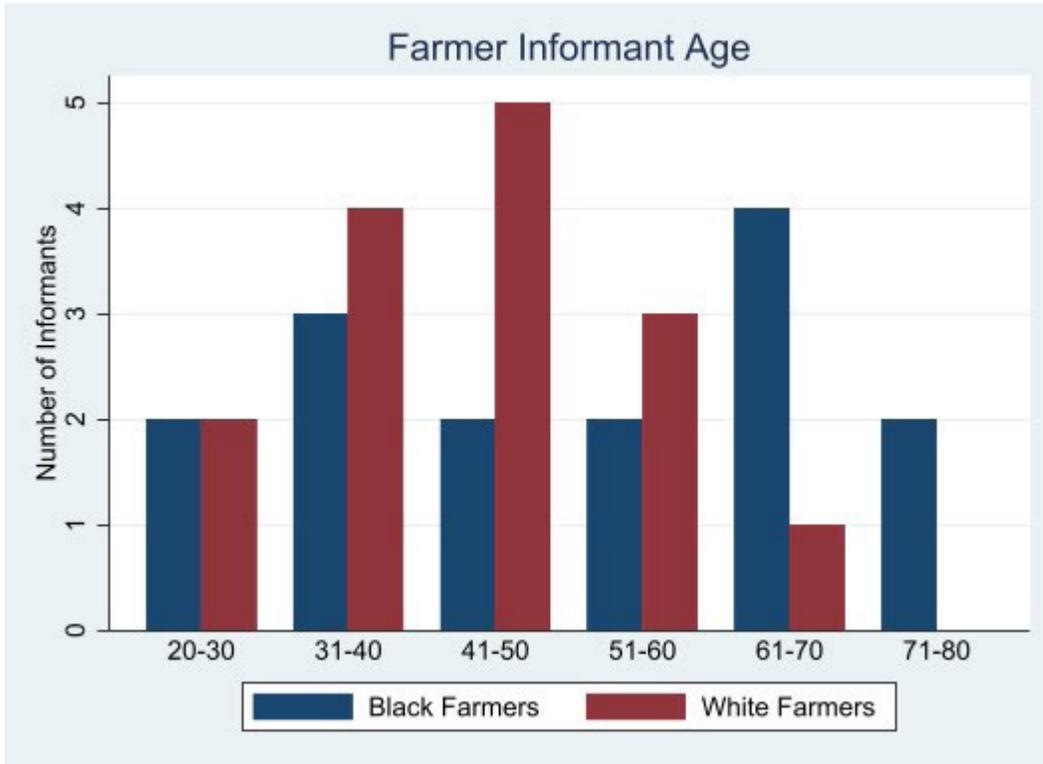
Household Finances Information Format



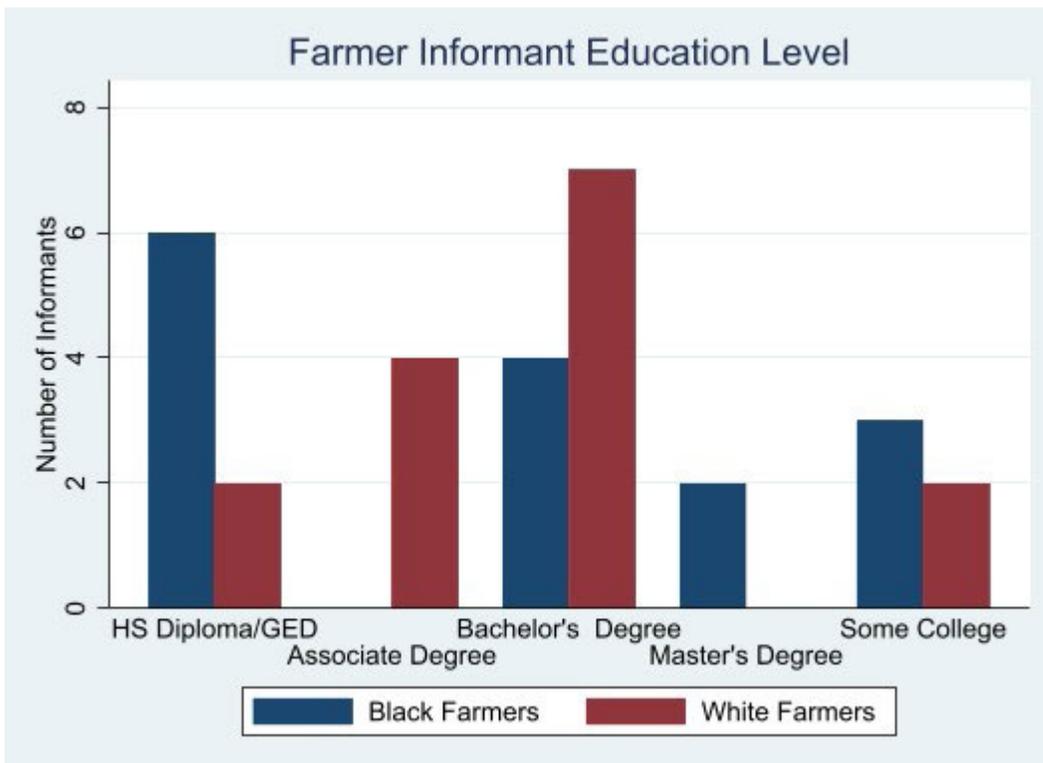
Stress Management Information Format



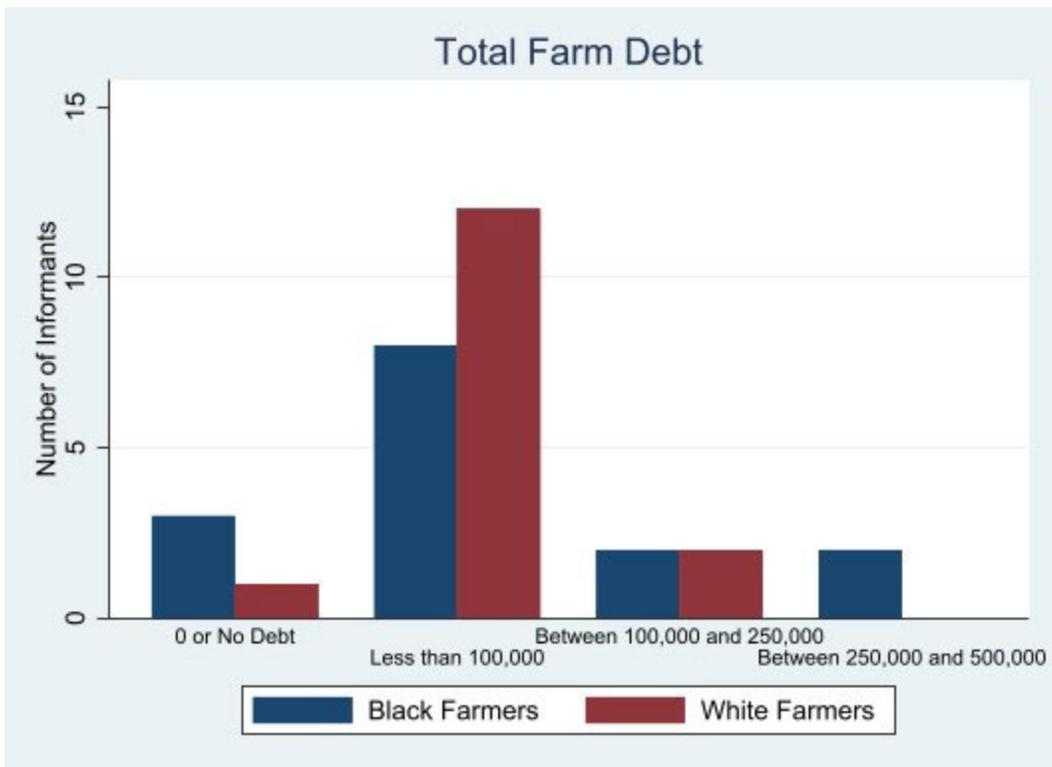
4. Farmer and Farm Characteristics



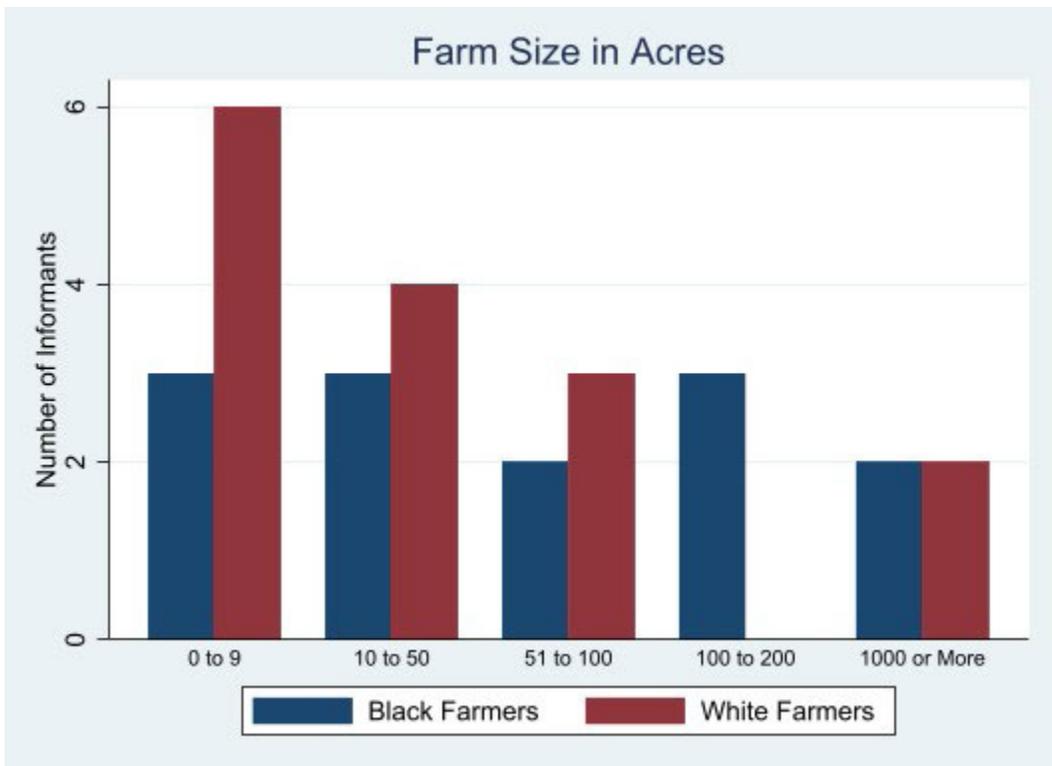
Note: Mean = 47.4, Median = 45



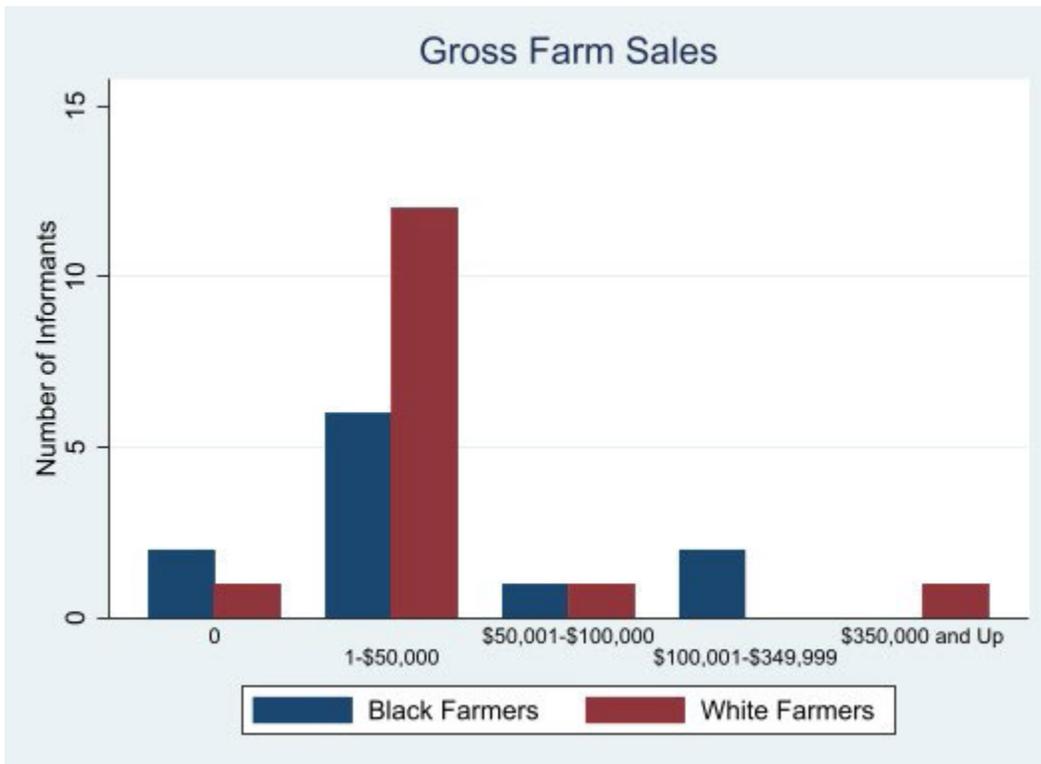
Note: Median = Bachelor's Degree



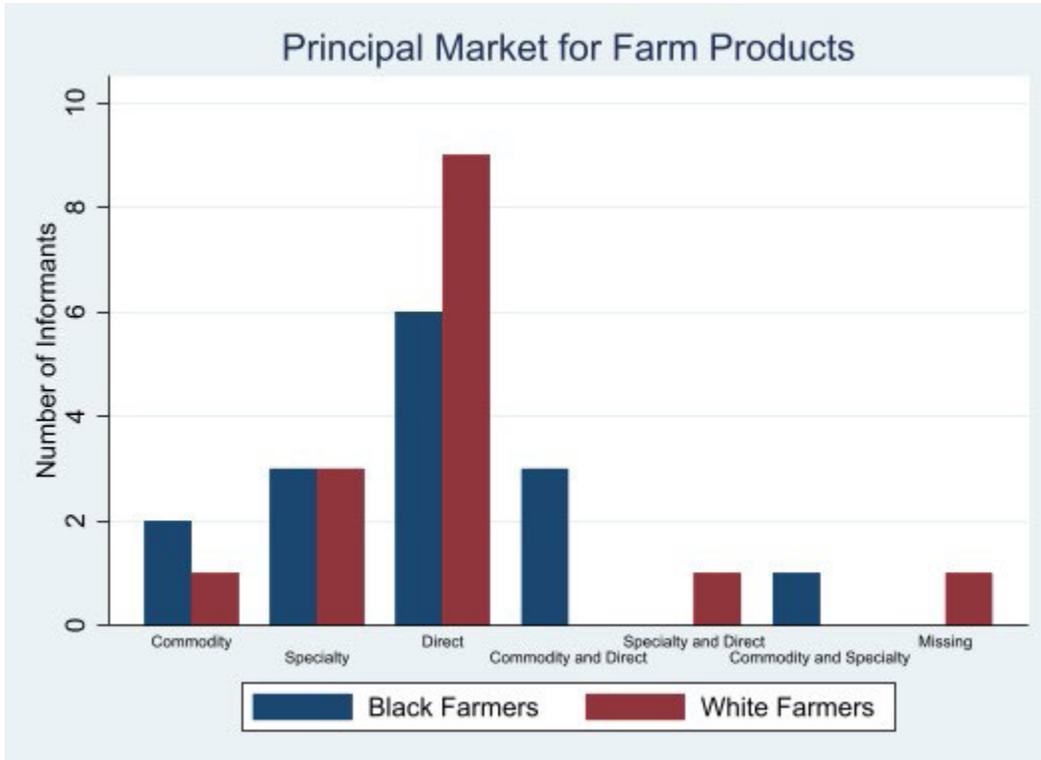
Note: Median = Less than \$100,000



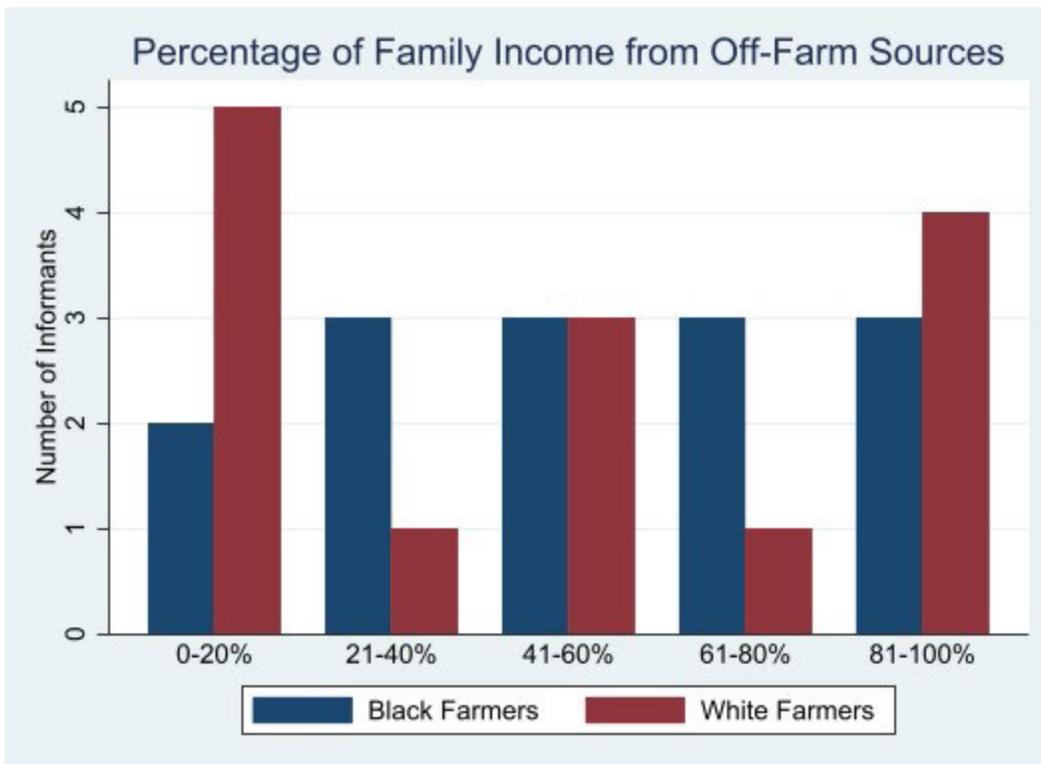
Note: Mean = 204 acres; Median = 41 acres; 2 observations missing



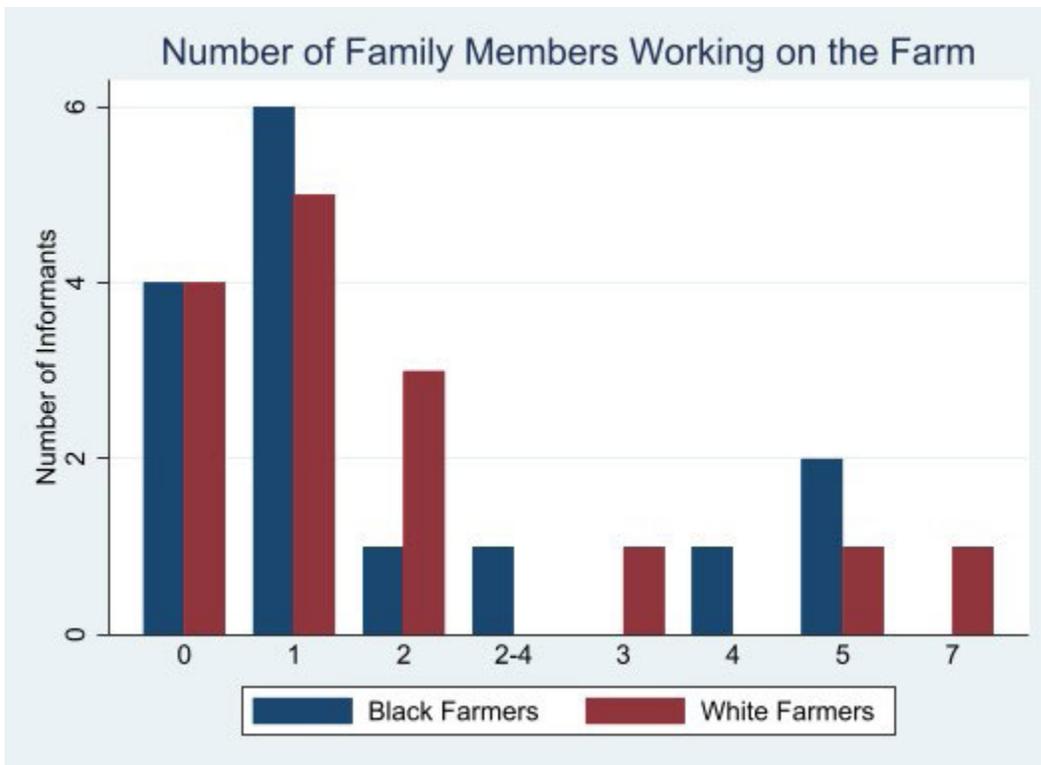
Note: Mean = \$57,733.42, Median = \$21,000



Note: Median = Direct



Note: Median = 41 to 60%



Note: Mean = 1.7; Median = 1; 1 observation missing