Welcome!

While we wait for everyone to join…

Please respond to the poll

Conducting A Needs Assessment

August 5, 2025

Katherine Webb-Martinez, Program Planning & Evaluation Director

Vikram Koundinya, CE Evaluation Specialist & Associate Professor of Extension

Priyanka Vyas, GIS Analyst, Informatics and GIS Statewide Program, UC ANR

Domena Agyeman, UCCE Agriculture and Natural Resources Economics Advisor, Butte, Glenn, and Tehama Counties

Hedmon Okella, 4-H Animal Science Advisor, San Benito, Monterey, and Santa Cruz Counties

University of California
Agriculture and Natural Resources

Agenda

10:00	Welcome & Overview
10:05	How-to Needs Assessment Presentation & UCCE Examples
10:55	Break
11:00	UCCE Academics Share Their Approaches
11:30	Small Group Discussion
11:55	Wrap-up & Training Evaluation

Desired Outcomes

Participants gain …

- Understanding of needs assessments basics (why, what, how, when)
- Basic understanding of how to write good needs assessment questions
- Understanding of how to use the findings to inform how you focus and develop your program
- Feedback on your needs assessment plan

What is Needs Assessment?

- Is the first step in the overall program planning process. It is an essential step in the program planning, development and evaluation cycle (Etling & Thomas, 1995).
- Driven by the question "*What do clients need and how can those needs be met?*" (Patton, 1982).
- One of the first priorities for a new extension educator is to conduct a needs assessment to inform their programming (Caravella, 2006).
- Needs assessment is one of the key educational competencies for extension educators (Ghimire, 2010; Koundinya, 2010).

Needs Assessment Approaches

Asset-based needs assessment

- Identify what is available or potentially available to a community.
- This approach can identify the available organizational, community, fiscal, and individual people skills .

Traditional needs assessment

- Identify what is needed or lacking in a community.

“Asset-based needs assessment is a useful tool when we don’t know enough about both assets and needs in a community”.

(Elhadi, A. F., & Lewis, D. K., 2016)

Sacramento County Cooperative Extension is conducting a needs assessment to identify the level of importance in your community related to the following issues. By completing this survey, you are helping direct the work of the UC Cooperative Extension Service in serving your needs. The survey should only take about 15 minutes of your time. Your answers will be completely anonymous.

On a scale of 1 to 4, with 1 being "completely un-important" and 4 being "very important, please indicate the number that best describes the level of concern for your community

	COMPLETELY UN-IMPORTANT 1	SOMEWHAT UN-IMPORTANT 2	IMPORTANT 3	VERY IMPORTANT 4
Food safety in the home	☐	☐	☐	☐
Obesity/healthy weight	☐	☐	☐	☐
Community food security – hunger issues	☐	☐	☐	☐

COMMUNITY ASSETS: Community assets are positive features that explain why we choose to live in a particular community. On a scale of 1 to 5, with 1 being "poor" and 5 being "excellent", please indicate the number that you believe most accurately rates each feature in your community. If you "don't know", please indicate.

Excerpts from UCCE Sacramento County Needs Assessment

	POOR 1	FAIR 2	GOOD 3	VERY GOOD 4	EXCELLENT 5	DON'T KNOW DK
Personal and family safety	☐	☐	☐	☐	☐	☐
Availability of open space	☐	☐	☐	☐	☐	☐
Recreational opportunities	☐	☐	☐	☐	☐	☐
Place to raise a family	☐	☐	☐	☐	☐	☐
Sense of community	☐	☐	☐	☐	☐	☐

When to conduct a Needs Assessment?

- The program is brand new.
- You are new to the job.
- You want to learn more about what your clients need related to a specific condition.
- You need to document the needs for funding (Angima et al., 2014)
- You need additional information to communicate with your stakeholders.
- If the program evaluation focus is on how well it meets the needs of the intended audience (Patton, 1982)

Why do it?

Different potential uses

Definitely

- Developing your program: from goal setting to evaluation
- Performance appraisal

Maybe

- Collaborative statewide or regional needs assessment
- Commissioned study
- Journal article
- Justify requests for funding/grants
- Collaborative research project
- Identify partners/community org.collaborators

Benefits of Collaborative Needs Assessment

- Better understanding of needs at a big picture or regional level
- Addressing shared goals more efficiently
- Leveraging subject-matter expertise
- Leveraging limited resources
- Serving as a strategic planning tool for other program areas

UCCE Climate Smart Agriculture (CSA) Educational Needs Assessment

Purpose: Identify the CSA education needs of growers in California. Use needs assessment data for developing CSA education programs for growers.

Methods and sample: Mixed methods (surveys, focus groups). Survey sent to more than 12,000 farmers, 341 usable sample.

Benefits: Inform extension and research programming of the diverse team, leverage expertise.

Outputs: Journal articles, conference presentations both on the methods and results.

UCCE Dairy Collaborative & Ongoing NA

2017-2019

Purpose: Identify dairy producer needs and how best to direct & deliver UCCE programming

Target audience: CA Grade A dairy producers (list from CDFA)

Benefits: collective expertise leveraged

Outputs: Peer-reviewed journal publication; presentations at meetings

2024-25

Why: CA dairy landscape (# farms, farm size, etc) has shifted so want to update the data to see how needs and desired outreach has changed.

How: Deploying same survey

First steps for new advisors

- Find out what is already known or available
- Get out and introduce yourself
- Develop relationships
- Define your clientele
- Get the lay of the land

➢ This informs who and what to ask about needs

Intro Letter

My name is Fadzayi Mashiri, I am the new University of California Cooperative Extension (UCCE) Livestock and Natural Resources Farm Advisor, working in Mariposa, Madera and Merced counties. I am conducting a Needs Assessment to better understand the ranching community's management practices and challenges; and areas you may need more information or research done to improve production and resource management. My goal is to develop extension, educational and research programs that are relevant to your needs and this can only be possible if I get feedback from the community I am serving.

Your responses will be greatly appreciated. Thank you,

Fadzayi

QUESTIONNAIRE

Name _____

1) What is your main production enterprise(s) (cow/calf, stocker, sheep, poultry)

2) Herd size 50 or less; 50-100; 100-200; 300-400; more than 500

3) What are the main problems you deal with on your ranch or property you would want me as Livestock and Natural Resources advisor to focus the extension programs on? E.g. drought, weeds, diseases etc. Please provide some details about the issues.

Best Practices for Community Engagement

- Participatory approach in developing, pre-testing, analyzing, and interpreting questionnaires with members of the community.
- Tell that you are a UC ANR/UCCE person.
- Specify the purpose of the study.
- Discuss how their participation would contribute to improvements in others lives and their society.
- Do not use subordinating language.

Dillman, Smyth, and Christian, 2014

Examples of Subordinating Language

"*For us to help solve the school problems in your community, it is necessary that you participate in this study.*"

Better alternative: "*Will you please be part of helping to solve the school problems in your county? Your responses can assist the county residents and school administrators in fully understanding the issues facing the schools here.*"

Best Practices for Community Engagement contd

- Establish trust.
- Ask for advice.
- Stress that the opportunities to contribute to this study are limited.
- Convey that others are also participating.
- When appropriate, use incentives as social exchange.

How to Organize a Needs Assessment

Phase 1: Exploration

- NA purpose, potential uses, audience, explore secondary data sources, what & how to collect data

Phase 2: Assessment

- Implement the NA plan: collect, analyze, & synthesize data

Phase 3: Utilization

- Use the data to set program priorities, develop action plan to address needs/issues, communicate results

McKillip (1998) and Lepicki and Boggs (2014) as cited in Donaldson and Franck (2016)

Commonly Used Data Collection Methods

For secondary data:

- Literature/Document review
- GIS data

For primary data:

- Individual Interviews
- Group interviews (focus groups)
- Key-informant interviews
- Observation
- Surveys

Considerations given increased virtual methods

Many methods can be done online & could make data collection easier

- Zoom interviews with clientele and partners
- Surveys often already online
- Building on existing meetings - some are now online, e.g. commodity mtgs. and ramped up other online forums (e.g. Dairy Facebook); it is a lot easier to visit virtual meetings

Document/Literature Review

Content analysis of existing information, secondary data

- Little to no participant burden

Best practices:

- ✓ Have an audit trail
- ✓ Systematic analysis and documentation

Natalie Price,
UCCE Community Nutrition and Health Advisor

Mixed methods:

Reviewed county health improvement plans, health center community needs assessments, and relevant health data and policy reports, and informal interviews with ANR academics and key partners

Individual Interviews

- Personal contact is desirable
- Sample group is smaller
- Sample group is unlikely to respond to a written survey
- Sample has people incapable of taking a survey
- You are not sure what is most important to potential respondents

Best practices

- State the purpose upfront
- Be consistent and neutral
- Use probing questions
- Send questions 1-2 days in advance

Elizabeth Fitchner,
UCCE Farm/Orchard Systems Advisor

Informal Interviews
piggy backing
on existing meetings

Key-informant interviews

- Verify collected data (e.g.: to understand needs vs wants)
- Get inputs from knowledgeable and influential people
- Explore unanticipated ideas

Best Practices

- Have a mix of people from different ages, races, ethnicities etc.
- ~10 people

Susie Kocher,
UCCE Forestry/ Natural Resources Advisor

Mixed Methods including
Key Informant Interviews

Group Interviews/Focus Groups

- Understand common issues or needs
- Don’t know what questions to ask
- Want to know more from survey responses
- Foster trust and relationship-building
- Piggyback off existing meetings

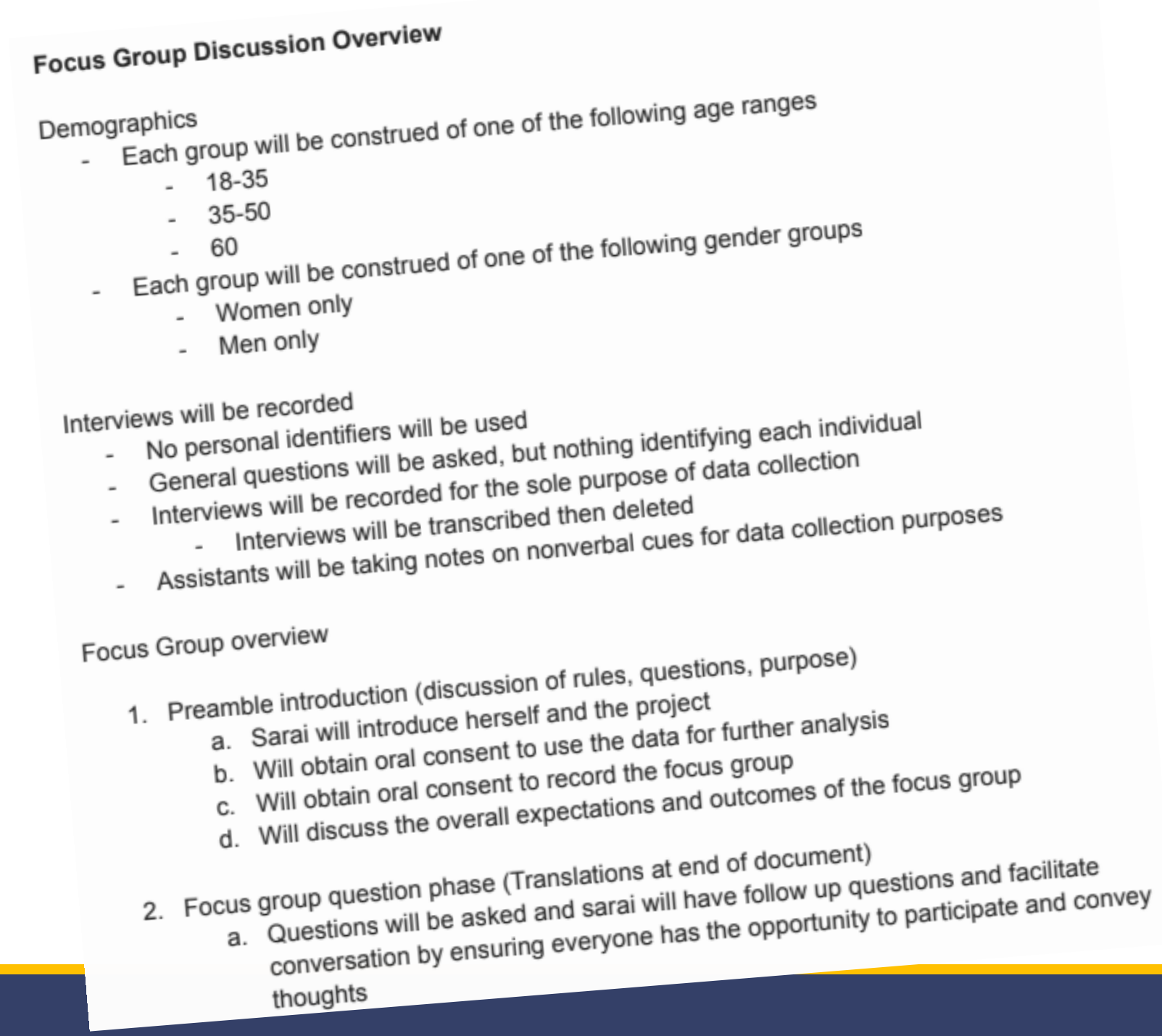
Best Practices

- 6-12 people
- Explain the rules
- Make deliberate efforts to get answers from everyone

- Video: https://www.youtube.com/watch?v=FHcCNufXLsg
- AEA Blog March 2025: https://aea365.org/blog/extension-education-evaluation-tig-week-using-focus-groups-in-extension-evaluation-by-vikram-koundinya/
- Focus group challenges 2025: https://open.clemson.edu/cgi/viewcontent.cgi?article=5614&context=joe

Clarissa Reyes & Katherine Jarvis Shean, UCCE Orchard Systems Advisors, with Amanda Crump, UC Davis professor

Mixed methods: **Focus Groups** for Spanish speaking farmworkers and survey for growers



Focus Group Discussion Overview

Demographics
- Each group will be construed of one of the following age ranges
  - 18-35
  - 35-50
  - 60
- Each group will be construed of one of the following gender groups
  - Women only
  - Men only

Interviews will be recorded
- No personal identifiers will be used
- General questions will be asked, but nothing identifying each individual
- Interviews will be recorded for the sole purpose of data collection
  - Interviews will be transcribed then deleted
- Assistants will be taking notes on nonverbal cues for data collection purposes

Focus Group overview

1. Preamble introduction (discussion of rules, questions, purpose)
   a. Sarai will introduce herself and the project
   b. Will obtain oral consent to use the data for further analysis
   c. Will obtain oral consent to record the focus group
   d. Will discuss the overall expectations and outcomes of the focus group

2. Focus group question phase (Translations at end of document)
   a. Questions will be asked and sarai will have follow up questions and facilitate conversation by ensuring everyone has the opportunity to participate and convey thoughts

Observation

- Observe practice/behavior
- Want to see and listen
- Confirm fidelity of implementation

Best Practices

- Have an observation guide
- Take field notes

Observation Prompts	Actions You See or Comments You Hear
1) Engagement/Delivery a. How are students engaging in the activities? b. What is their body language?	
2) Learning a. Are students expressing what they are learning? b. Is the environment conducive to learning? c. Are students forming new connections? Why? How?	
3) Staff friendliness & circulation a. Warm tone of voice and respectful language b. Attentive and responsive c. One-on-one interactions with every student	

Observation Guide: Elkus Ranch Summer Camp (June 25th – Aug. 26th, 2018)

Adapted from

Klink, J. (2014). *Field Day Observation Guide*. Environmental Resources Center, University of Wisconsin-Extension.

Carlson, S. P., Heimlich, J. E., Storksdieck, M., & Meyer, N. (2009). *Best practices for field days. Assessment tools and observation protocols*. University of Minnesota Extension.

Surveys

- To collect standardized information from large sample
- Privacy is important or independent opinions and responses are needed
- When there are resource constraints (mainly time and money)

Best practices

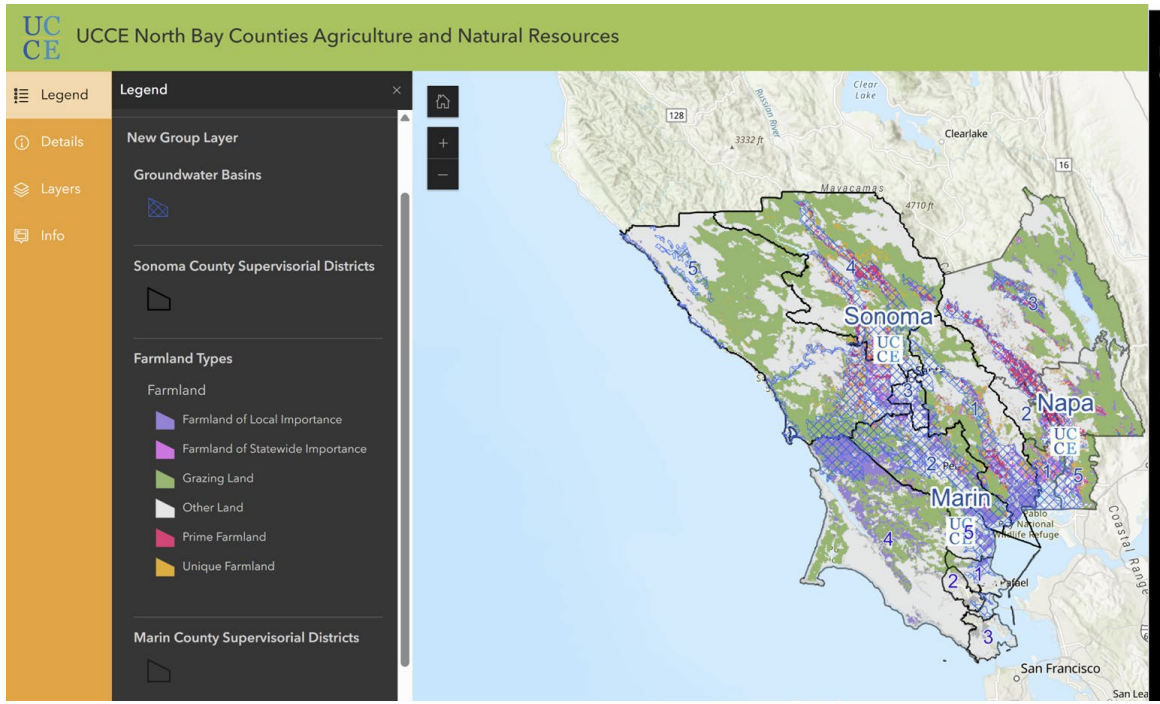
- Be clear about the purpose
- Be focused: only ask what you need to
- Establish reliability and validity of the questionnaire
- Follow design principles

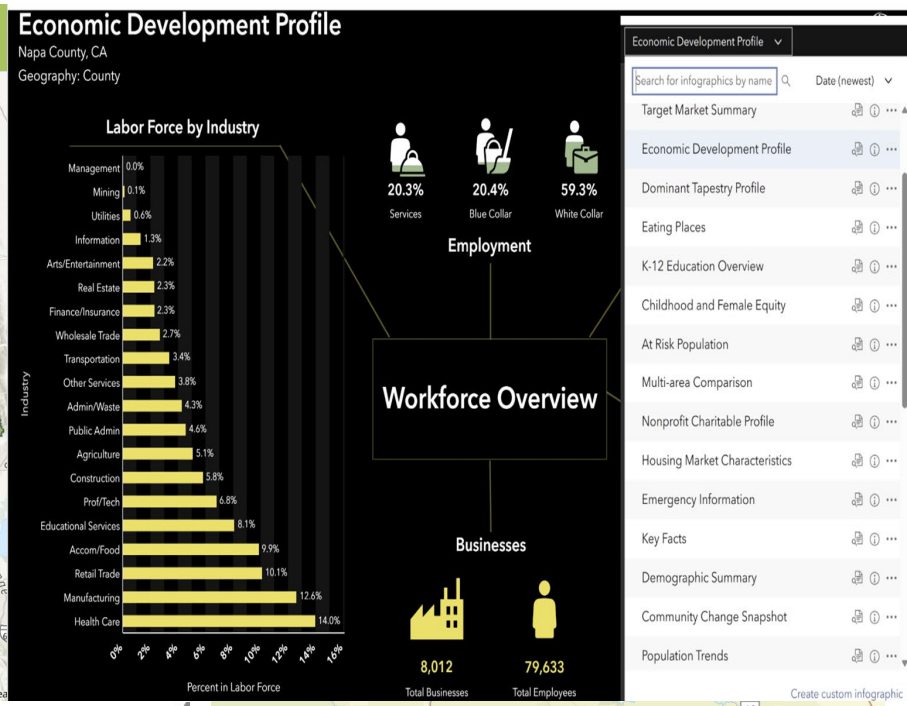
Michelle Leinfelder- Miles, UCCE Farm / Delta Crops Advisor

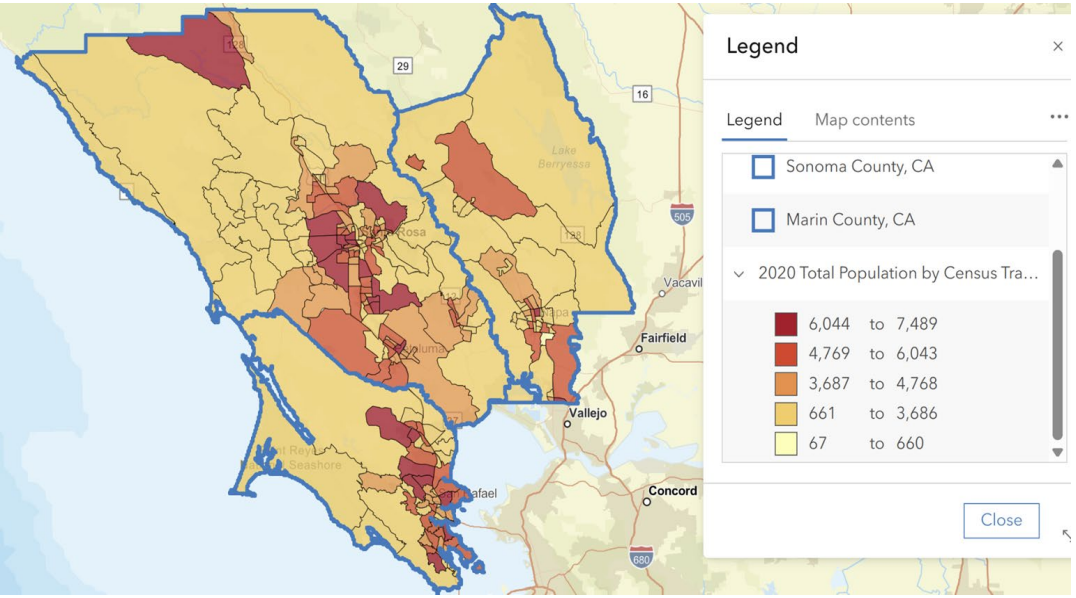
Mixed Methods: Document review, **Survey using Clickers** & Informal Interviews

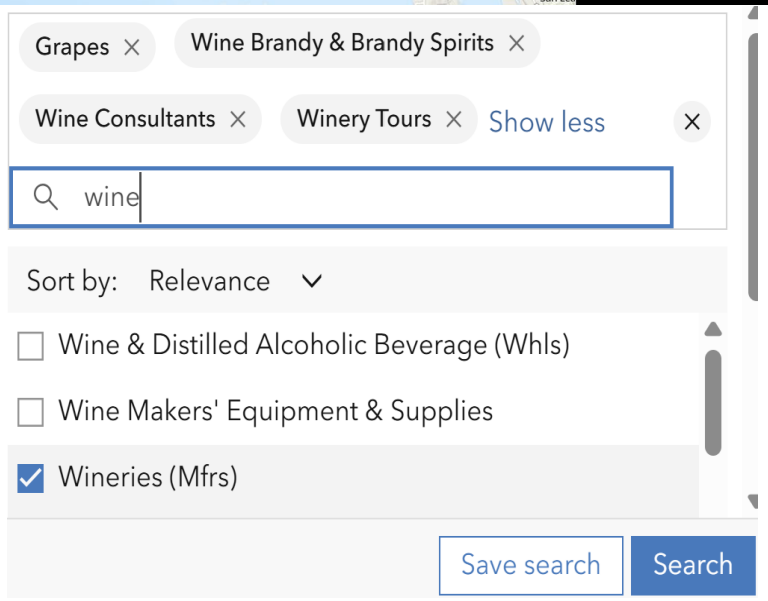
Priyanka Vyas, Informatics and GIS (IGIS)

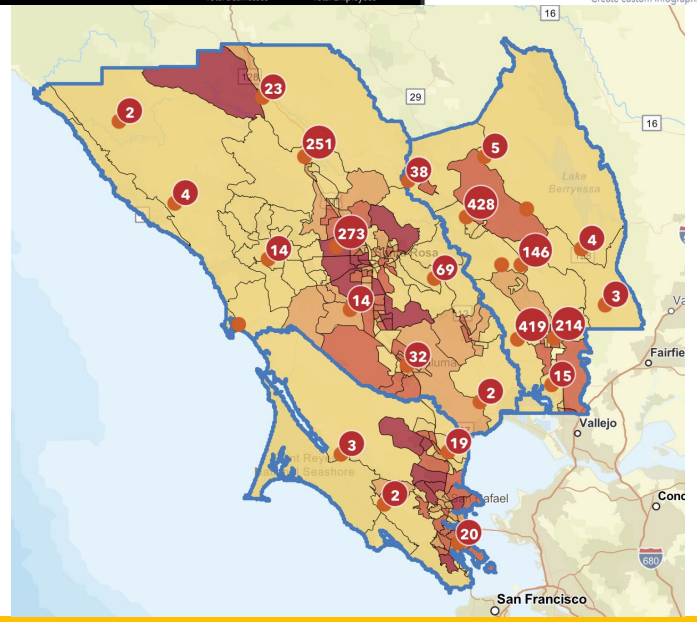
Secondary data using GIS



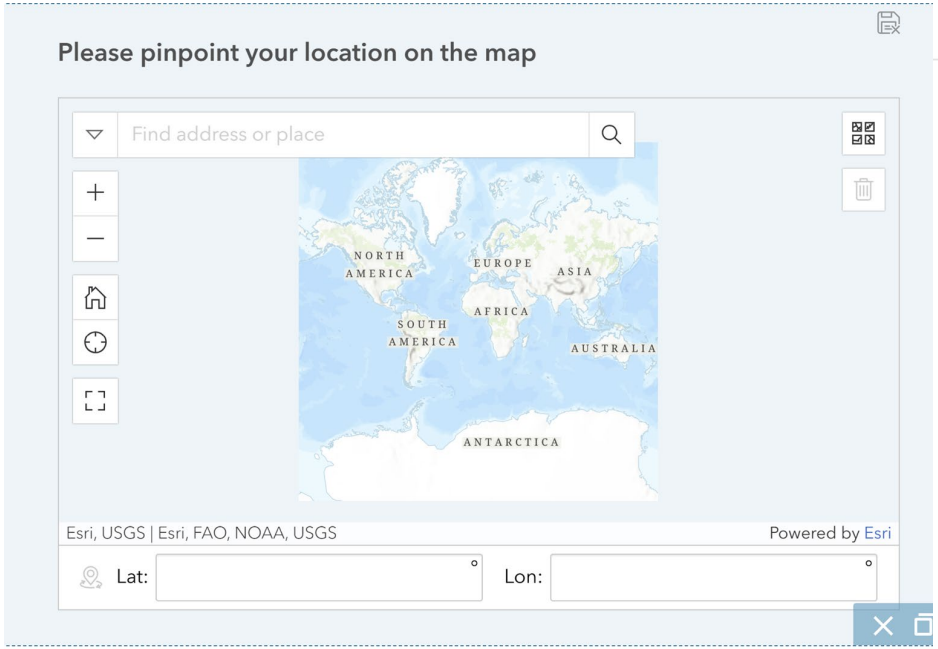








GIS-based tools for primary data collection



ArcGIS Survey123

ArcGIS Field Maps

Farmers Groundwater Usage Survey

We appreciate your participation in this survey. Your feedback is important f
groundwater management practices in Napa, Sonoma, and Marin County. Tl
developing strategies to support sustainable water use in agriculture.

Personal Information

What is your name?*

What is the name of your farm?*

Which county is your farm located in?*

-Please select-

Urban Agriculture Expansion in Santa Clara

Thank you for participating in our survey. Your input will help us understand the potential an
challenges of scaling up urban agriculture in Santa Clara. Your responses will guide future
initiatives and policies to support urban farming in our community.

Personal Information

Please provide your full name.*

How long have you lived in Santa Clara?*

Interest in Urban Agriculture

On a scale of 1 to 5, how interested are you in urban farming (1 being not interested at all, 5 being extremely interested)?*

Ensuring Inclusive Access to All through Need Assessment

Consider participants

- Language
- Age
- Abilities
- Male-female interactions, communication and decision-making styles, family relationships
- Approaches to knowing and ways of knowing
- Etc.

Adapted *Building Capacity in Evaluating Outcomes*, UW- Extension

Best Practices

- Work with clientele/partners to develop needs assessment
- Cannot know everything about another culture, but can ask questions and learn in service of others
- Self-reflection
- Secondary data might not include all your clientele groups; identify and contact organizations working with those groups American Evaluation Association blogs

- *"Always place the people who are most impacted at the center of conversations which seek to find solutions to problems affecting them."* MPHI

Margaret Lloyd,
UCCE
Small Farms
Advisor

On farm Observation
& Interviews

Guidelines for Writing Good Questions

1. Do not use abbreviations, slang, or acronyms.
2. Avoid double-barreled questions.
3. Avoid questions that have unstated assumptions.
4. Avoid leading questions that imply a desired response.
5. Avoid questions that may elicit embarrassment, suspicion, or hostility in the respondent.
6. Have mutually exclusive answer options.
7. Have equal variation on both the sides of the rating scale.
8. Ensure that the question stem matches the answer choices.

Writing Questions Group Discussion

1. Research indicates that buying high salt foods is bad for health? Do you buy such foods for your home?

- Yes - No

2. Was your community's input taken and used in developing IPM Extension programs in your county? - Yes - No

3. To what extent do you utilize nutrition information from UC ANR Advisors to inform food purchase decisions?

-Yes - Somewhat - No

Using the Findings to Focus and Develop Your Program

Priority Setting

- You may not ask clientele to prioritize their needs, but even if you do -- clientele priorities are not the only things to be considered…

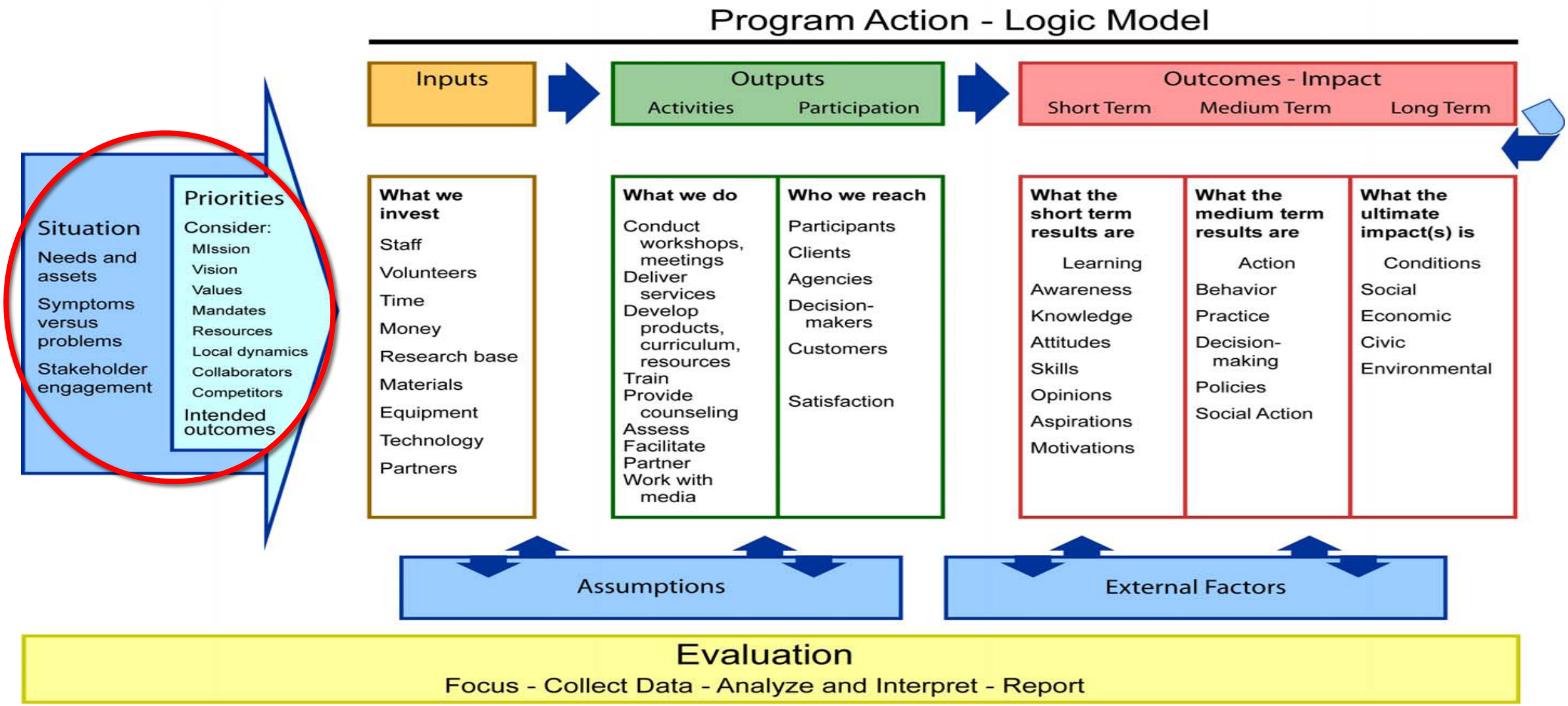
- You can take a qualitative approach to analyze all that you know using a variety of filters/considerations to help you determine the priorities on which you will focus

Priority Setting Considerations?

- **Individual** - job description, expertise, collaborations, resources
- **Organization** - strategic vision, public values, comparative advantage
- **Clientele** - what's important to them, extent & frequency of problem
- **Likelihood of Impact** - What's the state of the science (i.e. is there enough known for you to make progress)? Probability of successful resolution (i.e., probability of an economically feasible solution)

Using Your Needs Assessment Findings

To Develop Focused, Relevant Programs



BREAK

UCCE Needs Assessment Speakers

Domena Agyeman, UCCE Agriculture and Natural Resources Economics Advisor, Butte, Glenn, and Tehama Counties

Hedmon Okella, 4-H Animal Science Advisor, San Benito, Monterey, and Santa Cruz Counties

Economic needs assessment of Agricultural Producers

Domena A. Agyeman

UCCE Agriculture and Natural Resources Economics Advisor

Butte, Glenn, and Tehama Counties

August 05, 2025

Timeframe and data collection

Timeframe:

- Started within the first month in my position
- Took about 10 months to complete
  - An ongoing process

Data collection:

- Phase 1: Meeting with colleague advisors
- Phase 2: Attended grower/stakeholder meetings
- Phase 3: Developed a survey instrument
  - Online and in-person distribution
  - Used existing mailing lists from colleagues

USDA United States Department of Agriculture
Farm Service Agency

Butte County Farm Bureau

Timeframe and data collection

The Questions:

- Based on themes from grower/stakeholder meetings (e.g., regulatory concerns, farm business management)
- Consulted with colleague advisors to better understand stakeholder language

GENERAL CHALLENGES OF YOUR OPERATIONS

Do you have reliable internet needed to conduct business operations? ☐ Yes ☐ Sometime ☐ No

What is the ONE most challenging regulation for your operation?

☐ Groundwater ☐ Land Use ☐ Transportation/Trucking
☐ Surface Water Availability ☐ Labor ☐ Air/Burning
☐ Water Quality - Irrigated Lands Regulatory Program

☐ Other (please specify) .....

What are the top 3 challenges impacting the future success of your agriculture operation?

1. .....
2. .....
3. .....

Economics and Business Management Information

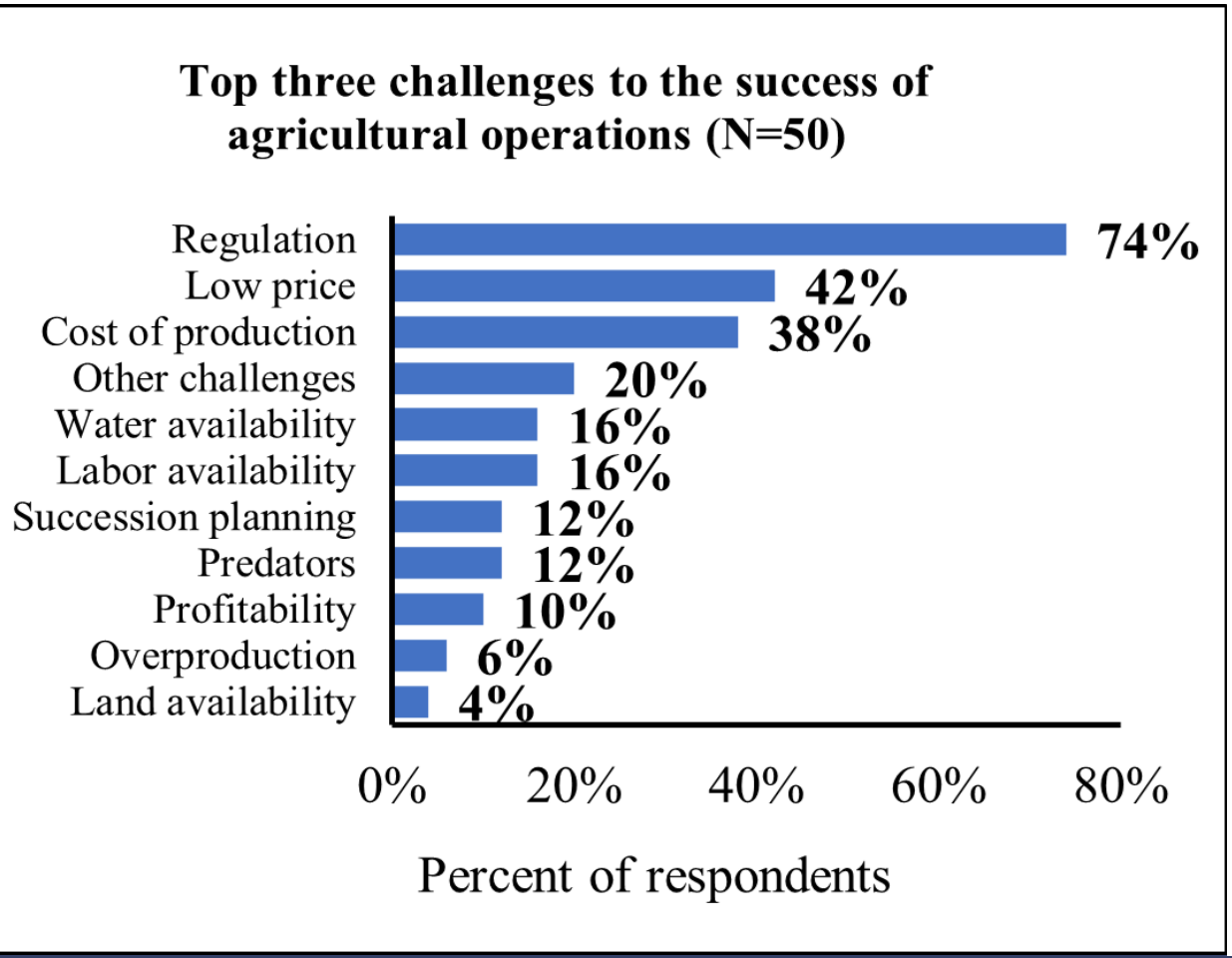
How confident are you regarding the following financial business management topics?

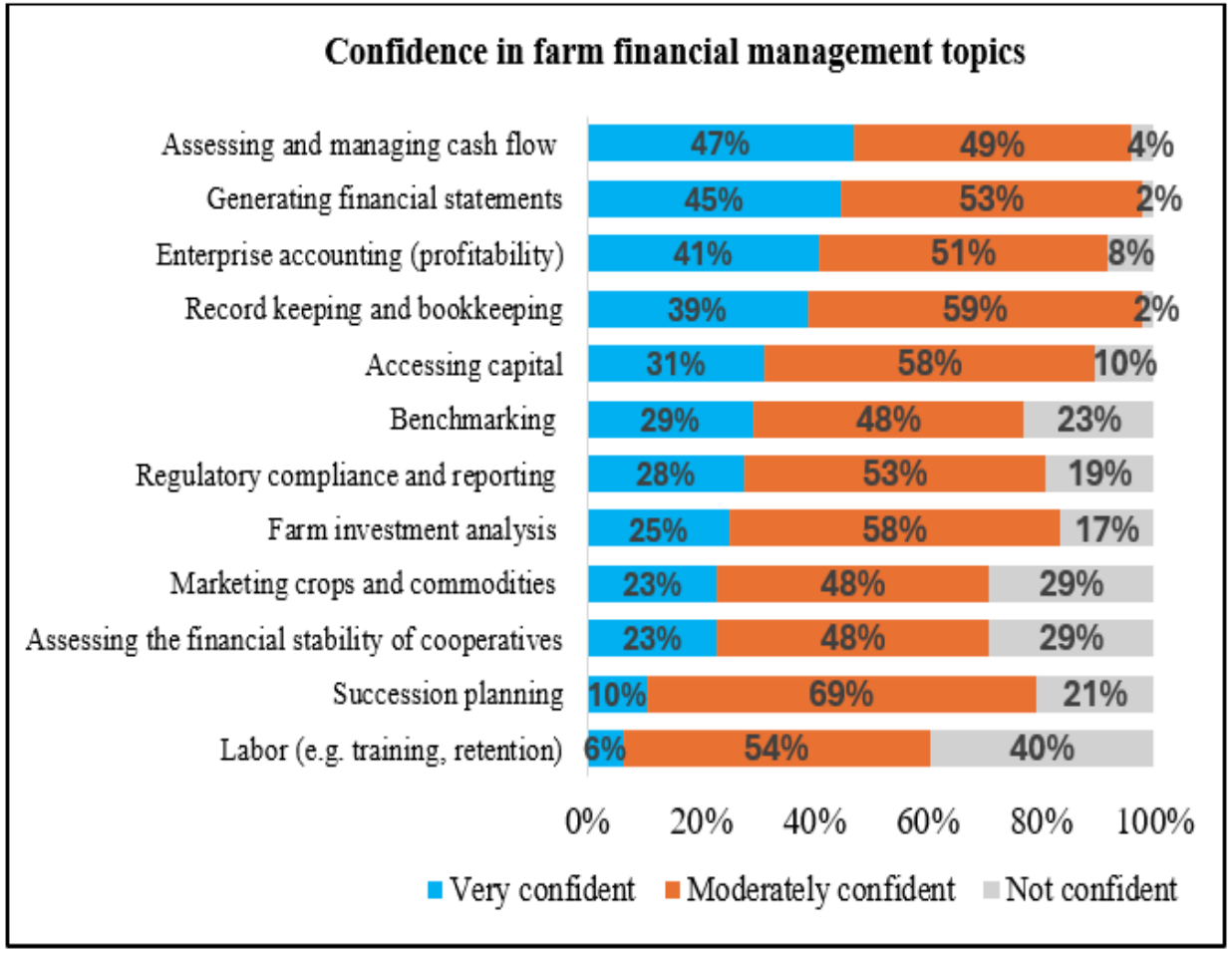
	Very confident	Moderately confident	Not confident
Record-keeping and bookkeeping	O	O	O
Enterprise accounting (e.g. profitability of fields and crops)	O	O	O
Generating financial statements (e.g. balance sheet)	O	O	O
Assessing and managing cash flow	O	O	O
Accessing capital (e.g. production loan)	O	O	O
Farm investment analysis (e.g. comparing one investment to another; should I buy or rent an irrigation system?)	O	O	O
Bench-marking (e.g. costs compared to fellow farmers)	O	O	O
Succession plan (e.g. who will continue business in next generation or in a crisis, estate plan)	O	O	O
Regulatory compliance and reporting	O	O	O
Marketing crops and commodities (e.g. sales, forward contracting)	O	O	O
Accessing the financial stability of cooperatives, water districts, non-profits, etc. you are linked to	O	O	O
Labor (e.g. laws, accessing skilled employees, training, retention)	O	O	O

Identifying focus areas

Prioritizing needs:

- Frequently mentioned issues
- Fit with expertise





Identifying focus areas

Choosing research and extension methods:

- Extension: Based on responses from needs survey (e.g., workshops, newsletters)
- Research: Nature of the question, data availability, collaboration opportunities

Support/Funding

Support:

- County directors and colleague advisors
- Government agencies—Farm Bureau and FSA
- Access to survey tools through UC ANR—Qualtrics

Funding:

- No funding needed in my case
  - Start-up and advisor support funds are available if needed

Lessons learned

Some important consideration:

- Start early
- Keep survey short
- Be honest about what you can do about stakeholder reported issues

Needs assessment in annual evaluation

- Theme in annual evaluation report
- Guides development of program goals

Summary report

UC CE | UNIVERSITY OF CALIFORNIA Agriculture and Natural Resources | UC Cooperative Extension

Economic Needs Assessments of Agricultural Producers in Butte, Glenn, and Tehama Counties

Domena A. Agyeman, UCCE Agriculture and Natural Resources Economics Advisor
Butte, Glenn, and Tehama Counties

Introduction

This report summarizes the primary challenges reported by agricultural producers from Butte, Glenn, and Tehama counties who participated in an economics needs assessment survey. Respondents were asked to indicate the top three challenges impacting the future success of their operations and to suggest what the University of California Cooperative Extension (UCCE) should focus on to improve the success of their operations.

Location of business and main products produced by respondents

Among 52 producers who completed the survey, 75% had their businesses located in Butte county, while 15% and 14% were based in Glenn and Tehama counties, respectively. Additionally, 37% reported they had businesses in other counties, including Colusa, Plumas, Sierra, Stanislaus, Sutter, Sonoma, Solano, Tulare, Merced, Lassen, and Yuba. Most respondents (71%) were crop producers, 42% were livestock and hay producers, and 4% were timber producers. Figure 1 shows the percentage of respondents by the types of products they produced.

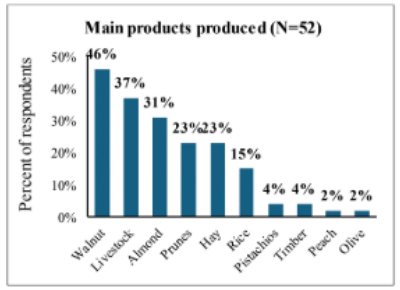
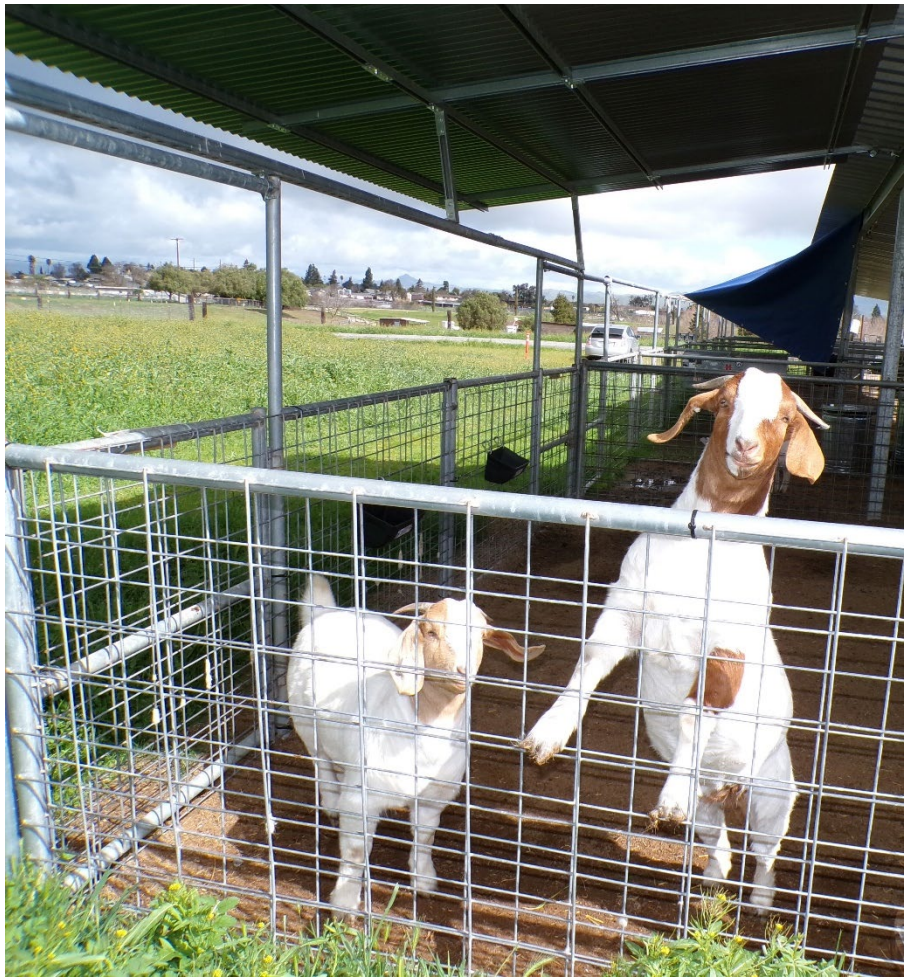


Fig 1: Percent of respondents by types of products they produced.

Main challenges impacting the future success of operation

Summary report is available on the Sac Valley Orchards website: https://www.sacvalleyorchards.com/



Needs Assessment

Hedmon Okella, Ph.D.
4-H Animal Science Youth Advisor
San Benito, Santa Cruz and Monterey Counties

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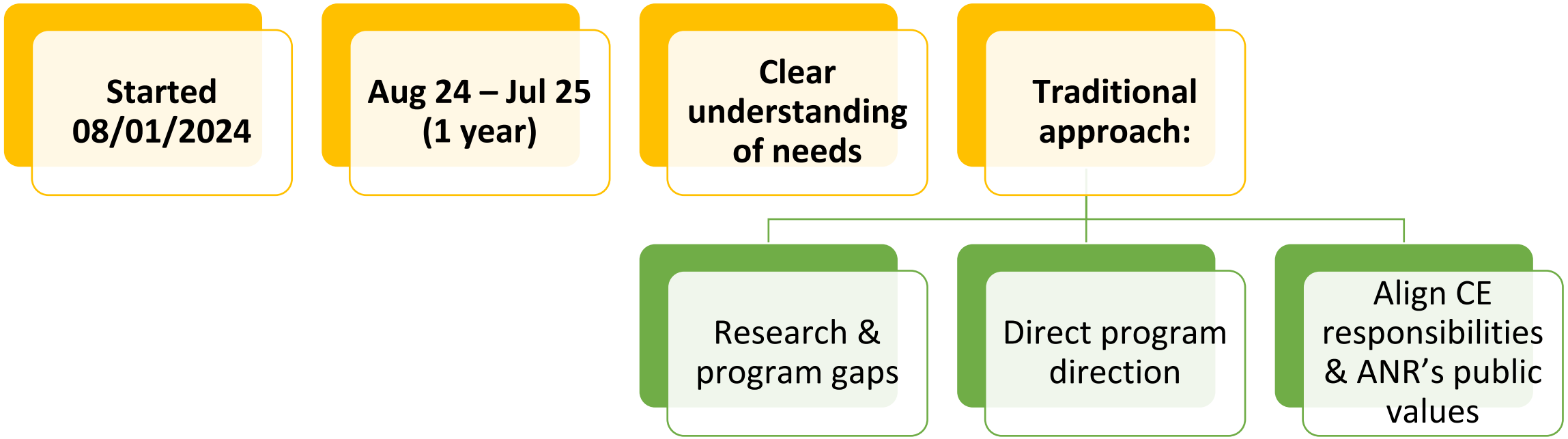
Needs Assessment (NA) process



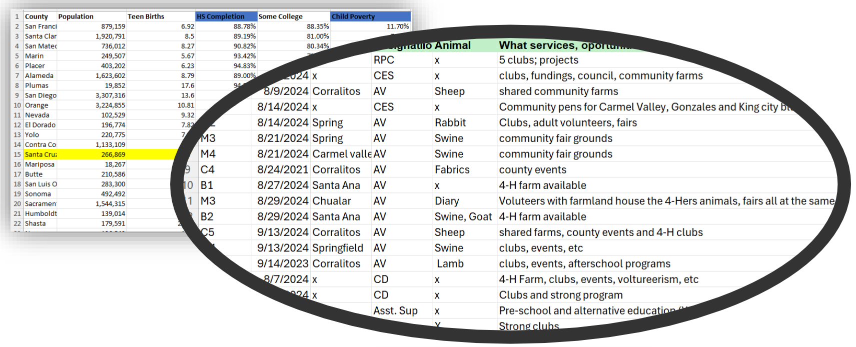
Needs Assessment (NA) process…

Data sources: 7 (3 primary & 4 secondary)

Primary→ *Initiating relationship; identify clienteles ± partners*
Secondary→*Baseline; Insights on known gaps ± interventions*

Questions: Universal 4-H Common Measures v2.0

Data: Quantitative & Qualitative



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Needs Assessment (NA) process…

Primary Data

- Observation
- K.I interviews
- Listening sessions

Secondary Data

- 4-H Enrolment
- CA Educ Enrolment
- NAEP
- American community survey

Observation Checklist	Observations: Actions/photos/comments
Animal Well-being, Health & Biosecurity a. Are the youth handling animals safely? b. Any contact with other species (wild and domesticated) c. What biosecurity measures are on ground?	
Food production & safety a. What is the safety condition where animals are raised? b. How are the feeding and watering practices?	
Life Skills & Career Development a. Is the environment conducive for Ag. skill & knowledge gain? b. Do youth interact or work with others? Why? How?	

1. What support programs are available to youth? (e.g. afterschool, farm)
2. What are the needs of youth in our county?
3. How can those needs be met?
4. Who are the most likely friends and supporters of youth programs?
5. What communication mode is most preferred?

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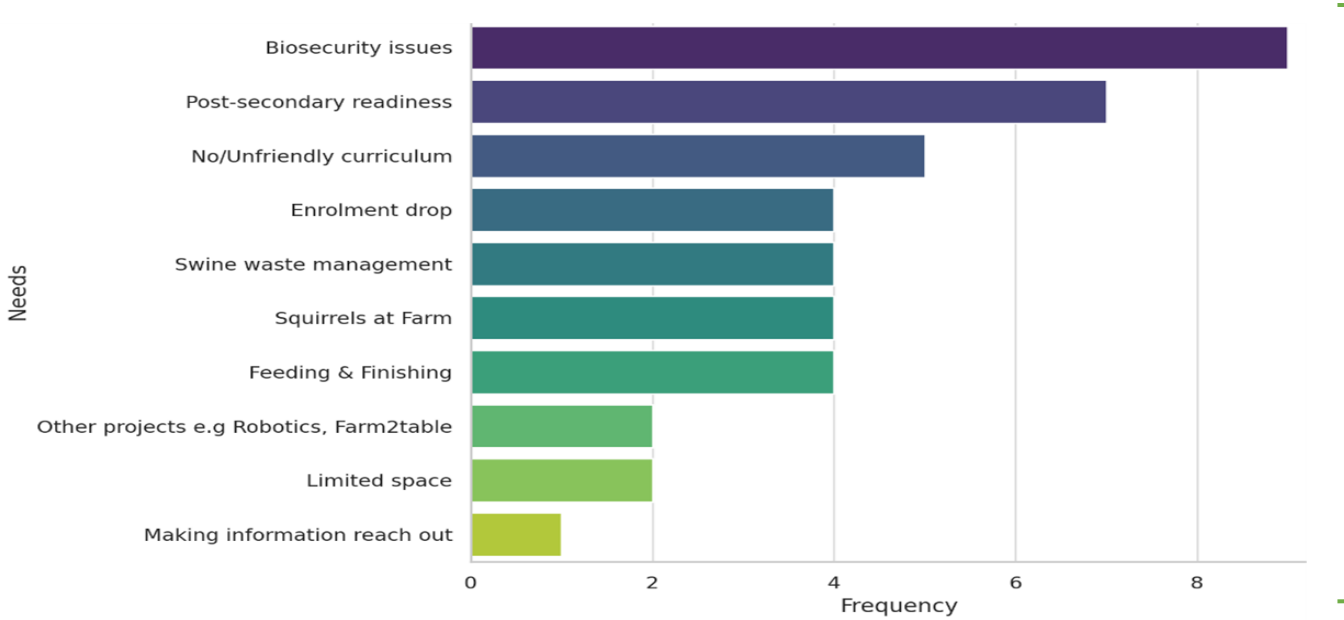
Needs Prioritization



Animal Sci. Lit. & Ag. Sci. Educ- Career readiness

Emergent Themes (Needs) → UC ANR Vision 2040-TPC & 4-H Mission → My Expertise → Program Priorities

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From Needs to Research & Extension modes

CA 4-H Compendium & NA suggestions

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Adopt, Pilot & Evaluate delivery modes

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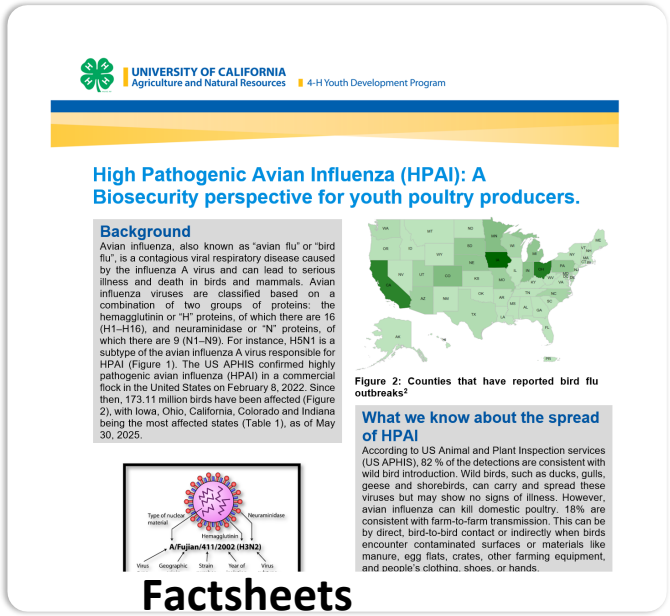
Implement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4-H Youth Development Program

High Pathogenic Avian Influenza (HPAI): A Biosecurity perspective for youth poultry producers.

Background

Avian influenza, also known as "avian flu" or "bird flu", is a contagious viral respiratory disease caused by the influenza A virus and can lead to serious illness and death in birds and mammals. Avian influenza viruses are classified based on a combination of two groups of proteins: the hemagglutinin or "H" proteins, of which there are 16 (H1–H16), and neuraminidase or "N" proteins, of which there are 9 (N1–N9). For instance, H5N1 is a subtype of the avian influenza A virus responsible for HPAI (Figure 1). The US APHIS confirmed highly pathogenic avian influenza (HPAI) in a commercial flock in the United States on February 8, 2022. Since then, 173.11 million birds have been affected (Figure 2), with Iowa, Ohio, California, Colorado and Indiana being the most affected states (Table 1), as of May 30, 2025.

Figure 2: Counties that have reported bird flu outbreaks[2]

What we know about the spread of HPAI

According to US Animal and Plant Inspection services (US APHIS), 82 % of the detections are consistent with wild bird introduction. Wild birds, such as ducks, gulls, geese and shorebirds, can carry and spread these viruses but may show no signs of illness. However, avian influenza can kill domestic poultry. 18% are consistent with farm-to-farm transmission. This can be by direct, bird-to-bird contact or indirectly when birds encounter contaminated surfaces or materials like manure, egg flats, crates, other farming equipment, and people's clothing, shoes, or hands.

Type of nucleic material
Neuraminidase
Hemagglutinin
A/Fujian/411/2002 (H3N2)
Virus
Geographic
Strain
Year of
Virus

Factsheets

Raising animals, Farm waste & Biosecurity

The youth Lab

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Lessons learned

- Needs will always keep coming, be ready to **filter+no promise**
- Talk with **other Advisors** -they have a wealth of experience to support you
- Needs assessment aids **relationship building±funding**
- Never underestimate the power of secondary data- **baseline**
- Value **project board** during Needs Assessment for AE

Thank you for your attention!

Questions/Comments?

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Peer-to-Peer Learning

Small groups based on new programmatic structure

- *Introductions*
- *Describe your needs assessment approach, including which data collection method(s) you used/plan to use & why*
- *How will you use the results of your needs assessment?*

Program Areas	Program Teams	
Agronomy & Horticulture *Chair Tom Turini*	• Agroecology, Organic & Regenerative Systems • Agronomic Crops • Environmental Horticulture, Floriculture, Berries & Nurseries	• Fruit & Nut Tree Crops • Urban Agriculture & Community Gardens • Vegetable Crops • Viticulture
Animal Production Systems *Chair Dan Macon*	• Aquatic Food Production Systems • Dairy Production	• Meat Production • Specialty Livestock & Poultry
Community & Economic Development *Chair Keith Taylor*	• Agri-Food Technology & Innovation • Biobased Products & Bioeconomy • Disaster Preparedness & Response	• Food Systems, Food Waste & Business Support • Labor & Workforce Development
Integrated Pest Management *Chair Jhalendra Rijal*	• Entomology, Arthropod & Vertebrate Pests • Plant Pathology & Nematology	• Weed Management
Natural Ecosystems & Working Landscapes *Chair Jeff Stackhouse*	• Biodiversity Conservation & Stewardship • Climate Science & Ecosystem Impacts • Fire Management, Policy & Resilience • Forest & Upper Watershed Systems	• Human-Wildlife Interactions • Rangeland & Grazing Systems • Soil Health & Management • Water Quantity, Quality & Security
Youth, Families & Communities *Chair Natalie Price*	• Community Nutrition & Health • Native American Community Partnerships • Positive Youth Development & 4-H	• Science Literacy & Critical Thinking • Systemic Inequalities