

AgTech Innovation Hub Brainstorming Workshop Report Out

Workshop Date: May 30, 2023, 10am - 2pm

Location: Hopland Research & Extension Center

Convener: Joshua Metz, District Manager

Sonoma Mendocino Economic Development District (SMEDD)

[Meeting Invite & Overview](#)

Participants

- Andrew Smith, Sonoma County Ag Commissioner
- Bradley Johnson, Sonoma County Economic Development Board
- Christy Smith, Mendocino College
- Elise Weiland, Sonoma County BOS
- Elizabeth Murphy, Marin Sonoma Impact Ventures
- Emily Winfield, North Coast Soil Hub
- Ethan Brown, Sonoma County Economic Development Board
- Glenn McGourty, Mendocino County Board of Supervisors
- John Bailey, Hopland Research & Extension Center
- John Haschak, Mendocino County Board of Supervisors
- Lauren Cartwright, Sonoma County Economic Development Board
- Lon Hatamiya, Hatamiya Group
- Lorenzo Rota, Volare Aerial
- Mary Anne Petrillo, West Business Center
- Nathan Dorn, Farm-NG
- Noelle Cremers, The Wine Institute
- Paul Garza, SMEDD Board Member
- Robin Bartholow, Sonoma County Farm Bureau
- Severino Gomes, Kashia Band of Pomo Indians of Stewarts Point Rancheria
- Will Tesconi, State Representative Jim Wood

Meeting Objectives

1. Support stakeholders to understand the vision of an AgTech Innovation Hub and how it can support Mendocino and Sonoma economic development
2. Discuss opportunities and challenges related to these sectors and how the Hub can support local and/or regional Mendocino and Sonoma growth and sustainability
3. Identify key stakeholder groups and individuals who want and need to be involved in the development of a Hub
4. Identify level of buy-in amongst stakeholders for SMEDD to move towards an application for a Feasibility Study

Meeting Highlights

1. Josh Metz, Sonoma Mendocino Economic Development District (SMEDD) District Manager, introduced the Comprehensive Economic Development Strategy (CEDS), which was developed by the District in collaboration with regional community members and stakeholders, and approved by the Economic Development Administration (EDA) in 2022. Multiple CEDS goals and District Board and stakeholder interest led to the vision of an AgTech Innovation Hub and the day's activities. Josh described the vision of the AgTech Innovation Hub and outlined the next step of a Feasibility Study.
2. Lon Hatamiya shared information with the group about The VINE, the University of California Division of Agriculture and Natural Resources' (UC ANR) program for innovation and entrepreneurship in agriculture, food, and natural resources, and how The VINE can be supportive of the efforts to develop an AgTech Innovation Hub in the Sonoma/Mendocino region.

3. After small group discussions, participants shared ideas about the opportunities that the Hub could offer the region, potential projects, programs, and physical assets that already exist that the Hub could collaborate with and/or build off of, and challenges and concerns that would need to be addressed before a Hub could be truly successful in serving the needs of the region.
 - a. **Opportunities included things like:** providing a physical location for the Hub that could act as a maker's space, demonstration site, and incubator farm and kitchen; a place for shared testing, research, and job training; a supporting resource for farmers, innovators, and entrepreneurs that could help with information regarding legal advice, permitting and regulatory requirements, funding opportunities, research, and other "intellectual capacity" needs; helping to identify the key problems that need solving so that innovators and entrepreneurs can work together to address the most pressing challenges; a virtual and physical convening space for farmers, innovators, and entrepreneurs to share their stories, showcase their successes, and network together.
 - b. **Programs, projects, and physical assets to be collaborated with included things like:** UC programs, such as UC ANR's The VINE and the UC Cooperative Extension Rural Innovation Hub; USDA programs such as REAP and Rural Development; Sonoma State University and Mendocino College; local farms, such as Shone Farms and Farm of the Future (Sonoma County Winegrape Growers); associations, such as the Wine Grape Growers Association and CA Cannabis Industry Association; Resource Conservation Districts of Sonoma and Mendocino; Small Business Development Association and Women's Business Centers; and many more.
 - c. **Challenges and concerns included things like:** ensuring that small and medium sized farms are included in the process and that their needs are integrated into the Hub; making sure new tech is actually economically viable; encouraging job growth and being careful not to take more jobs away with new tech; seeking support with messaging and clearly articulating what the Hub is and who it's meant to serve; and more.
4. The group discussed possible funding sources for the Hub, which included things like federal, state and local government, foundations, public-private partnerships, local businesses, community college workforce development programs, and more.
5. The group was polled about their support for SMEDD to move forward with a Feasibility Study. The overwhelming majority was in support, and some suggested that due to the number of opportunities identified and the potential projects coming out of this, possibly more than one Feasibility Study is in order. A couple participants raised questions about the need for a Feasibility Study and a Hub, as opposed to funneling those resources towards collaboration between existing programs and increasing capacities within these. There was also a question about "who benefits"; and encouraged the group to consider how small and medium farms can be supported with an effort like this.
6. The convening was closed after gathering input on next steps, which included a desire to have SMEDD share the meeting report and slides, and host a follow-up webinar to continue the conversation and include more stakeholders.

Welcome Remarks

Mary Anne Petrillo, SMEDD Board Chair, called the meeting to order and welcomed participants to this exciting opportunity to brainstorm about the possibility of an AgTech Innovation Hub in the region. Josh Metz then reviewed the objectives for the day and invited a round of introductions from participants.

- The Goal is to connect the opportunities unique to the Sonoma and Mendocino region with the initiatives emerging across the state to yield family-supporting wage jobs, services, and technologies.
- Objectives:
 - Share the concept of an AgTech Innovation Hub
 - Highlight alignment with statewide initiatives and the unique Sonoma Mendocino value proposition
 - Discuss opportunities & challenges
 - Answer questions, establish coalition of interested stakeholders
 - Align on next steps towards a Feasibility Study

- SMEDD is aiming to submit a grant application to fund an in-depth formalization of a Feasibility Study

Presentations on Concept of AgTech Innovation Hub

Josh Metz and Lon Hatamiya presented on the concept of the AgTech Innovation Hub and the ways that UC ANR's The VINE can be a resource to this effort.

[Click here for a link to the presentation slides.](#)

Josh Metz, SMEDD, CEDS, & AgTech Innovation Hub

- The Counties of Mendocino and Sonoma established a special district, known as SMEDD, in 2015 to serve the regional economic development interests of Sonoma and Mendocino counties, and the Economic Development Administration (EDA) has designated this District as the bi-county recipient of grant funds to further the regional Comprehensive Economic Development Strategy (CEDS).
- SMEDD is charged with supporting progress on CEDS projects and providing other economic development support services
- SMEDD contracted with Regional Government Services (RGS) to provide Administrative and Professional services in furtherance of its mission
- CEDS goals
 - Goal 1: [Develop Innovative and Value-Added Economic Sectors](#)
 - Goal 2: [Increase Equitable Community-Wide Prosperity](#)
 - Goal 3: [Support People](#)
 - Goal 4: [Plan for & Implement Resilience](#)
- The AgTech Innovation Hub is envisioned to be both a physical and virtual place for convening, connecting, and facilitating tech innovation for climate-smart agriculture and natural resources
- The Hub will ideally yield locally valuable, scalable, exportable products and services, new venture formation, and jobs growth
- The intention is for cross-sector engagement
- Key Terms
 - **Agriculture** spans food, fiber, forest products, and other commodities being grown, produced, and processed in Sonoma and Mendocino Counties.
 - **AgTech** is any innovation used across the value chain, including growing, processing, distributing, and eventually delivery to the end market, to improve efficiency, profitability and/or sustainability. It includes hardware and software, business models, new technologies, and new applications.
- If a Hub would add value, the next step is to conduct a Feasibility Study; this brainstorming session informs SMEDD's efforts and hopefully builds a community of interest that can be called on as the Feasibility Study progresses.

Lon Hatamiya, The VINE

- UC System is a land grant innovation powerhouse
- UC Cooperative Extension, Research and Extension Center System, Agriculture Experiment Station, 13 statewide programs and institutes
- Innovation encompasses: Agriculture, Food, and Environmental Sciences; Computer Science & Engineering; and Health and Nutrition Sciences
- Additional threats/challenges identified:
 - 1,000 year drought to due to climate change
 - Water shortages and wildfire cause massive loss
 - Farmland is shrinking and expensive
 - Small farms are nearly impossible to start and profit from
 - Ag and Food labor workforce is shrinking
 - Increase of major agricultural pests and diseases
 - Soils are depleted and less productive
- Technology needs public investment
 - New solutions in artificial intelligence (AI), cloud computing, robotics, genomics, biotech
 - Disconnects between CA's food valleys and Silicon Valley and coastal tech centers

- Top-tier agricultural universities struggle with agri-food tech transfer
- Small farmers, food producers, and farmworkers are left out
- Testing and validating tech in the market is critical but hard
- CA food-producing regions have nascent agrifood tech initiatives
- Need a statewide “engine” that connects CA’s food-producing regions to drive regional innovation economies where food grows
- The VINE’s Target Technologies: Ag & Food Robotics and Automation; Dairy Technologies; Controlled Environment Agriculture; Food Processing Software, Sensors, Systems; Bioproducts and Materials; Digital Agriculture Software, Sensors, Systems; AI & Digital Infrastructure
- Purpose: cooling center; grange; community meeting; learning symposium
- Key Takeaways
 - Future of CA agrifood leadership is tech and know-how
 - Public-private and US-global collaboration is critical
 - UC ANR VINE is focused on industry-led priorities and needs for innovation

Small Group Reflections Report Outs

After the presentations, participants were invited to break into small groups to:

- *Discuss the primary opportunities for an Ag Innovation Hub in Mendocino & Sonoma counties*
- *Identify any existing projects, programs, and physical assets that this Hub could be partnering with, as well as the gaps that this Hub could help to fill*
- *Share the primary concerns or challenges each person foresees with the Hub*

The following are the highlights from these small groups and the large group discussion that emerged.

- **What are the primary opportunities for a Hub like this in Mendocino & Sonoma counties?**
 - Entrepreneurship
 - Access to talent
 - Legal Support
 - Funding Support
 - “Intellectual Capital Hub”
 - Location for Problems and Solution Sourcing + Funding
 - Biomass Innovation Center
 - Distribution Center
 - Aquaculture Center (to bolster failing marine life)
 - Livelihood Development for Youth (well-paying, meaningful jobs)
 - Public/Private Partnerships to allow farmers access to land to innovate on
 - Food security benefit (food hub)
 - Information Access
 - Consulting services
 - Accounting of what is out there
 - Inventory of projects and products that are unique to this region
 - Navigating permitting and regulatory requirements
 - De-mystifying the process
 - Support with navigating the system
 - Biomass/fire resiliency
 - Hydrogen highway (biomass)
 - Wood manufacturing center (forest restoration)
 - Opportunities to promote utilization of excess fuel to improve soil health
 - Stain resistant manufactured homes
 - Business resources: One stop shop for small farms (record keeping, working with federal ag agencies, accounting, etc), labor supply, and succession planning
 - Library of background data by domain (like/with Western Growers)
 - Desalination to support with water challenges
 - Startup Accelerator
 - Policy, Innovation, and Think Tank

- Producing Food Indoors: utilizing pliable stock of buildings
 - Promote use of excess food to improve soil health
 - Demonstrate collective research and success stories
 - Incubator farm and incubator kitchen
 - Support for farmers to “tell their stories”
 - Physical spaces to collaborate and test out innovations
 - Physical spaces need to be designed and outfitted to allow and facilitate collaboration: internet access, etc.; should be Resilience Hubs if possible
 - Maker Space - tie in industrial arts / solution space (e.g., shade structure for cows, etc!)
 - Crop protection material: promoting research and innovation for new materials
 - A place to develop and share nature-based solutions, crop protection materials, and sustainable pest management approaches
 - Support forest economy and restoration economy... connected to local economy, job security - needs to connect to construction, biobased products, local use of forest-thinning products
 - Expanding ag literacy (focused on neighbors)
 - Supporting multi-stakeholder collaboration: not talking enough, how to provide access to land, supporting public private partnerships
 - Policy innovation
 - Direct-to-market support
 - Land access support (connecting new farmers with land, etc.)
 - Regional grant writing
 - “Multi-node network” connected by virtual Hub - Organized activities that support connecting the dots
 - Connecting universities and advanced innovation and those implementing the tech
 - Try out new technologies; the Hub can take on that risk, so that the risk is not on the private entities
- Based on all of the ideas generated for the opportunities for the Hub, it was suggested that there is potential for multiple projects and multiple feasibility studies.
 - **Are there any projects, programs, or physical assets out there that this Hub could be partnering with and/or building off of? What are the gaps that this Hub could help to fill?**
 - Existing education centers
 - Public/private partnerships for innovation and food supply
 - Cannabis association
 - Community Alliance of Family Farms (CAFF) - www.caff.org
 - FEED Sonoma + Mendocino Food Hub
 - ATTRA Sustainable Agriculture = National Center for Appropriate Technology’s Appropriate Technology Transfer for Rural Areas’ Sustainable Agriculture program (NCAT; ATTRA) - <https://attra.ncat.org/>
 - Local planning agencies
 - Coastal Conservancy Climate-solutions hub (in place of the former Sonoma Developmental Center)
 - Water agencies and water districts in the Mendocino and Sonoma region
 - Aquifer recharge
 - Bank cooperatives
 - Western Growers
 - CAL FIRE
 - USDA Forest Service
 - Resource Conservation Districts (Sonoma and Mendocino)
 - Startup Mendocino
 - Environmental Community + Producers
 - UCANR: The VINE
 - UC Extension - Rural Innovation Hub (Western US region)
 - Cooperative agreement with the USDA - all around rural ag tech and economic development
 - Sonoma County Forestry Working Group
 - CLFA: California Licensed Forester Association
 - Sonoma County Ag & Open Space District
 - Pepperwood Preserve
 - Sonoma State
 - UC Bodega Bay Marine Lab

- Local business leaders - Jackson Family Wines, for example
 - Cal Poly Humboldt
 - Mendocino College
 - Jackson State Demonstration Forest
 - Sonoma State University
 - Wine Business Institute
 - Business & Economic Development
 - student - led incubator farm (not sure this still exists)
 - School of adaptive agriculture
 - Granges
 - GreenWave.org
 - Schmidt Family Foundation - <https://tsffoundation.org/>
 - Hopland Research and Extension Center (HREC)
 - Supporting continuing ed/professional ed for advisors so that they know about new opportunities
 - Collaborate with Small Business Development Center and Women's Business Centers
 - Provide scripts
 - Blue Economy
 - Desalination, fish market, and entrepreneurship for marine sciences Hub for research (Noyo Ocean Collective, Mendocino College, Fort Bragg, Noyo, UC Bodega Marine Labs)
 - Incubator Farm in Mendocino and Sonoma Counties
 - Supports new farmers in training while also providing food for food Hub/food security/etc.
 - Water Districts - Sonoma County Water Agency, Mendocino - new data driven water recharge
 - Existing Incubators
 - ALBA - Agriculture and Land-Based Training Association - www.albafarmers.org
 - CLBL - Center for Land-Based Learning - www.landbasedlearning.org
 - USDA Rural Development - <https://www.rd.usda.gov/ca>
 - USDA-NRCS - Natural Resources Conservation Service - www.nrcs.usda.gov
 - USDA REAP - Rural energy - grants are available for private - solar panels, etc. low interest loans, etc.
 - Labor innovation
 - Workers Comp groups (Zenith, Western Growers)
 - PG&E has a large land area - Biomass and resilience
 - Sonoma Clean Power + other power consolidators
 - Shone Farm
 - Land Trusts (e.g. MACT - large portions of land, does a lot of work providing land access)
 - Farm of the Future (Sonoma County Winegrape Growers <https://sonomawinegrape.org/>)
 - Wine Growers Association
 - Mendocino County Supervisor John Haschak
- **What are the primary concerns or challenges you foresee with the Hub? What are potential solutions to address those challenges?**
 - Grant funding takes too long - need support
 - Telling our story... where to hear about what small/medium farmers are up to
 - Access to broadband can help so much - really an issue not to have access in rural areas
 - Messaging - clearly articulate what the Hub is and how it can support (maybe Gabe at UCANR can help?)
 - Agencies being able to collaborate; the way that they are structured can really make it challenging
 - Ag Tech services should be available and accepted by small and medium sized farmers, who don't always have economies of scale
 - Increasing size, increasing consolidation of ownership, increasing cost of living, increasing disconnect between ecology and economy
 - Everything is always expensive
 - Don't displace workers that are already here
 - Tension between environmental movement and agricultural movement - support understanding and discussion between those groups
 - Economics: make sure new tech is actually economically viable
 - Labor supply issues: help to solve labor shortage without displacing existing local labor force
 - Wages in Mendocino County are not equal to the cost of living
 - How to bridge coastal/blue economy and inland ag/land management?

- Concern with private partnerships and having a place where tech can reside
 - Need a concentrated focus/theme
 - Can't be too disparate
 - Need to focus on a unique opportunity
- Not always in need of new tech; sometimes need to re-learn and revamp practices
- Who do we expect to benefit and what model of ag/land management do we want to support
- Concern about scale and unintended consequences
- Outstanding Questions
 - What is Climate Smart for this region? Must include water, energy... What else?
- **Important guidance gleaned from this session:** We want to make sure we're solving problems that are actually there, and that we are representing and serving all stakeholders.

Funding

The group shared ideas for possible funding pathways and opportunities. Some of these overlap with the ideas for existing programs and partnerships to be explored (see above).

- Federal funding
 - USDA Rural Development
 - USDA LFPP (Local Food Promotion Program) <https://www.ams.usda.gov/services/grants/lfpp>
 - USDA & California Department of Food and Agriculture (CDFA) around urban ag - urban ag is defined very broadly, and much of Sonoma and Mendocino could be eligible <https://www.cdfa.ca.gov/grants/>
 - EDA program is generally oriented towards disaster recovery, and can leverage that given winter flooding, and has funds for feasibility studies
- State funding
 - Governor's Office of Planning and Research: CERF Grants - Community Economic Resilience Fund Program
 - CAL FIRE - woody biomass innovation grants/Forest health initiatives
 - Accelerate California - from the State - State has "I-Hubs" - redone their program and have put out a new grant for new Hubs to apply - do need to be partnered with a four year college or university - UC could be a great partner (Note: Humboldt is applying) <https://calosba.ca.gov/funding-grants-incentives/ihub2/>
- Local governments
- Workforce Development Funding - many grant opportunities, including through the U.S. Department of Labor, which channels many grants through the CA Employment Development Department (EDD); they are commonly granted to public agencies, including Community Colleges, Counties, and Cities
- Numerous Sonoma and Mendocino Community Foundations
 - Schmidt Family Foundation - <https://tsffoundation.org/> "Feedstocks of the future initiative"
 - Community Foundation Sonoma County - <https://www.sonomacf.org/>
 - Sonoma County Vintners Foundation - <https://sonomawine.com/sonoma-county-vintners-foundation/>
 - Community Foundation of Mendocino County - <https://communityfound.org/>
 - North Coast Resource Partnership - <https://northcoastresourcepartnership.org/>
- Private Businesses

Moving Ahead: Participant Questions and Considerations for Next Steps

Participants were asked if they supported SMEDD moving forward with a Feasibility Study. Most of the participants were in favor of this next step, while a couple participants wanted to ensure that additional stakeholder perspectives were included, and that more work was done to clarify who the Hub would serve and how best to ensure those needs were met. Some concerns were raised about scalability, cost to small and medium farmers, ensuring a connection to market/revenue development. There was also a question about whether or not another Hub is the answer, as opposed to efforts to build collaboration amongst and uplift what is already happening in the region.

- Need a deep dive with the industry to figure out what the needs are -
 - What's it worth to you? For example, pruning grapes is 43% of labor costs, how can we reduce those costs?
 - Challenge of managing biomass effectively

- Will blue economy/aquaculture + ag be seen as connected? Might need to be part of the story; can be an organic process.
- Potentially 3 or 4 types of feasibility studies; potentially need a focus on industry buy-in this fall with some more fleshed out ideas:
 - Brick and mortar Hub
 - Challenge funding model (e.g. FarmBot Challenge)
 - Virtual Hub to start, and then build out over time
- **Must** have private partnerships
- Finding a home for tech to survive
- Must have a connection to the market/revenue development - **If its too disparate, will lose focus and lose appeal** for commercial entities - NOTE: that would have to be done with feasibility funding - has to be attractive to non-government dollars
- Is tech the answer to the problems we have listed? **Who do we expect to benefit?** What model of ag gets supported with the solutions that will most likely be identified through this Hub? Should make sure small and medium farms are considered and uplifted in this process.
 - NOTE: may be less about new *tech* and more about *innovation*
- Concern about tech being appropriate to the scale; hard for tech solutions and economic development solutions to benefit all - if tech is larger, more expensive; this can lead to replicating other problems
- A Hub is awesome... is a Feasibility Study actually what's needed? Perhaps it's more about building up the capacity of existing entities in the region and working towards connecting these existing efforts. Is it adding a feasibility component to one of these other efforts (e.g., CERF, cooperative partnerships)
- Would want to see us setting up for future funding opportunities as well

Next steps

As SMEDD orients to a possible Feasibility Study, and follow up from today's brainstorming session, the group helped to identify some of the possible next steps.

- Report out from today's session (with presentation slides)
- Outreach ideas
 - Ask for County Supervisors to share information and the summary
 - Send out info on North Coast Resource Partnership webinar - <https://northcoastresourcepartnership.org/> or the CALENDAR page with links to various webinars - <https://northcoastresourcepartnership.org/calendar/>
 - Explore the Board of Supervisors' mailing lists for getting information out
 - Ask participants to share updates through newsletters and websites
- Reminder to check out the FarmBot Challenge <https://farmbot.ai/>
- Host a webinar to continue the conversations started at the brainstorming session
- Identify additional stakeholders we didn't hear from during today's conversation: industry stakeholders, small and medium farmers, Resource Conservation Districts, etc.
- Clarify the primary audience of the Hub: think about whether the problems identified will be best solved by new technology or more resources, connections, etc.
- Explore shifting the Feasibility Study to supporting an existing effort with increased capacity (as opposed to a new concept)