

**CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE (CDFA)
ENVIRONMENTAL FARMING ACT SCIENCE ADVISORY PANEL**

California Department of Food and Agriculture
Remotely Hosted to Accommodate Covid-19 Safety Measures

April 29, 2021

9 AM to 3 PM

Remote Access

https://www.cdfa.ca.gov/oefi/efasap/meetings_presentations.html

MEETING MINUTES

Panel Member in Attendance

Jeff Dlott, SureHarvest (Chair and Member)
Vicky Dawley, Tehama RCD (Vice Chair and Member)
Michelle Buffington, PhD. CalEPA, ARB (Member)
Scott Couch, CalEPA, State Water Board, (Member)
Don Cameron, Terranova Ranch (Member)
Leonard Diggs, Pie Ranch (Member)
Keali'i Bright, DOC (Member)
Amanda Hansen, CNRA (Member)
Judith Redmond, Full Belly Farm (Member)
Greg Norris, USDA NRCS (Subject Matter Expert)

State Agency Staff

Scott Weeks, CDFA
Nilan Watmore, MSc., CDFA
Kathryn Mulligan, MSc., CDFA
Geetika Joshi, PhD, CDFA
Carolyn Cook, MSc., CDFA
Amrith Gunasekara, PhD, CDFA

AGENDA ITEMS 1 and 2 – Introduction and Minutes

The public meeting of the Environmental Farming Act Science Advisory Panel was called to order at 9:05 am by Chair Dlott. Chair Dlott took roll call and established a quorum of majority members present plus one (six members). He introduced the Science Panel members and invited comments/suggestions on minutes by Panel members. There was one edit to the minutes regarding the Vice Chair position which should have stated Member Dawley instead of Member Redmond. Dr. Gunasekara noted the change and let the members know the change will be made. Member Cameron introduced a motion to move the minutes with one change. Member Couch seconded the motion. The motion passed unanimously without any opposition.

AGENDA ITEM 3 – Expert Scientific Panel on Developing a Below-ground Biodiversity Metric

Chair Dlott introduced agenda item 3 and the invited panelists. Dr. Kate Scow, from the University of California, Davis, provided a presentation on indicators and metrics for soil biodiversity. The presentation discussed the relationship between soil biodiversity, ecosystem functioning and ecosystem services, as well as phylogenetic, metabolic, and functional microbial diversity. Efforts to quantify below ground biodiversity have been made in the past internationally. Member Cameron asked Dr. Scow for her thoughts on vendors that offer soil biodiversity and recommendations for inputs. Dr. Scow replied that this is interesting and advancing work, but recommendations still must be evaluated carefully before adoption since the connection between microbial diversity and its functions are complex and yet to be fully understood. Other questions of Dr. Scow were asked by

Member Couch and Member Hansen.

Following the presentation by Dr. Scow, Dr. Howard Ferris from University of California, Davis, presented on nematodes in soil. The presentation discussed the role of nematodes in soil ecology and the soil food web. Morphology of specific bacterial feeding nematodes can indicate the bacterial enrichment of soils, which can be due to the addition of soil amendments. Dr. Ferris discussed how the analysis of various nematode populations can be used to determine various indices of soil health assessments. Member Cameron asked how the analysis information can be obtained and how a grower can get the information and use it. Dr. Ferris answered that labs need to be informed that this type of information is needed during analysis. This information can tell a lot, like frequency of adding organic matter to soil, or frequency of letting roots be in the soil according to Dr. Ferris. Therefore, keeping the soil active and “feeding it” creates an optimum environment. It can make farming more complex but standard procedures are available.

Dr. Margaret Smither-Kopperl shared her experience working with cover crops at the USDA-NRCS Lockeford Plant Materials Center in California, using the NRCS Soil Survey tool and NRCS Soil Health Assessment sheet. She shared data from field studies comparing changes to soil properties with cover crops versus hedgerows. Additionally, Dr. Smither-Kopperl discussed how ancient and traditional native American land management practices contributed to soil ecology. Member Dawley asked if bunchgrasses at the at Lockeford Plant Materials Center are grazed. Dr. Smither-Kopperl indicated that they weren't, while roots were present in soils, soil carbon gains were not too high. Member Diggs questioned if Whole Orchard Recycling is similar to biochar application practices if there have been any correlations between the studies. Dr. Smither-Kopperl indicated that biochar information is still not clear. Member Cameron asked if commercial soil labs test for chitin and Dr. Smither-Kopperl stated that there is interest in it; polymerase chain reaction tests for chitinase enzyme activity are available.

AGENDA ITEM 4 – Expert Scientific Panel on Developing an Above-ground Biodiversity Metric
Chair Dlott introduced the panelists for agenda item 4. Jesse Kay Cruz from Xerces Society discussed questions such as what type of insect biodiversity can tell us about overall biodiversity, and what it tells about ecosystem services. Xerces Society protocol looks at beneficial insects and provides a potential for ecosystem services, and how to determine if observational data can be used. Jesse Kay Cruz discussed how natural enemy monitoring is less understood/developed than pollinator monitoring and also described the Xerces Insect Scouting Guide.

Elizabeth Porzig from Point Blue discussed how bird diversity is a manageable biodiversity metric due to the number of bird species in the State, the popularity of them with the public, the ease at which they can be identified by sight and sound, and that they well-represent a broader environment. However, bird populations are in decline, indicating biodiversity loss. California's existing networks are well suited to adopt birds as biodiversity indicators. Member Diggs inquired if surveys have been done to understand how the quality of the habitat relates to target populations. Ms. Porzig stated that it depends on species of the bird as each species indicates specific habitat structure (e.g., riparian) through well studied relationships. Member Bright and Chair Dlott provided Ms. Porzig with additional questions.

Lora Morandin from Pollinator Partnership Canada discussed pollinators as biodiversity metrics, most significantly bees, wasps, ants, and sawflies for agriculture. These pollinators are good metrics because of their significance on crop production and measurability, and presence in all life stages. Lora Morandin presented examples from California, specifically where hedgerows were seen to control pest parasitoid wasps; pollinator correlation also found. It was also found that bee abundance in hedgerows was much greater than weedy edges of fields. Meta analyses and modeling studies results were presented. She listed proposed next steps to close knowledge gaps, identify priority areas, build networks and monitoring.

Chair Dlott remarked about the importance of this work, noting that scale, and taxonomic versus

functional diversity are key discussions for us today. He thanked the presenters and noted that the discussions around below-ground and above-ground biodiversity will continue.

AGENDA ITEM 5 – Draft Request for Proposals for the Climate Smart Agriculture Planning Program
A draft framework of the program was presented by Nilan Watmore from CDFA's Office of Environmental Farming and Innovation. Member Dawley remarked that a dollar amount for Carbon Farm plans had not yet been determined and questioned if this have this been developed yet. Dr. Gunasekara stated that the program is attempting to align with the USDA Natural Resources Conservation Service (NRCS) and at the time of the presentation NRCS did not have a payment rate for Carbon Farm plans. When public comment period opens, suggestions/comments on proposed costs for the Carbon Farm plans will be solicited for staff evaluation noted Dr. Gunasekara. He also noted that payments with current plans do not cover the full cost. During the last EFA-SAP meeting, the panel was in favor of funding 50% of the total cost of an organic transition plan cost. Cost presented today was approximately 75% of the total cost. Member Hansen questioned the name change from Climate Smart Agriculture to Conservation Agriculture Planning Grant Program. Dr. Gunasekara noted that Governor's Executive Order focus on climate smart strategies for Natural and Working Lands and role of conservation agriculture is reflected in the revised name.

Member Redmond asked if the grant recipients have to be exclusively a registered Technical Service Provider (TSP) or if they could be an employee of an University, Resource Conservation District, or non-profit who has knowledge on the specific activity. Dr. Gunasekara clarified that the listed eligible entities include these categories. NRCS TSPs are only one eligible entity. CDFA considered this possibility as review of qualification and credentials would be more efficient. After discussion with NRCS, it was made into one of the options. There are training requirements for this, and CDFA did not wish to burden NRCS with requests for training. Member Redmond stated that there might be confusion due to similar names and could result in people assuming these are plans by NRCS and only NRCS TSPs are eligible. Dr. Gunasekara indicated that this would be clarified in the draft Request for Proposals. Member Redmond additionally inquired why farmer and ranchers are not eligible to get the money directly to hire a service provider. Dr. Gunasekara indicated that CDFA's understanding is that farmers and ranchers work with these organizations, so organizations can find interested farmers and ranchers to work with to complete the plans. If farmers and ranchers are made eligible, CDFA may need to ask them to identify which entity they are choosing in doing their plans and that entity would need to be reviewed to ensure they meet qualifications/credentials. This creates risks for CDFA to become an accrediting organization for service providers without adequate statutory authority. CDFA would like to avoid the situation where grower may wish to prepare the plan themselves to ensure there is adequate government accountability of how the funds are spent. He noted the original proposal for funding for organic transition plans was submitted by CCOF, who provide these services to growers. Therefore, CDFA considered technical service providers for this program. Dr. Gunasekara indicated that there would be an opportunity to accept comments on farmers and ranchers directly being eligible following a public comment period. Member Redmond remarked that the point is to implement the plan, not just make it. The farmer should own it from beginning to end and be there to implement it, and she recommended the program be implemented this way. Dr. Gunasekara acknowledged the suggestion and clarified that the program is only designed to fund the plan, but currently is not able to ensure implementation given the administrative timeframes of the funding. Also, he noted the farmer should be allowed flexibility on when to implement and the funding encumbrance and liquidation deadlines of CDFA funding is a factor which would not allow CDFA time to monitor and verify implementation of the plans. This program and an incentives programs won't be linked. Member Redmond remarked that her understanding was that the program would reduce GHGs and implement healthy soils practices, rather than to make plans. Member Redmond suggested the Science Panel must be clear on the program's goals.

Member Norris remarked on the idea of implementation versus planning. Planning fees for any change is the fundamental foundation. He noted it is important to do this with a lot of expertise and

special skills to ensure the plans are robust. The amount of specialized science and technical skills are high and key to the planning process. USDA NRCS emphasis is on the core plan, because the plan ensures practices are implemented properly. For USDA NRCS, farmers and ranchers drive the decision making, but the expertise to address resource concern is with the technical service provider. This is why farmers and ranchers are not given the funding at USDA NRCS as they may not have the skills to make the plan, but they make key decisions and final implementation. If the farmers and ranchers have the skills, they will qualify in one of the categories already proposed in the framework. He noted that USDA NRCS provides funding to skilled experts and then farmers and ranchers take it from there for implementation.

Member Dawley remarked that one of the issues with giving funds directly to farmers and ranchers, especially for plans for \$1,000-2,000, is that it could mean CDFA handling a lot of individual contracts versus an organization such as the University of California Agriculture and Natural Resources Cooperative Extension (UCCE). Handling larger contracts could be more efficient for grant program. Adding additional plans may change the way we look at this program and practices are expensive she noted. It takes time for a funding source to come up either through the USDA NRCS Environmental Quality Incentives Program (EQIP) or the Healthy Soil Program. Practices may not get implemented as soon as a plan is ready. Organic transition has a clear goal of certification, so it goes quickly but a lot of other plans such as Nutrient Management Plans (NMPs) take longer time to implement.

Chair Dlott remarked on focusing on the purpose of the program as a way of discussing theory and practice of change. Existing programs lacked the planning component. A plan takes down one of the barriers for adoption. The question is if the farmer picks the planner or the planner recruits the farmer.

Member Redmond remarked that if the grant funding went directly to farmers and ranchers then they would have to choose a technical service provider, noting this process works for organic systems as farmers and ranchers do have the specialized knowledge and familiarity for the system. Member Redmond remarked that planning is important and fundamental, but it must lead to implementation. Therefore, grantees who make plans should be the ones to get incentives grants; it should automatically transfer to the grant for farmers and ranchers. Member Bright remarked that administratively it can be complicated for grant reimbursements. There is a chain of reimbursement responsibility to farmers and ranchers, then to the contractor, and then back to the state department, which can be challenging and bureaucratic. Rather than putting it on farmer to spend the money before reimbursement, it seems easier to give the dollars to the larger organization. Chair Dlott posed a question if receiving a planning grant should that get an applicant extra points when applying to a climate smart agriculture incentives program. Member Cameron noted that it would be beneficial to get planning funds to a qualified person or agency.

Member Redmond questioned if the cost of a planning grant is noted on the presentation slides. Dr. Gunasekara responded that the amount on slides is the amount a grant recipient organization would get. For invoicing and payment, CDFA would need to know which plan was prepared by the organization, for whom and when the plan was completed before the recipient could be paid the total grant amount. Member Diggs focused on addressing the purpose of the program. He commented that the conservation agriculture plans eligible for funding are limited. Work needs to be expanded on the eligible kind of plans/activities. He noted that technical service providers make these plans very reasonably priced, and as a grower he expressed uncertainty if growers could do it for a comparably low cost.

Dr. Gunasekara discussed the evolution of the program. He noted it started with original CCOF proposal, which was deliberated at an EFA-SAP meeting. CDFA reported it would not be a good fit into the Healthy Soils Program (HSP) because awarded projects pertain only to planning and not actual implementation of practices and GHG reductions, which is required under the HSP. A recommendation was made to the Panel to create a new program. Stakeholder requests have also

included a carbon farm plan to be funded under the HSP. The Science Panel members agreed with staff recommendation and asked staff to prepare a new Request for Proposals to fund a variety of conservation agriculture plans. The Science Panel had discussed that this was one of many requests and there will be requests for more plans therefore establishing a single separate program under the Climate Smart Agriculture umbrella of program in the Office of Environmental Farming and Innovation at CDFA would be a good next step. Comment letters also noted additional plans for consideration. This led to develop the current version of the Request for Proposals. CDFA staff took time to investigate what kind of plans could potentially be included in the scope of conservation farming and climate smart agriculture.

Member Redmond asked why this program is proposed to have a “first come first served” (FCFS) basis instead of a traditional submission structure. Dr. Gunasekara explained that there is a minimum scoring requirement to help CDFA staff with the “first come first serve” process. It helps discern which applications to award when there are many equal scoring applications. It allows CDFA staff to move projects to grant agreement execution continuously. Dr. Geetika Joshi clarified that this process also allows for potential resubmission of disqualified applications during the open submission period, after making revisions.

Member Cameron asked if this program would include a priority for Socially Disadvantaged Farmers and Ranchers. Dr. Gunasekara clarified that the Department commits to spending 25% of the funds to support Socially Disadvantaged Farmers and Ranchers (SDFRs).

Member Bright suggested that the Panel take public comments next and the Panel Members agreed.

A comment was made by public member Kolodji that free air CO₂ enrichment (FACE) technology should be incentivized under HSP and SWEEP.

A comment was made by public member Shobe on the Climate Smart Agriculture Planning Program goals and coordination questioning how proposed plans will be required to address climate resilience and mitigation outcomes. Will plans include financial feasibility and project design? Mr. Shobe expressed concerns on payment schedule because it assumes farm scale for costs and it is unclear how this would address diversified operations and SDFRs. Mr. Shobe also noted in some regions, qualified service providers are not available, and asked if CDFA would coordinate with UCCE and NRCS to assess gaps and how to fill them. If not, then Mr. Shobe advised against the FCFS process. Shobe noted that their organization would like to see organic systems plans funded since the CCOF original proposal was to fund organic system plans which are different from NRCS plans.

A comment was made by public member Murphy noted that RCDs want to negotiate on indirect costs with CDFA similar to the University of California and California State University systems have been allowed. At minimum they would like to use their established indirect rates that are often higher than 20%. A 24 months grant term is also needed. Fixed payments rates don't consider the variation in farm or land type. Traditional reimbursement system that allows RCDs to submit hours of time for various staff is preferred. There is a discrepancy in the RFP whether agricultural operation needs to be identified or not. This would make it difficult for RCDs to estimate cost and if payment rate is enough or inadequate. RCDs would like to ensure that there is room to pay farmer for their time in developing the plans.

A comment was made by public member Black, a UCCE Dairy Advisor, to reiterate that 18-month timeline is insufficient. Black estimated that if each applicant requested the maximum funding amount, that could amount to 12-13 applications which would need more time to prepare.

A comment was made by public member Roschen regarding issues with acreage. Five-hundred acres is between a small and large farm size, but acreage is not an indicator of resources needed

to implement conservation activities on diversified farms. Roschen requested the consideration of gross or net farm income like federal programs.

The Science Panel members had additional discussion on this topic after the public comments.

Member Redmond asked if the organic plan in the Request for Proposals would cover organic systems transition. Dr. Gunasekara explained that this is the intention of the program. Member Diggs requested details on the organic plan. Dr. Gunasekara requested the panel to make a motion to accept the Request for Proposals, with changes as needed, so that CDFA staff could move to the public comment period. This would allow CDFA staff to be ready to release the Request for Proposals in a timely manner should funds be appropriated to CDFA.

Member Dawley supported earlier public comments that the program should consider grant terms longer than 18 months.

Chair Dlott remarked the opportunity to make a motion and get public comments on the Request for Proposals would be good. He indicated that the Science Panel members may not be able to resolve all the issues during this meeting. Member Cameron agreed.

Chair Dlott summarized the items that will be considered for the Request for Proposals:

1. Extending the grant timeline to 24 months.
2. Clarify that this program is open to other entries other than NRCS technical service providers.
3. Tie language in the document back to climate smart agriculture.
4. Bring further clarification to organic systems planning, and that this can be done as part of the NRCS organic transition plan currently in draft Request for Proposals.

Member Redmond remarked that Organic Crop Consultants should be included as eligible entities. Member Cameron expressed concern against allowing all crop consultants without checks in place for qualifications.

Panel noted that the motion was as above and ensuring this program is not the same as NRCS program in the Request for Proposals language.

Chair Dlott introduced the motion. Member Dawley seconded the motion. The motion was passed without opposition.

AGENDA ITEM 6 – State Water Efficiency and Enhancement Program (SWEEP)

Chair Dlott provided background on the agenda item. Scott Weeks from CDFA presented on the SWEEP's Ad-Hoc Advisory Group. Mr. Austin McInerney, facilitator of the Ad-Hoc Advisory Group from the Consensus and Collaboration Program CSU, Sacramento, shared the process and format followed by the group. Scott Weeks presented the recommendations of the group to the Panel.

Members of the Ad-Hoc Advisory Group provided comments to the Science Panel members.

Ad-Hoc Advisory Group member Shobe provided comments on the group processes and recommendations and indicated that there was a high degree of agreement on recommendations, approximately 80%, indicating support for the process.

Ad-Hoc Advisory Group member Montazar discussed regional disparities in the program, with low investment in desert regions due to inability to achieve energy reductions and requesting Science Panel members to support as many recommendations as possible.

Ad-Hoc Advisory Group member Perez assisted 12 SWEEP historically underserved awardees and expressed support for recommendation #2.

Ad-Hoc Advisory Group member Zaccaria expressed support and appreciation for SWEEP over the years. Variability in climate lately means that surface irrigation systems will prove useful. Micro-irrigation lessons learned include impact on water saving/water conservation, therefore it should be re-considered as the mainstay of SWEEP. More ecological assessments of irrigation improvements also need to be considered.

Ad-Hoc Advisory Group member Gemperle commented to increase goals for water savings every year.

Ad-Hoc Advisory Group member Leimgruber requested Science Panel members to approve the recommendations for implementation and help desert counties to access these funds.

Ad-Hoc Advisory Group member Evans recognized CDFA's neutrality on the advisory group and indicated that the recommendations are truly are from the stakeholder group. He requested Science Panel members to adopt these recommendations.

Chair Dlott remarked that meeting was likely to go past 3 pm. Member Redmond recommended moving to agenda item 10.

AGENDA ITEM 10 – Next Meeting and Location

Dr. Gunasekara stated that the next meeting will be on July 15, 2021, using an online platform. Remaining agenda items were discussed.

AGENDA ITEM 7 – Health Soils Program (HSP) Program Updates

Update provided by Ms. Kathryn Mulligan from CDFA.

AGENDA ITEM 8 – Technical Assistance Program Updates

Update provided by Ms. Carolyn Cook from CDFA.

AGENDA ITEM 9 – Public Comments

Chair Dlott and Dr. Gunasekara facilitated public comments.

Chair Dlott introduced the motion to adjourn the meeting. The motion was moved by Member Cameron and seconded by Member Redmond. Panel members unanimously voted to adjourn the meeting. Meeting was adjourned at 3:11 PM.

Respectfully submitted by:

Amrith Gunasekara, Ph.D.

Liaison to the Environmental Farming Act Science Advisory Panel