From: Katie Patterson <kpatterson@farmland.org>
Sent: Wednesday, September 22, 2021 2:31 PM
To: CDFA Healthy Soil Program_Technician@CDFA
Subject: American Farmland Trust Comments on Draft RGA, 2021 HSP
Attachments: AFT_Comments_HSP_9_23_21.docx

Follow Up Flag: Follow up
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Good afternoon,
Please accept American Farmland Trust Comments on Draft RGA for the 2021 Healthy Soils Program (HSP) Incentives Program. If you have any questions regarding these comments, please reach out to me.
Thank you.

Sincerely,

Katie Patterson
California Policy Manager

Phone: +1 9162823995
Email: kpatterson@farmland.org
Website: www.farmland.org

Join the Farming Is Our Future campaign today!

American Farmland Trust
SAVING THE LAND THAT SUSTAINS US

September 22, 2021

Secretary Karen Ross
California Department of Food and Agriculture
1220 N Street
Sacramento, CA 95814

Comments Submitted via: **CDFA.HSP_tech@cdfa.ca.gov**

American Farmland Trust Comments on Draft RGA for the 2021 Healthy Soils Program (HSP) Incentives Program

American Farmland Trust (AFT), now in our 41st year, created the conservation agriculture movement, which speaks for the land—and for the people who grow our food. As the movement's leaders, and a national agricultural land trust, we have three priorities: *protecting agricultural land, promoting environmentally sound farming practices, and keeping farmers on the land.*

Today, because of AFT, millions of acres of farmland that otherwise would have been converted into house lots and shopping malls remain in farming, and tens of thousands of farmers and ranchers have adopted better farming practices. With this expertise, we wish to comment on the Draft RGA for the 2021 Healthy Soils Program Incentives Program.

Budget

First, AFT wishes to first extend its gratitude for the funding that has been allocated through the 2021-22 budget process. With $75 million in funding for FY 2021-22 and a commitment for $85 million in FY22-23, this program is poised to show how significant investments can be leveraged to improve agricultural lands, innovate agricultural stewardship, and harness these practices to improve our state's climate. AFT believes natural and working lands serve as a key component in meeting California's aggressive climate goals. As such, we still request a minimum annual investment of $100 million for healthy soils to ensure the rapid implementation practices to assist the state in meeting its climate goals, and to aid farmers in addressing climate and drought resiliency in increasingly unpredictable times.

Consistent with the recommendations of the CalCAN Healthy Soils Program Progress Report[1] (Report), in which AFT served as a reviewer, AFT supports:

> Prioritizing HSP funding for small and mid-scale farms, farmers of color, and women farmers by awarding their applications first, as long as the applications meet a minimum score. To implement this, CDFA will need to wait to review applications until after the grant application deadline, instead of on a rolling, first come-first-served basis.

[1] The California Healthy Soils Program: A Progress Report | December 2020. https://calclimateag.org/wp-content/uploads/2020/11/CA-HSP-Progress-Report-CalCAN_FinalWeb.pdf

AFT recognizes a rolling application period provides certain efficiencies for program implementation. However, to create equity and greater access for priorities populations, CDFA should evaluate how to better meet the needs of these priorities, and if a rolling application for the HSP can also achieve prioritizing access and program funding for these populations.

AFT supports:

> Allow[ing] farmers with one-year leases to participate in the program and apply for practices that are implemented annually without having to document landowner approval. Add[ing] guidelines to the program that allow CDFA or the farmer to terminate a grant agreement if the farmer loses control of the land. This is consistent with the recommendation from CDFA's 2020 Farmer Equity Report to update program guidelines to accommodate farmers who have short-term leases.

This recommendation acknowledges the significant tension between land access and secured tenure for many farmers and ranchers across California. As a core area of work for AFT, we recognize and promote important resources for the next generation of farmers. In 2020, we are at a crossroad. One-third of farmers are older than 65 and 40% of the land is expected to change hands in the next fifteen years. The future of California agriculture, and the communities and the livelihoods that depend on it, will require a new generation of growers. These include beginning farmers and farmworkers, who often face many challenges, including difficulty securing quality farmland.

These farmers often have difficulty accessing government programs and lack culturally relevant technical assistance for cost-effective regenerative agricultural practices, which would allow them to adapt to significant climatic changes, reduce their greenhouse gas emissions, and conserve precious resources. To succeed, this new generation of farmers will need greater access to quality agricultural land, culturally relevant technical assistance, and current or new government programs.

In addition, AFT would like to highlight the following recommendations for consideration of CDFA to better improve the HSP.

> Translate all program materials into multiple languages to ensure equitable program access to all California farmers. To determine which languages should be prioritized, consult with technical assistance providers and other partners who have relationships with farmers in diverse language communities throughout the state.
>
> Continue to use NRCS EQIP rates as the foundation for the program and incorporate an opportunity for stakeholders to comment on existing payment rates and practice standards whenever CDFA solicits proposals for new practices. For payment rates that stakeholders flag as too low, CDFA could repeat the process it has used to update compost payment rates by collecting cost data from a subset of funded HSP projects to re-evaluate specific payment rates.

Conduct a comprehensive program evaluation in 2021, collaborating with skilled and qualified researchers and institutions in California, to assess the impact of HSP incentives and demonstration projects on attitudes and knowledge about healthy soils practices, barriers to practice adoption, and long-term implementation of healthy soils practices.

We believe these recommendations will work to advance an equitable HSP and will work to increase the program's goals and reach. Should you have any questions regarding these comments, please contact me at kpatterson@farmland.org.

Sincerely,
Katie Patterson

California Policy Manager
American Farmland Trust

From: Brian Shobe <brian@calclimateag.org>
Sent: Wednesday, September 22, 2021 8:15 PM
To: CDFA Healthy Soil Program_Technician@CDFA
Subject: Healthy Soils Program Comments -- CalCAN
Attachments: HSP Comment Letter - CalCAN - 9-22-21.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Hi HSP Team,

Please find attached CalCAN's comment letter on the Healthy Soils Program.

Thanks,
Brian

--
Brian Shobe
(Pronouns: He/Him/His)
Associate Policy Director
California Climate & Agriculture Network (CalCAN)
910 K St, Suite 340, Sacramento, CA 95814
Cell: (916) 856-8596

CalCAN
CALIFORNIA CLIMATE & AGRICULTURE NETWORK

September 22, 2021

Office of Environmental Farming and Innovation
California Department of Food and Agriculture
1220 N Street
Sacramento, CA 95814

Re: **Comments on Healthy Soils Program**

Dear OEFI staff:

I write on behalf of the California Climate and Agriculture Network (CalCAN).[1] Thank you for the opportunity to provide comments on the Healthy Soils Program (HSP).

As the original sponsor of the legislation that led to the creation of HSP and as persistent advocates for HSP's funding, our coalition is thrilled by the legislature's investment of a record $75 million in FY 21-22 and commitment of $85 million in FY 22-23. Farmers are already experiencing the rapidly intensifying impacts of climate change, from severe drought to extreme heat, and desperately need investments to help them transition to more resilient agricultural management systems that simultaneously attack the root cause of the problem.

We are grateful to OEFI staff for all the work over the past few years to stand up this program and administer more than 600 grants – no easy feat. We especially appreciate staff's effort to streamline the HSP application over the past two years in response to stakeholder feedback, improvements that will make it significantly easier for farmers to access this unprecedented level of incentive funding.

Below, we share recommendations to build on that progress and further improve the reach and impact of the program based on feedback from those in our network actively implementing HSP projects. Some of the analysis and figures we cite below to support these recommendations come from our recent Healthy Soils Program Progress Report.[2]

The first set of recommendations address opportunities to improve program implementation and maximize the benefit of soil sampling in the program. Importantly, we understand this set of the recommendations may require action or clarification from the Science Advisory Panel, CDFA's sister agencies (e.g. CARB), and/or the legislature. To that end, we reiterate our support for the request made by HSP technical assistance (TA) providers and demo project principal investigators (PIs) at the July Science Advisory Panel meeting to convene an interagency

[1] CalCAN is a statewide coalition of farmers and ranchers, allied organizations, ag professionals, scientists and advocates that advances policy to realize the powerful climate solutions offered by sustainable and organic agriculture.
[2] Available at: https://calclimateag.org/wp-content/uploads/2020/11/CA-HSP-Progress-Report-CalCAN_FinalWeb.pdf

meeting with HSP demo project PIs, TA providers, and recipients to problem-solve some of the challenges and limitations imposed on HSP and CDFA.

The second set of recommendations identify immediate changes CDFA and the Science Advisory Panel can apply to the draft RGA to make HSP more equitable, impactful, and farmer-oriented.

We know that solving sometimes complicated administrative, regulatory, and legislative challenges requires teamwork on the part of advocates, agencies, and implementers, and we stand ready to play our part.

Sincerely,

Brian Shobe
Associate Policy Director
Brian@calclimateag.org

Recommendations for Program Implementation & Soil Sampling

1. Work with HSP implementers, the Science Advisory Panel, sister agencies, and the legislature to resolve challenges with project implementation and reporting

We thank OEFI staff for all the hard work over the past few years to improve the HSP application. We heard positive feedback on the application in the 2020 round and applaud the additional proposed changes to streamline the application that OEFI staff presented at the September 17 public workshop.

Having greatly improved the application, attention now needs to shift to implementation. The most common challenge we hear now from growers, TA providers, and demo project PIs is about inflexible rules/requirements and burdensome paperwork associated with project implementation and reporting.

Farming is a dynamic art and business, which makes planning exactly what is to be done on a specific plot of land for three years a challenge, particularly for diversified farms in which crops are often being rotated. Many HSP farmer recipients are also experimenting with healthy soils practices for the first time and learning as they go (the goal of the program), so they understandably sometimes make mistakes or need to make adjustments (e.g. changing their cover crop seed mix) in order to figure out what works for them. The program would ideally account for these realities and needs.

Instead, growers, TA providers, and demo project PIs report that common minor project changes due to the dynamic nature of farming and learning new practices often cause them major paperwork headaches. For example, farmers already practicing crop rotation (a healthy soils practice) on diversified farms cannot apply compost to their entire farm at once. Instead, they

must stagger compost applications throughout the year, which sometimes does not fit neatly into the fiscal year. This leads to issues with grant paperwork each year, as the program requires practices to be finished within the fiscal year. Likewise, in order for a farmer to make a minor adjustment to a practice they are implementing for the first time (e.g. reducing compost application from 7 to 6.25 acres because the compost company can only deliver compost in 25-ton increments), they are required to submit a detailed project change request form, line item shift request form, and wait for approval of their revised work plan. This detailed level of documentation and delays in approval are often prohibitive for farmers, especially small farmers.

Similar dynamics also affect demonstration research project implementation. For example, missed greenhouse gas sampling events due to unexpected but necessary changes in farm management are not always easily 'made up' for, as HSP currently requires, because researchers are often balancing multiple projects and obligations that prevent timely rescheduling. Moreover, when farmers make unanticipated management decisions that affect project fields, such as deciding to do an early harvest or successive harvest of crops (such as lettuce), researchers sometimes have to adapt their sampling plans quickly to reflect what is more scientifically sensible, which may not allow enough time to go through a formal scope of work change process. These circumstances are inevitable in research taking place on working farms and should be accounted for in the scope of work and budget.

Sadly, these issues have been such a source of frustration for some growers, TA providers, and demo project PIs that they have decided not to apply or provide technical assistance again for the program. Stakeholders often share that they have worked with other government agencies and grant programs and have had a more positive experience, so they often wonder why CDFA and HSP are different.

We understand that CDFA has its own requirements associated with reporting program data to CARB and complying with auditing and financial regulations set by other agencies and the legislature. We also understand that OEFI staff have at times been overwhelmed by the volume of HSP grants and short encumbrance deadlines. Thus, we are highly interested in exploring options with CDFA staff and sister agencies to streamline those reporting requirements and allow for more flexible rules for the benefit of both farmers, researchers, and CDFA staff. Farmers, TA providers, and demo project PIs have a range of ideas to address these challenges which deserve to be heard and discussed.

We encourage OEFI staff and the Science Advisory Panel to respond to these concerns by heeding stakeholders' request to convene an interagency meeting to understand the root cause and problems-solve some of these challenges with implementation and reporting requirements. OEFI staff can model this meeting on its successful HSP listening sessions in 2019, which led to a number of the improvements on the HSP application.

2. Clarify the purpose and maximize the benefit of soil sampling in the program

Currently, CDFA requires every HSP incentives project recipient to sample their soils and submit a laboratory report of their soil organic matter content for three consecutive years. CDFA's stated purpose for this requirement has shifted over time—from potentially being used

to determine the continued eligibility of specific practices based on changes in soil organic matter, to improving COMET-Planner and other climate models, and most recently to inform a statewide soil organic carbon map. However, soil scientists consistently express skepticism about how useful soil sampling results from the first few rounds of HSP will be for achieving any of those results.

Many soil scientists point out that incentives projects are not controlled experiments. HSP incentives projects are not required to control for or document other management or environmental variables (e.g., tillage or irrigation) that can have significant impacts on soil health metrics. Additionally, scientists note there is potential for significant sampling inconsistency and reporting error because farmers are responsible for conducting the soil sampling and submitting the data themselves – something that could be addressed by having TA providers or other qualified professionals perform the sampling. Moreover, soil scientists note that research shows that changes in soil organic matter occur slowly and often variably over a field, which means the expectation of seeing statistically significant changes in soil organic matter after just three years may be unrealistic in many situations. Scientists have suggested that other more responsive metrics than soil organic matter could be used to measure changes in labile carbon pools in soils in that time period; however, they noted that some of these metrics require more complex analysis in a lab and may not be practical.

Soil sampling in HSP incentives projects can potentially serve multiple purposes, including helping farmers better understand soil health metrics and changes; informing their nutrient management decisions; addressing specific research gaps; and advancing climate models. However, each of those purposes requires a different level of sophistication in sampling methodology, data standardization, aggregation, and transparency, and accompanying resources.

California is home to an abundance of soil scientists, climate modelers, institutes like the UC Davis Working Lands Innovation Center[3], and NGOs who are eager to see the data from HSP's soon-to-be 1,000+ incentive projects put to good use for farmers and scientific advancement.

We encourage OEFI staff and the Science Advisory Panel to convene a discussion or ad hoc advisory group to clarify the strategy for soil sampling in the program and explore possible partnerships that would ease the burden of this work on OEFI staff and farmers.

Recommendations for the Draft RGA:

3. Ensure farmers who rent land have equal access to the program

Forty-five percent of all agricultural land is leased in California, making reaching producers who rent land a priority if we are to scale up healthy soils practices to help achieve the state's carbon neutrality goal.[4]

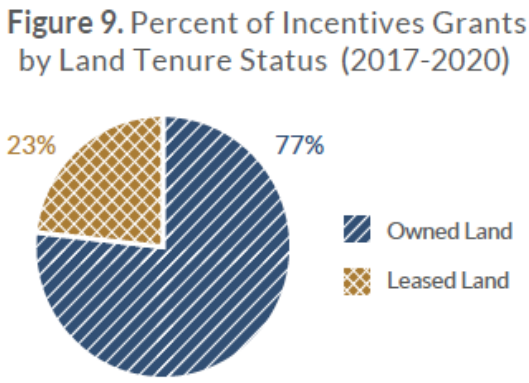
[3] See: https://www.workinglandsinnovation.com/about

[4] Source: U.S. Farmland Ownership, Tenure and Transfer Table 1, pp. 16, available at: https://www.ers.usda.gov/webdocs/publications/74672/eib-161.pdf?v=7594.2

HSP requires that "applicants must lease, own or otherwise control the fields and APNs where project activities are proposed to occur for the entirety of the project duration," which is three years. HSP also requires applicants who lease their land to "document approval by the landowner." However, several TA providers have indicated that these program requirements are difficult, if not impossible, to meet for many farmers in the state who operate on year-to-year leases—especially young, beginning, and socially disadvantaged farmers—and sometimes have complicated or simply limited relationships and communication with their landlords.

This barrier appears to be reflected in the program data: HSP incentives projects on leased land made up only 23 percent of all projects (see Figure 9 above). With increasing land values and the land access challenges faced by young and beginning farmers and SDFRs[5], we expect the percentage of California farmers who lease land will continue to rise.

CDFA should act on the recommendation in its 2020 Farmer Equity Report to "Review grant program guidelines to ensure that farmers who operate on leased land have equal access to apply for grant programs and encourage these farmers to participate in the programs."



Specifically, CDFA should allow farmers with one-year leases to participate in the program and apply for practices that are implemented annually without having to document landowner approval. CDFA can then add guidelines to the program that allow CDFA or the farmer to terminate a grant agreement if the farmer loses control of the land.

4. Carefully weigh the pros/cons of a first-come, first-serve selection process and consider a return to a 12-week application period and competitive grant review process

We recognize a first-come, first-serve grant selection process, which CDFA first experimented with HSP in 2020, allows OEFI staff to process applications, announce grantees, and initiate contract agreements on a rolling basis, thus reducing the bottlenecks, delays, and stress that can come from processing a large volume of applications and grant contracts all at once. In the previous round, this was particularly important due to a fast-approaching encumbrance deadline.

At the same time, the first-come, first-serve grant selection process had a number of unintended consequences. We consistently heard from TA providers and growers that this process disadvantaged first-time applicants to the program, smaller-scale farmers, historically underserved farmers, and farmers who face language barriers, who often need more time to learn about and apply for the program than farmers who have previously applied or farmers who have the resources to hire staff or professional grant-writing consultants to complete the application on their behalf.

[5] See pp. 9-10 of 2020 Report to the California Legislature on the Farmer Equity Act.

We also heard anecdotes of farmers who had been hoping to apply for multiple practices but ended up only applying for the simplest one (often compost) in a rush to get their applications in. This may have been one factor in the shift towards single-practice projects in the last round, from 35% of projects in the 2017-2018 rounds to 61% in 2020 (see Figures 11 and 12 below). This significant shift is concerning for three reasons: 1) the scientific literature shows a synergistic relationship from implementing multiple practices in the same area; 2) it means farmers are experimenting with and learning fewer practices; and 3) since most of the single-practice projects are compost application projects, it raises the question about the extent to which farms are applying for compost solely as a short-term fertilizer input substitute.

Figure 11. Incentives Projects Distribution by Number of Practices Implemented (2017-2018)

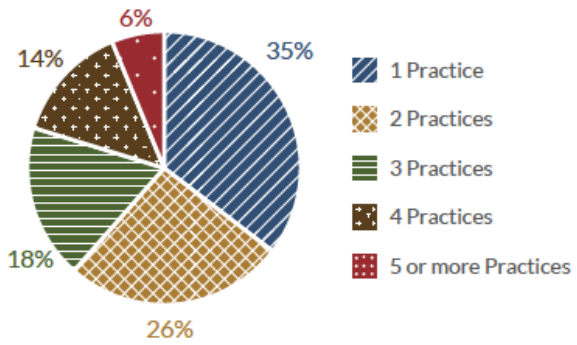
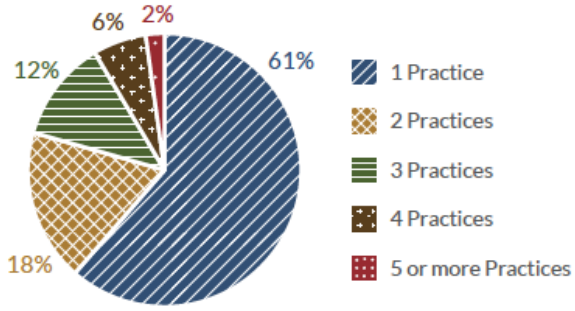


Figure 12. Incentives Distribution by Number of Practices Implemented (2020)



Finally, the minimum score required to be approved in the first-come, first-serve process (40 out of 60 points) has the unintended consequence of rendering the extra 10 points for conservation plans (which are intended to be an incentive for conservation plans) meaningless. A close review of the detailed scoring criteria reveals that any application that meets the basic program requirements and completes the application according to instructions will automatically achieve the minimum score necessary.

A 12-week application period and a competitive grant review process would address these unintended consequences. CDFA is receiving $3.75 million to administer this round of funding, which should allow CDFA to increase staff capacity significantly. If limited HSP application reviewers are a barrier, we encourage staff to share this with the Panel and advocates so we can recruit soil scientists and extension professionals to serve in this important role.

If OEFI and the Science Advisory Panel ultimately decide to use a first-come, first-serve process, we strongly encourage OEFI to at least delay the opening of the application period until the new year in order to give technical assistance providers a couple month head start to conduct outreach and prepare first-time applicants, smaller-scale farmers, historically underserved farmers, and farmers who face language barriers to be ready to apply for the program.

5. Focus demonstration projects on farmer outreach and education – address economic and operational questions about practices

As the draft RGA reminds us [emphasis added]: "The objectives of the HSP are to **increase statewide implementation** of conservation management practices that improve soil health, sequester carbon and reduce atmospheric greenhouse gases (GHGs) by... (2) funding on-farm demonstration projects that collect data and/or showcase conservation management practices that mitigate GHG emissions and increase soil health."

We support the proposed shift in Type A demonstration projects away from investing limited program funds on expensive GHG monitoring for practices that have already been approved for the program because such monitoring is of little interest to most farmers and does little to increase statewide implementation of healthy soils practices.

We encourage OEFI staff and the Science Advisory Panel to go one step further to actually make Type A research projects farmer-driven and farmer-oriented by prioritizing the collection of data that specifically addresses farmers' questions and concerns that are holding them back from implementing approved healthy soils practices. In our experience, the questions farmers ask most often about healthy soils practices are economic or operational in nature (e.g. return on investment; impact on yields and water; equipment needs; how to tailor the practice to their crops or regional climate, etc.).

Type A projects currently only allow collection of data on "field measurements of GHG emissions" and "co-benefit data including benefits to soil health and environmental water and air quality data to address knowledge gaps regarding implementation of practices." We advise revising this to recognize that the agronomic benefits are the primary benefits and motivators of these practices for farmers and to specifically include the collection of economic and operational data.

From: Jamie Fanous <jamie@caff.org>
Sent: Thursday, September 23, 2021 3:56 PM
To: CDFA Healthy Soil Program_Technician@CDFA
Subject: Comments on the Health Soils Program
Attachments: CAFF_HSP_Comments.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Good Afternoon OEFI Staff,

I am submitting comments on behalf of the Community Alliance with Family Farmers regarding the CDFA Healthy Soils Program.

We look forward to working with you on continuing to improve this program!

Thank you,
Jamie Fanous *(pronouns: she/her)*
Policy Advocate
Community Alliance with Family Farmers (CAFF)
jamie@caff.org / 973-865-9124
www.caff.org

September 23, 2021

Office of Environmental Farming and Innovation
California Department of Food and Agriculture
1220 N Street
Sacramento, CA 95814

Re: **Comments on Healthy Soils Program**

Dear OEFI staff:

I write on behalf of the Community Alliance with Family Farmers (CAFF). CAFF has represented small and mid-scale family farmers in California for over 40 years, seeking to preserve family-scale agriculture, promote local food systems, and advance environmental sustainability. Thank you for the opportunity to provide comments on the Healthy Soils Program (HSP). We are grateful for the work of OEFI staff and willingness to collaborate with organizations like CAFF and many others to improve the quality and effectiveness of the program over the years.

We write to you as experienced HSP Technical Assistance Providers and as an organization with deep relationships in the farming community in California. Below we have shared a set of recommendations that build on the existing progress of HSP and facilitate an opportunity to introduce greater flexibility into the program and focus on centering equity in this program. We share many of the same concerns with other programs which have been detailed in reports such as the CalCAN HSP Progress Report.

1. **Grant Selection Process:** Due to the nature of a first-come, first served selection process for the HSP application, it prioritizes well-funded and resourced applicants that have the capacity to complete an application at the first opportunity. We have experienced first-hand while working with underserved farmers in our communities that any application being completed by any historically underserved socially disadvantaged farmer or rancher will take longer than a well-resourced farm. In many cases the HSP application is the first government grant application that socially disadvantaged farmers will have completed, and thus the application will take extra time to understand and complete. The first-come, first- served application process prevented many of the farmers we work with from receiving funding. By the time we were able to finalize the application much of the HSP funding was already gone. **We strongly recommend prioritizing HSP funding for small- and mid-scale farms, farmers of color, and women farmers by awarding their applications first. To implement this, CDFA will need to wait to review applications until after the grant application deadline, instead of on a rolling, first-come, first-served basis.**

2. **Shifts in Implementation:** Farming is a complex and rapidly changing business, especially among farmers who grow diversified crops, which makes planning for a specific plot of land for three years a major challenge and barrier. Additionally, many of these growers are learning about soil health for the first time, and thus challenges and changes will arise. Additionally, farmers, especially historically underserved farmers, struggle to complete paperwork such as the change request forms required in the past.

This adds an unnecessary burden on the farmer, considering that changes will arise. **Instead, we strongly suggest removing the change request requirement and allow farmers the flexibility they need to change the details of their practice implementation so long as they are following the CPS for it and then allow them to report on those changes after the fact.** This flexibility lifts a significant amount of unnecessary stress on these farmers and allows them to be creative when they need to be.

3. **Land Access:** Most historically underserved farmers rent their land. There have been many cases of farmers we have worked with who have considered HSP but unfortunately decided to not apply due to the 3-year land rental requirement for this application. We suggest CDFA act on the recommendation in its 2020 Farmer Equity Report to "Review grant program guidelines to ensure that farmers who operate on leased land have equal access to apply for grant programs and encourage these farmers to participate in the programs." Considering this valuable recommendation, we strongly suggest CDFA allow farmers with one-year leases to participate in the program and apply for practices that are implemented annually without having to document landowner approval. CDFA can then add guidelines to the program that allow CDFA or the farmer to terminate a grant agreement if the farmer loses access to the land.

4. **Focus demonstration projects on farmer outreach and education:** We support the proposed shift in Type A demonstration projects away from investing limited program funds on expensive GHG monitoring for practices that have already been approved for the program, because such monitoring is of little interest to most farmers and does little to increase statewide implementation of healthy soils practices. We suggest OEFI staff and the Science Advisory Panel to also make the Type A research projects farmer-driven and farmer oriented by prioritizing programs that focus on collecting data that specifically addresses the farmers' barriers to adoption (e.g. researching yield impacts, frost, or equipment needs). This is a critical step to center farmers in this process and meet them where they are to ensure greater adoption of conservation practices.

5. **Purpose of Soil Sampling:** For the existing HSP grant recipients, farmers are required to submit a soil sample for three consecutive years. However, many soil scientists have expressed skepticism about this practice, suggesting that these samples are not part of a controlled experiment and questioning the validity of this component of the program. Furthermore, for many management systems and soil types in California, significant changes in soil organic matter may take longer than three years of practice implementation to become evident. Given these major questions and challenges, we would suggest OEFI reconsider this requirement of farmers. If the soil sampling is not based on clear scientific reasoning or fulfilling some other objective, it is adding unnecessary work onto the farmer as well as the TA provider. We suggest the OEFI staff and the Science Advisory Panel convene a discussion or ad hoc advisory group to clarify the strategy for soil sampling in the program and explore possible partnerships that would ease the burden of this work on OEFI staff and farmers, or simply reconsider the requirement all together.

Sincerely,
Jamie Fanous
Policy Advocate

From: Sara Letton <sara-letton@carcd.org>
Sent: Thursday, September 23, 2021 3:03 PM
To: CDFA Healthy Soil Program_Technician@CDFA
Subject: public comments on draft program guidelines for the HSP
Attachments: CARCD Public Comment for HSP 2021.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Dear CDFA,
Please see the attached comment letter.
Thank you,
Sara Letton

--
Sara J. Letton
Agriculture Program Manager
California Association of Resource Conservation Districts (CARCD)
We are a fully remote office, but please direct any mail to:
705 E Bidwell Street, Suite 2-415, Folsom, CA 95630
(530) 303-8880
she/her/hers

Website | Facebook | Twitter | Instagram
Your local partners in conservation and agriculture.

CALIFORNIA ASSOCIATION OF RESOURCE CONSERVATION DISTRICTS

September 23, 2021

Office of Environmental Farming and Innovation
California Department of Food and Agriculture

Sacramento, CA 95814

Re: Draft 2021 HSP Demonstration Program Request for Grant Applications (RGA)

Dear OEFI:

As you know, California is home to 95 Resource Conservation Districts (RCDs) that serve rural, urban, and suburban populations throughout the state and work at the intersection of agriculture, conservation and community. CARCD represents the network of RCDs comprised of conservation professionals and local experts committed to seeing our communities and agriculture thrive and build resilience to the impacts of climate change.

RCDs are a critical part of the healthy soils program and have consistently received over 50% of the demonstration and TA grants. This program is critical to our work and we are critical to yours. In the spirit of partnership on behalf of the California Association of Resource Conservation Districts (CARCD), I am writing to provide some feedback and ideas for your consideration that we feel would make the program stronger related to the **Draft 2021 HSP Demonstration Project Request for Grant Applications (RGA).**

- **RE Past Performance:** Some of the past performance evaluation criteria are out of the control of the lead applicant /grant management organization e.g. Criteria 7.2 & 7.3 on page 31 on the draft RGA.
    - It is unfair to judge a new HSP Demo Grant Application based on previous grants that could have had different staff managing the project and/or different partners implementing data collection and practice implementation components.
    - If organizations are ineligible for HSP Demo Project Grants based on past performance they should be notified in a timely manner, prior to taking time to submit an application
- **RE Indirect Costs**: CDFA should pay entities what it costs them to do the project. In the case of agencies with a NICRA, they have already negotiated for a rate that reflects what it costs to do the work, so CDFA should pay that rate. We see that universities can claim an established indirect rate that is above the 20%, so fairness would dictate that all entities have access to a rate that more closely reflects actual costs.

Thank you for the opportunity to provide this feedback.
Sincerely,

Karen Buhr
Executive Director

California Association of Resource Conservation Districts
705 E Bidwell Street, Suite 2-415, Folsom, CA 95630
(916) 457-7904 www.carcd.org

From: Sara Letton <sara-letton@carcd.org>
Sent: Thursday, September 23, 2021 4:02 PM
To: CDFA Healthy Soil Program_Technician@CDFA
Subject: Re: public comments on draft program guidelines for the HSP
Attachments: CARCD Public Comment for HSP Incentives2021.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Hello,
Attached is a comment letter re: HSP Incentives Program.
Thank you,
Sara Letton

On Thu, Sep 23, 2021 at 3:41 PM CDFA Healthy Soil Program_Technician@CDFA <cdfa.HSP_Tech@cdfa.ca.gov> wrote:

> Hello Ms. Letton,
>
> Thank you very much for your email, we appreciate your input. This response is to confirm that we received your comments for review.
>
> Sincerely,
>
> Healthy Soils Program Team
>
> Healthy Soils Program
>
> Office of Environmental Farming and Innovation
>
> cdfa CALIFORNIA DEPARTMENT OF FOOD & AGRICULTURE
>
> **From:** Sara Letton <sara-letton@carcd.org>
> **Sent:** Thursday, September 23, 2021 3:03 PM

To: CDFA Healthy Soil Program_Technician@CDFA <cdfa.HSP_Tech@cdfa.ca.gov>
Subject: public comments on draft program guidelines for the HSP

Dear CDFA,

Please see the attached comment letter.

Thank you,

Sara Letton

--

Sara J. Letton

Agriculture Program Manager

California Association of Resource Conservation Districts (CARCD)

We are a fully remote office, but please direct any mail to:

705 E Bidwell Street, Suite 2-415, Folsom, CA 95630

(530) 303-8880

she/her/hers

Website | Facebook | Twitter | Instagram

Your local partners in conservation and agriculture.

--
Sara J. Letton
Agriculture Program Manager
California Association of Resource Conservation Districts (CARCD)
We are a fully remote office, but please direct any mail to:

705 E Bidwell Street, Suite 2-415, Folsom, CA 95630
(530) 303-8880
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Website | Facebook | Twitter | Instagram

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CALIFORNIA ASSOCIATION OF RESOURCE CONSERVATION DISTRICTS

September 23, 2021

Office of Environmental Farming and Innovation
California Department of Food and Agriculture

Sacramento, CA 95814

Re: Draft 2021 HSP Incentives Program Request for Grant Applications (RGA)

Dear OEFI:

As you know, California is home to 95 Resource Conservation Districts (RCDs) that serve rural, urban, and suburban populations throughout the state and work at the intersection of agriculture, conservation and community. CARCD represents the network of RCDs comprised of conservation professionals and local experts committed to seeing our communities and agriculture thrive and build resilience to the impacts of climate change.

RCDs are a critical part of the healthy soils program and have consistently received over 50% of the demonstration and TA grants. This program is critical to our work and we are critical to yours. In the spirit of partnership on behalf of the California Association of Resource Conservation Districts (CARCD), I am writing to provide some feedback and ideas for your consideration that we feel would make the program stronger related to the **Draft 2021 HSP Incentives Program Request for Grant Applications (RGA).**

Firstly, we would like to express gratitude for the funding level of this program for the upcoming year. We know that RCDs and partners across the state will leverage this significant funding to provide excellent value to the state.

In addition, we would like to show support for:

- A set application period that would allow each farmer, regardless of size or resources, the same amount of time to prepare their application and it would ensure that all the work that went into thoughtfully prepared applications was worthwhile because applications would all be reviewed.

- An application period that is opened at least six weeks after TAP contracts are executed, so that quality outreach about HSP can be conducted to help more farmers enroll in the program.

- Providing adequate funding for or agricultural producers to procure compost from sources that will enhance, not litter, their soils. Closer compost facilities might be available, but they may be contaminated with plastic, glass, and other inert material from municipal waste.

- Requiring that the farmer consult with a technical assistance provider to determine the best species to plant in the case of milkweed requirements for Conservation Cover projects. Xerces Society does not recommend planting native milkweed within 5-10 miles of overwintering sites on the coast in Central and Northern California. There are other beneficial pollinator and monarch species that can be planted.

California Association of Resource Conservation Districts
705 E Bidwell Street, Suite 2-415, Folsom, CA 95630
(916) 457-7904 www.carcd.org

CALIFORNIA ASSOCIATION OF
RESOURCE
CONSERVATION DISTRICTS

Thank you for the opportunity to provide this feedback.
Sincerely,

Karen Buhr
Executive Director

California Association of Resource Conservation Districts
705 E Bidwell Street, Suite 2-415, Folsom, CA 95630
(916) 457-7904 www.carcd.org

From: Sophiana Leto <sophiana@cariboubiofuels.com>
Sent: Thursday, September 23, 2021 3:07 PM
To: CDFA Healthy Soil Program_Technician@CDFA
Cc: Kieran Mitchell
Subject: Re: Comments from Caribou Biofuels - Healthy Soils Program
Attachments: Public Comment - Healthy Soils Program 9.23.21.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Dear HSP Team,

Please find attached our comments in response to CDFA's Healthy Soils Program draft guidelines.

Feel free to reach out to us if you have any questions or would like to discuss further.

Best,
Sophiana Leto, Program Manager
Kieran Mitchell, CEO

On Fri, Aug 27, 2021 at 1:50 PM CDFA Healthy Soil Program_Technician@CDFA <cdfa.HSP_Tech@cdfa.ca.gov> wrote:

> Dear Sophia,
>
> Thank you for your comments. We will review them.
>
> Kind Regards,
>
> HSP Team
>
> ---
>
> **From:** Sophiana Leto <sophiana@cariboubiofuels.com>
> **Sent:** Friday, August 27, 2021 10:12 AM
> **To:** CDFA Healthy Soil Program_Technician@CDFA <cdfa.HSP_Tech@cdfa.ca.gov>
> **Cc:** Kieran Mitchell <kieran@cariboubiofuels.com>
> **Subject:** Comments from Caribou Biofuels - Healthy Soils Program
>
>
>
> To Whom It May Concern,

Please find attached our comments in response to CDFA's Healthy Soils Program.

Feel free to reach out to us if you have any questions or would like to discuss further.

Best,

Sophiana Leto, Program Manager

Kieran Mitchell, CEO

--

Sophiana Leto

Program Manager

Caribou Biofuels

sophiana@cariboubiofuels.com | 201-699-9044

--

Sophiana Leto
Program Manager
Caribou Biofuels
sophiana@cariboubiofuels.com | 201-699-9044

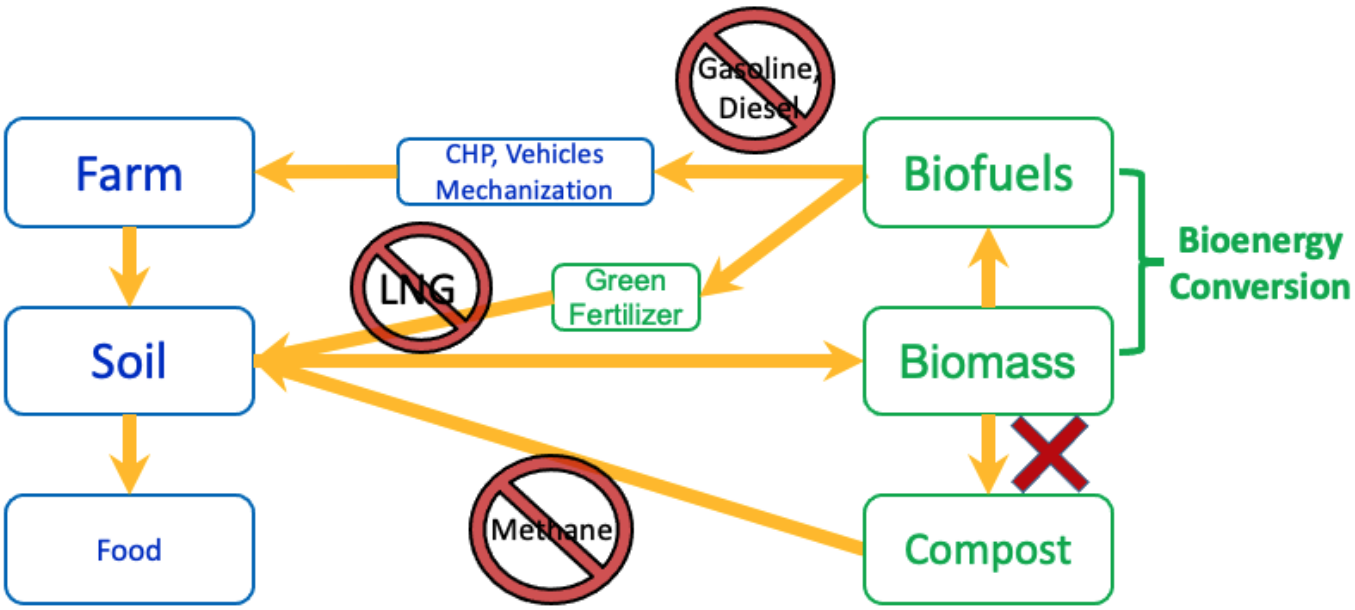
Caribou Biofuels

Public Comment for CDFA's Healthy Soils Program **9/23/21**

Green Fertilizer and Organic Farming 2.0: How to put California's waste biomass to work for food security and climate risk reduction

California currently produces an annual flow of more than 50 million metric tons (MMT) of waste biomass per year, the volume of which is rapidly accelerating because of efforts to contain the state's wildfire emergency. Farm and food processing waste comprise over one quarter of this material, and like other biomass it presents a substantial risk to the state's greenhouse gas (GHG) mitigation goals. Burning agricultural waste has recently been banned because of this and public health risks but hauling it to landfill merely displaces waste storage capacity while delaying emissions via decomposition. It has long been understood that recycling this material can improve soil productivity, but the traditional methods for this, direct mulching and composting, are relatively inefficient and emission-intensive, requiring storage capacity and contributing significantly to the 20% of global GHG emissions attributable to agriculture.

Figure 1: Green Energy from Agricultural Waste



Caribou Biofuels

Thanks to modern bioenergy science and technology, an alternative exists that can largely transform this waste biomass, converting it into biofuels, agrochemicals, and soil amendments that substantially reduce agriculture's carbon footprint while robustly enhancing soil productivity, food security, and rural livelihoods. The primary agrochemical output of this process (Figure 1) is biogenic or *green fertilizer* produced from biogas. This biogenic chemical has the same productivity benefits of conventional fertilizer, but it also displaces the fossil fuels needed to produce the latter.[1] Beyond this innovation, other valuable products and services of biomass conversion through gasification include waste reduction, biochar for soil amendment and carbon sequestration, and a variety of green energy services illustrated in the following flowchart. Compared to composting, which directly releases highly radiative methane emissions and presents a variety of health and sanitation risks (including rodents, other vermin, and an array of pathogenic microorganisms), gasification re-forms biogenic carbon into fossil fuel substitutes. While green fertilizer improves soil productivity and agrifood sustainability, it displaces natural gas. At the same time, liquid biofuels can displace fossil fuels in farm mechanization, vehicles, heating, and electric power.

Using modern mobile gasification technologies (e.g. https://cariboubiofuels.com/) to process biomass at or near individual farms, all these benefits can be internal farm operations, conferring substantial economic and environmental benefits across rural communities. In addition to the direct value of clean energy and soil productivity services, farms reduce their costs for (and emissions from) conventional energy and agrochemicals. Indeed, we hope that deployment of these bioenergy conversion technologies will be recognized by CARB with LCFS carbon credit certification like livestock wastes are today. This would provide additional livelihood benefits to rural communities and stimulate further green innovation. State-of-the-art biomass conversion can be a potent catalyst for agriculture to take full partnership in the Golden State's quest for sustained and inclusive prosperity.

Thank you for your consideration.

Respectfully,
Kieran Mitchell, CEO
kieran@cariboubiofuels.com
510-421-0365

[1]Indeed we believe biogenic fertilizer from organically produced biomass should itself be eligible for organic certification.

From: Carrie Wendt <cwendt@pointblue.org>
Sent: Wednesday, September 15, 2021 11:27 AM
Subject: Public Comments for HSP RGA 2021

Follow Up Flag: Follow up
Flag Status: Completed

Dear CDFA HSP staff,

As a Partner Biologist with Point Blue Conservation Science, I have provided technical support to producers during every HSP funding cycle. In light of my experience assisting producers through the application process, I would suggest reverting to an application period followed by review and funding selections instead of making funding selections on a rolling basis during the application process. Limited resource and underserved groups do not always have as much time and as many resources to submit applications early in the process as larger farming/ranching operations.

Thank you for considering my suggestion,
Carrie Wendt

Carrie Wendt, *Partner Biologist*
Point Blue Conservation Science
Natural Resources Conservation Science (NRCS)

Oroville Office
150 Chuck Yeager Way, Oroville, CA 95965
(530) 693-3176
Red Bluff Office
1345 Main St, Red Bluff, CA 96080
(530) 527- 3013

Cell- (707) 616-1086

Point Blue – *Conservation science for a healthy planet*
www.pointblue.org

From: Greg Kester <gkester@casaweb.org>
Sent: Thursday, September 23, 2021 2:26 PM
To: CDFA Healthy Soil Program_Technician@CDFA
Subject: CASA Comments on Healthy Soils Program Grant Application
Attachments: 9-23-21 CASA Comments Healthy Soils Funding[1].pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Please find attached comments from the California Association of Sanitation Agencies (CASA) on funding opportunities in support of the Healthy Soils Initiative. Please contact me with any questions or for further information. Thank you – Greg Kester

Stay Positive – Test Negative!

Greg Kester
Director of Renewable Resource Programs
CA Association of Sanitation Agencies
925 L Street, Suite 200
Sacramento, CA 95814
PH: 916 446-0388
Mobile: 916 844-5262
gkester@casaweb.org
www.casaweb.org

CALIFORNIA ASSOCIATION of SANITATION AGENCIES

925 L Street, Suite 200 • Sacramento, CA 95814 • TEL: (916) 446-0388 • www.CASAweb.org

September 23, 2021

Dr. Amrith Gunasekara
Science Advisor to the Secretary
California Department of Food and Agriculture
1220 N Street
Sacramento, CA 95814

RE: Comments on Healthy Soils Initiative Funding

Dear Dr. Gunasekara:

The California Association of Sanitation Agencies (CASA) appreciates the opportunity to comment on the proposed funding opportunities for incentive programs and demonstration projects to support the Healthy Soils Initiative (HSI). We underscore the fact that biosolids from municipal wastewater treatment plants help support every objective of the HSI in improving soil health, increasing crop yields, and reducing greenhouse gas emissions. The wastewater sector is uniquely positioned to achieve tangible, cost-effective greenhouse gas (GHG) and short-lived climate pollutant (SLCP) emission reductions.

The California Association of Sanitation Agencies (CASA) represents more than 125 local public agencies engaged in the collection, treatment and recycling of wastewater and biosolids to protect public health and the environment. Our mission is to provide trusted information and advocacy on behalf of California clean water agencies, and to be a leader in sustainability and utilization of renewable resources. Through our efforts, we help create a clean and sustainable environment for California.

Wastewater agencies have the unique ability to provide tangible GHG reductions that will help the State meet GHG and SLCP reduction goals by utilizing existing publicly owned wastewater treatment works (POTW) infrastructure. Additionally, the resulting biosolids can be utilized as a soil amendment to enrich the soil on which it is land applied as well as sequester carbon as called upon by the Governor's Executive Order N-82-20, the Natural and Working Lands Climate Change Implementation Plan, the Forest Carbon Plan, and the Healthy Soils Initiative. Biosolids recycling through land application and composting can also help the state achieve its water conservation and agricultural efficiency goals. Biosolids improve soil health through increasing soil organic carbon and also increase crop production and soil water holding capacity which decreases irrigation needs.

CASA fully supports the creation of financial incentives to expand the use of compost and other organic soil amendments, such as biosolids, as outlined in the Healthy Soils Program (HSP). We do have several questions and comments relative to the proposed grant guidelines for the Incentives Program and Demonstration Projects. They include:

1. Are the compost application rates outlined in both the Incentives Program and Demonstration Projects guidelines the quantity of compost per acre eligible for funding or are they a limit? Would additional application quantities be ineligible for funding?

2. In the Compost White Paper, the section titled "Comparing nitrogen (N) from compost to recommended plant nitrogen requirements" describes how compost application at the rates used in the HSP will represent less than 15% of crop N needs. Is the additional N expected to come from additional compost use which is not funded or another source of N other than compost such as synthetic fertilizer? If so, we recommend utilization of the biosolids regulatory model to allow for application of compost,

biosolids, and other organic sources of N up to the needs of the crop to be grown, taking all sources of nitrogen and mineralization into account. What was the reasoning for limiting application rates to less than 15% of the crop nitrogen?

3. It appears that anaerobic digestate, including biosolids, is not eligible in the Demonstration Projects document when applied to rangeland. If an anaerobic digestate product was made which had a C/N >11, would this be considered for Demonstration Projects. What information would CDFA request in order to consider this? A recent study (https://doi.org/10.1002/jeq2.20270) demonstrating the carbon sequestration benefits of anaerobic digestate on rangeland soils highlights the opportunities in this area.

We greatly appreciate CDFA's efforts to promote healthy soils in our state and look forward to working together as proactive partners on our multitude of shared objectives. Please contact Greg Kester at gkester@casaweb.org (or 916-844-5262) if you have any questions or desire follow up information on these comments or CASA's efforts in advancing resource recovery in California.

Sincerely,

Greg Kester

Greg Kester
Director of Renewable Resources

CCOF
Advancing organic agriculture through certification, education, advocacy, and promotion.

Office of Environmental Farming and Innovation
California Department of Food and Agriculture
1220 N Street
Sacramento, CA 95814

Re: Draft 2021 Healthy Soils Program Incentives Program Request for Grant Applications

September 23, 2021

Dear Office of Environmental Farming and Innovation Staff,

Thank you for the opportunity to comment on the draft Request for Grant Applications (RGAs) for the 2021 Healthy Soils Program Incentives Program.

Founded in California more than 40 years ago, CCOF is a nonprofit organization that advances organic agriculture through certification, education and grantmaking, and advocacy. An organic community of farmers, ranchers, processors, retailers, consumers, and policymakers support and inform our work. Together, we work to advance organic agriculture for a healthy world.

Of the over 3,000 farms and businesses that CCOF certifies in California, 2,200 of them are certified to grow organic crops or produce organic livestock and are potential Healthy Soils Program applicants. CDFA reported that organic farmgate sales in California reached more than $10.4 billion in 2019, which represents 40% of all organic production in the United States.[1]

Not only is organic agriculture a significant economic engine in California, organic farming, ranching, and dairy production provide the state with numerous co-benefits including conserving natural resources, protecting pollinators, safeguarding public health, and mitigating climate change.[2] This is why CCOF advocates that state-funded programs offer support to existing organic producers and to producers who would like to transition acreage to organic production.

The fiscal year 2021-22 budget includes $75 million for the Healthy Soils program, and the Office of Environmental Farming and Innovation (OEFI) will soon issue an RGA for an upcoming funding cycle.

As OEFI seeks to improve the program by making changes to the RGA, OEFI should

- **incentivize proposals that implement more than one practice by not using a first come/first served award model and awarding extra points to "systems-based" proposals;**
- **allow materials used for the mulching practice to be produced on-site**

[1] California Department of Food & Agriculture. 2020. *California Agricultural Statistics Review 2019-2020.*
[2] Benador, L. & Damewood, K. & Sooby, J. (2019). *Roadmap to an organic California: Benefits Report.* Santa Cruz, CA: California. Certified Organic Farmers (CCOF) Foundation. https://indd.adobe.com/view/08d24118-8d54-474d-8c2e-1f49328d429b

Incentivize proposals that implement more than one practice
Because stacking multiple conservation practices can create synergistic beneficial effects on soil health,[3] the Healthy Soils Incentives program should encourage producers to submit systems-based projects rather than favor applications for projects that will implement only one practice. The analysis of OEFI's Healthy Soils program conducted by the California Climate and Agriculture Network shows that 61% of Healthy Soils incentives awards made in 2020 were to implement only a single practice.[4] A full 72% of awards made in the years 2017-2020 were for compost application, with percentages dropping off steeply for more complex practices including reduced- and no-till, conservation cover, and nutrient management.[5]

We are concerned that the rolling application process—which funds projects received on a first come/first served basis assuming proposals meet basic administrative standards—discourages growers from implementing intensive soil-building strategies and developing integrated approaches to sequestering carbon, reducing atmospheric greenhouse gases, and improving soil health. It will take more time for a producer to develop a holistic, "systems-based" proposal than to submit an application to implement a single practice, making such proposals less competitive under a first come/first served scenario.

CCOF recommends OEFI:

1. end the first come/first served award procedure
2. implement an application deadline
3. give applicants extra points for proposing to implement more than one practice.

Allow materials used for the mulching practice to be produced on-site
A proposed change in the Incentives RGA would specify that materials used for the "mulching" practice must be produced off site.[6] We are concerned that importing synthetic or natural mulch materials from off-site will incur GHG release. In contrast, utilizing *in situ* residues as a mulch can provide soil-building benefits and reduce the GHG required to transport the mulch. OEFI should withdraw this proposed change and continue to incentivize use of natural materials grown on-site as a mulch.

Thank you for considering our comments. Please do not hesitate to contact me for further information.

Sincerely,

Jane Sooby
Senior Policy and Outreach Specialist

cc: Rebekah Weber, Policy Director, CCOF, Inc.

[3] Lehman, R. & Osborne, Shannon & McGraw, Kimberly. (2019). Stacking Agricultural Management Tactics to Promote Improvements in Soil Structure and Microbial Activities. Agronomy. 9. 539. 10.3390/agronomy9090539.
[4] Shobe, B. & Perry, G. & Merrill, J. (2020). *The California Healthy Soils Program: A Progress Report.* The California Climate and Agriculture Network. https://calclimateag.org/wp-content/uploads/2020/11/CA-HSP-Progress-Report-CalCAN_FinalWeb.pdf
[5] Shobe et al. op cit.
[6] Healthy Soils Program Incentives Program Draft RGA. p. 32.
https://www.cdfa.ca.gov/oefi/healthysoils/docs/2021/2021_hsp_incentives_program_draft_rga.pdf

2155 Delaware Avenue, Suite 150, Santa Cruz, CA 95060 • (831) 423-2263 • fax (831) 423-4528 • ccof@ccof.org • www.ccof.org

From: Donna Boggs <Donna@agamsi.com>
Sent: Thursday, September 23, 2021 1:56 PM
To: CDFA Healthy Soil Program_Technician@CDFA
Subject: Comment to the "Draft 2021 HSP Incentives Program Request for Grant Applications (RGA)"

Follow Up Flag: Follow up
Flag Status: Flagged

BY EMAIL

September 23, 2021

Healthy Soils Program
California Department of Food and Agriculture
CDFA.HSP_tech@cdfa.ca.gov

The California Seed Association provides the following comment to the "Draft 2021 HSP Incentives Program Request for Grant Applications (RGA)."

Since it appears that the Healthy Soils Program (HSP) is planning a first-come-first-serve application period for 2021, we would recommend that the program consider providing 2020 applicants - whose applications were not funded because the program ran out of funding – an early opportunity to re-apply or priority queueing for review vs. new 2021 applications.

The 2021 RGA includes several approved HSP practices that include seeding of native, non-native, and pollinator-friendly plants that include legumes, grasses, forbs, and forages; e.g. conservation cover, contour buffer strips, cover crops, field border, filter strip, range planting and vegetative barrier. Our review of the HSP 2020 grants indicates that applications and funding to implement those types of practices were in the minority.

We would like to work with the HSP to identify California seed companies who have current HSP appropriate seed stock inventories and to work on ways to develop and sustain a California-grown supply of native, pollinator-friendly and California state-wide and regionally appropriate seed stocks focused on catalyzing HSP applications and broader adoption of the HSP planting practices like those mentioned above.

Sincerely,

Chris Zanobini
Executive Vice-President
California Seed Association

From: Sri Sethuratnam <sri@landbasedlearning.org>
Sent: Thursday, September 23, 2021 11:48 AM
To: CDFA Healthy Soil Program_Technician@CDFA
Subject: HSP feedback
Attachments: HSP feedback letter.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Hello,

Please see attached letter with feedback on the HSP program.

Regards,

Sri

Sridharan (Sri) Sethuratnam, Ph.D.

Director - California Farm Academy,
Center for Land-Based Learning,
40140, Best Ranch Road, Woodland, CA 95776

(530) 795-1520 office | (530) 400-9436 mobile

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LinkedIn: linkedin.com/company/center-for-land-based-learning

CENTER for LAND-BASED LEARNING
40140 BEST RANCH ROAD, WOODLAND, CA 95776

Date: 23rd, September, 2021

Office of Environmental Farming and Innovation (OEFI)
California Department of Food and Agriculture (CDFA)
1220 N Street
Sacramento, CA 95814

Re: Healthy Soils Program Comments

Dear OEFI Staff:

The Center for Land-Based Learning is one of the premier beginning farmer training programs in California. Our programs help to create the next generation of regenerative farmers, ranchers, and farm managers. We received a HSP Demonstration project grant in the year HSP was initiated (2017-18). The grant helped to improve highly compacted clay soils in one of our urban incubator farms, and we were one of the two beginning farmer programs in the state that received this grant. The grant also helped us raise the awareness of the importance of healthy soils to many beginning farmers and, because of the urban nature of the project, a much broader audience.

HSP is clear proof of California's commitment to improving and augmenting the health of our food growing lands, and it also contributes to achieve GHG reduction goals. Hence, it is a very important program and one that will make California agriculture a leader in the climate smart farming sector across the world.

While it is a very useful and important program, and the financial support it provides is vital to improving our soils there a few shortcomings that I would like to point out. These observation are based on the work we did in our demonstration project, which as mentioned was in the initial year of HSP.

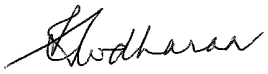
- Soil related changes take time and three years is a fleeting moment in time for natural system transformation. Demonstration projects need to be given more time at least three to four years with HSP funding and one year with matching funds.
- Similarly, outreach and promotion need time to be effective. Outreach has the most impact during the growing season, which limits when we can conduct field days and workshops. A longer term will help to achieve outreach goals.
- Funding for demonstration projects support purchase of inputs (seed and compost) but does not include field work. It will be very helpful if HSP can cover field work especially for urban farms/projects where custom work is necessary and expensive.
- Farmers and ranchers are the target audience and primary metric used to measure project outcomes. I suggest including, especially for urban agriculture projects, other audience members who are interested in or connected to urban farmers and farms. The more people, farmers or otherwise, who know the value of health soils the better.

- The grant application (in 2017) had sections that were structured for organizations doing research only, namely universities. These section were a challenge for non-profits like us. I suggest using simpler language in such sections rather than complicated technical or scientific terms.

In my my opinion these changes will help HSP to reach more organizations and farmers than it is now, and help them adopt climate smart agricultural practices.

I thank you for the opportunity to provide feedback on this very important CDFA program.

Regards,



Sri Sethuratnam
Director – California Farm Academy

From: Pam Krone - NOAA Affiliate <Pam.Krone@noaa.gov>
Sent: Thursday, September 23, 2021 11:14 AM
To: CDFA Healthy Soil Program_Technician@CDFA
Cc: Robert Mazurek
Subject: Comments on Draft RGA for HSP Demonstration Projects
Attachments: CMSF Draft RGA comments to CDFA.docx

Follow Up Flag: Follow up
Flag Status: Flagged

Hello,

Thank you for accepting comments on the draft RGA for the next round of Healthy Soils Demonstration Projects. Please find our comments and suggestions in the attached letter.

Best wishes,
Pam

Pam Krone
Agriculture Water Quality Coordinator
California Marine Sanctuary Foundation I Monterey Bay National Marine Sanctuary
99 Pacific Street, Bldg. 455
Monterey, CA 93940
831-647-4238 (o) 831-224-6627 (c)

September 22, 2021

Secretary Karen Ross
California Department of Food and Agriculture
1220 N Street
Sacramento, CA 95814

Comments Submitted via: **CDFA.HSP_tech@cdfa.ca.gov**

California Marine Sanctuary Foundation's Comments on Draft RGA for the 2021 Healthy Soils Program Demonstration Projects

The California Marine Sanctuary Foundation has worked for over 25 years to advance stewardship and care for the ecosystem health of our marine resources. We recognize the importance of storing carbon in the soils of working lands to the reduction of GHGs in the atmosphere and how this can benefit ocean health. We are grateful for the funding provided to the Healthy Soils program over the past several years and for the commitment to $85 million in FY22-23. We have received three Healthy Soils Demonstration Project grants and have worked with partner growers and ranchers to successfully accomplished soil health practices, have tracked increases in soil organic matter, and have introduced over 1000 people to soil health practices through outreach events.

We appreciate the opportunity to comment on the Draft RFG for the 2021 Healthy Soils Program and contribute the following suggestions:

Type A Project GHG Balance Suggestion:

We believe results from Type A projects would be more meaningful if a simple total budget for estimating the GHG balance for methane, carbon dioxide and nitrous oxide were included in requirements. Rather than requiring only GHG field emissions and SOM storage measurements, also including C and N from fertilizer applications and soil amendments, measurements of soil nitrogen, and plant removal of C and N could lead to a more complete budget of the GHG effect of these practices.

Clarification of Outreach Requirements is Needed (p. 17):

The requirements are not clear for outreach events and this is causing confusion. The wording says, "Farmers must attend demonstration sites…" and then "…this requirement can be met through outreach and education efforts in addition to the mandatory field days." How many mandatory field days are required? Can farmers and rancher who do not attend the demonstration site be counted toward the 120 different individual farmer requirement?

Suggestion to Include Key Influencers of Farmers and Ranchers in the Attendee Count:

Important to influencing the adoption of healthy soils practices by growers are the recommendations of trusted advisors including NRCS, RCDs, CCAs and UCCE researchers. Having these professionals attend outreach events can in turn have a significant effect on practice adoption by growers. Also, in the case of ranch practices, many times the key decision maker regarding practice implementation on ranchlands are land managers including BLM, Park management and land owners. I would argue for increasing the attendance requirement and allowing these types of attendees to "count" toward the requirement.

Past Performance Points Subtracted in Evaluation

1) CDFA grant managers must clearly inform current grantees when they have failed to meet the requirements in any of the areas listed under Past Performance (7.1-7.6). This will help ensure points subtracted are not based misunderstanding or misinterpretation and also to make sure there are no surprises for the grant applicant.
2) COVID has caused interruptions to field work and data collection. Points should not be subtracted from the evaluation for past projects that could not complete requirements due to COVID.
3) Please clarify whether these points will be deducted only for projects that have been completed, after the end of the grant period. Some projects may be able to make up for poor past performance in some of these categories by accomplishing more the last year of the project.
4) As you are subtracting points for poor performance, adding points for positive performance, such as exceeding the number of outreach events and attendees would provide positive incentive.

We believe these recommendations will work to advance the HSP and to increase the program's goals and reach. I would be happy to address questions regarding these comments, please contact me at pam.krone@noa.gov.

Thank you for your consideration,

Robert Mazurek
Executive Director
California Marine Sanctuary Foundation

Pam Krone
Agriculture Water Quality Coordinator
California Marine Sanctuary Foundation

From: Andrea Williams <awilliams@cnps.org>
Sent: Thursday, September 23, 2021 3:47 PM
To: CDFA Healthy Soil Program_Technician@CDFA
Cc: Nicholas Jensen
Subject: Comments on HSP Grant Application Revision

Dear CDFA OEFI Staff,
We appreciate the opportunity to comment on the Healthy Soils Program grant application revisions, and feel overall the changes are needed and common-sense shifts and clarifications. We would request that in addition to a link to the Biodiversity Action Plan, the suggestion of having native species planting as a default for cover and hedgerow cropping be explicit in the guidelines. Additionally, if the compost application on rangelands follows the recommendations in the Compost Application White Paper, that only application on Priority--ie, degraded--sites be allowed until a clear evaluation process for other areas is delineated.
Thank you,

Andrea Williams, CCB-0027

Director of Biodiversity Initiatives
California Native Plant Society
2707 K Street, Suite 1
Sacramento, CA 95816

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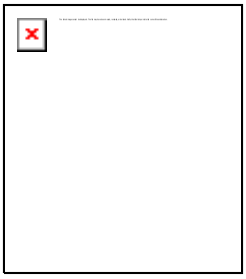

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From: Jan Dietrick <jdietrick9@gmail.com>
Sent: Thursday, September 23, 2021 2:11 AM
To: CDFA Healthy Soil Program_Technician@CDFA
Subject: Comment on HSP Program and SWEEP

Follow Up Flag: Follow up
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DIETRICK INSTITUTE
Applied Insect Ecology

Public Comment for CDFA's Healthy Soils Initiative

We endorse the recommendations by CalCAN to prioritize disadvantaged farmers, translate program materials, modify guidelines to fit the realities of insecure land tenure and regional variation in costs. The program needs to include gathering soil test data and other data to help improve the models, research, and educate farmers. At a higher level we would also like to see the Healthy Soils Program disallow toxic inputs--pesticides and excess artificial nitrogen fertilizer, distinguish the value of multi-species mowed perennial cover crops versus disked covers with less than eight species, credit practices retroactively, and properly account for enteric methane from animal compost.

Stop grants to farmers that use toxic inputs

We look forward to when toxic inputs are no longer allowed on farms receiving HSP grants--specifically the danger-level pesticides and the herbicides to kill cover crops and excess artificial nitrogen that burns up organic matter. The extra points for applicants who are transitioning or are certified organic, Biodynamic or Regenerative Organic Certified is a step in the right direction. See the appendix for further justification of this point.

Increase payments for mowed perennial covers of approximately eight or more plant species

The Jena Experiment and other studies show a community tipping point of microbial diversity in soil associated with a slight speeding up of carbon sequestration with more species in the mix. Additionally with every additional species in the cover crop or pasture past the tipping point, the Soil Organic Matter (SOM)

increases by going deeper. At least eight plant species in a mix may be a minimum for microbial quorum sensing in soil. California's increasingly droughty Mediterranean climate requires examination of this hypothesis, especially where there are now generally more than six months without rainfall. Sufficiently diverse covers (e.g. 10+ species) have been shown to perform well during drought compared to one or two species covers that never grew. The practice of planting such highly diverse multi-species mowed perennial covers, such as in citrus and other tree crops, should be rewarded even if the jury is not in. Rewards are appropriate, because the multi-species mixes are more expensive and the management, such as mowing, harvest methods, and evaluation increases the expense. Those receiving suitably sized grants for this practice might be required to gather some data to help improve the models for carbon, nitrogen, and water holding capacity. The USDA is supposed to be amassing more data for better models of different practices in different conditions, but we need a plan for such data collection about multi-species mowed perennial covers in California.

Pay early adopters, especially for more diverse, improved perennial cover crops

Early adopters of HSP practices should be compensated either by retroactive applications similar to how Nori accounts for practices going back 10 years. https://nori.com/resources/croplands-methodology Repeating some practices should be allowed to maintain or increase SOM. Also, innovative farmers need recognition as effective stimuli for learning by neighboring farmers. There must be a way to structure the HSP so that the early adopters and new learners see themselves together in a community learning mode for continuous improvement which does not seem to happen when early adopters cannot qualify for HSP grants.

Use the 20 year window for Global Temperature Potential (GTP) for methane from manure compost

CARB's assumptions result in over-estimating the net GHG benefits from the application of manure compost, meanwhile the over 2.4 million ruminant livestock in the state are helping warm the planet. Payments for proposals following the Marin Carbon Project model are probably not defensible. Proper accounting of GTP needs to pay attention to the enteric methane associated with making the compost. It is imperative that CARB tax methane emissions at the social cost to raise prices of beef and dairy and reduce herd size.

PROPOSING A NEW PRACTICE: "Drift-Protected Habitat Management for Biological Pest Control"

Xerces recommended a practice "Upland Wildlife Habitat Management for Pollinators" to "incentivize producers to maintain existing high-quality habitat and to adopt and maintain management practices that decrease negative impacts to pollinators and other wildlife (e.g. pesticide risk reduction)." In many areas it is likely hard to find "existing high-quality habitat". Whether existing or enhanced habitat is to be proposed for special management, the highest value is for beneficial predators and parasitoids because they may be the organism that best prevents a pest problem. In areas where there is drift from toxic chemical pesticides, the protection of parasitoid wasps and flies, especially ecto-larval parasitoids, probably ensures the safety of pollinators and other wildlife.

Summary

Let's stop fooling ourselves that it is acceptable to use toxic inputs on farms while claiming and taking credit for sequestering carbon and creating biodiversity. Let's find a way to reward successful farmers who have been practicing how to build healthy soil. Let's offer commensurate rewards that maximize the multiple benefits of mowed perennial cover crops that are composed of over a dozen plant species in living soil growing more carbon deeper each year.

Yours,

Jan Dietrick, MPH, Executive Director
Dietrick Institute for Applied Insect Ecology
Ventura, CA 93001
805-746-5365

ADDENDUM

Further justification for disallowing toxic inputs on HSP grantee farms

Farming areas are 48 times more toxic to honeybees and other organisms than 25 years ago, due to pesticides. There is a precipitous and unsustainable decline in all pollinators (butterflies, bees, moths, flies, etc.), which are critical for our food supply and are the basis of our entire ecosystem. Insect-eating birds, fish, bats and reptiles have plummeted due to insect loss due to pesticides, affecting the entire food chain. The air and water pollution from pesticides has immeasurable consequences in airsheds and downstream. A rapid reduction in toxic inputs and pesticide use should be a priority for CDFA as well as CalEPA and CNRA. Fortunately, there are solutions that do not include toxic inputs. Biologically based agricultural systems can often prevent pests and disease or keep them under economic thresholds. HSP must reduce the negative externalities on soil microbes and plant health from toxic inputs and allow for a healthy non-toxic agricultural system itself to build fertility and harbor significant amounts of biodiversity that correlates with carbon sequestration.

A new study "Pesticides and Soil Invertebrates: A Hazard Assessment", Gunstone, T., et. al., 2021, found that in 71% of cases studied, pesticides across all classes studied, kill or harm soil invertebrates including earthworms, ants, beetles and ground nesting bees. The review shows "extensive evidence that pesticides pose a serious threat to soil invertebrates and the essential ecosystem services that they provide" and supports "inclusion of a soil health analysis in the US pesticide risk assessment process." This common sense principle is now validated by an abundance of science. The same is true of excess use of artificial nitrogen. It should be a condition for grantees of California's Healthy Soils Program to be organic or otherwise provide evidence that such toxic inputs are not applied. Focusing the HSP program on organic farmers' needs, while the USDA label is compromised in some areas, is the best policy for achieving climate and biodiversity goals. (CCOF, Roadmap to Organic-Policy Report, 2020).

From: James Dunbar <jdunbar@lystek.com>
Sent: Thursday, September 23, 2021 3:06 PM
To: CDFA Healthy Soil Program_Technician@CDFA
Subject: Public Comment to the 2021 CDFA HSP Incentive Program

Follow Up Flag: Follow up
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We respectfully submit the following comment(s) to the 2021 CDFA HSP Incentives Program…

For eligible agricultural management practices, the program should allow for an expanded range of products to be qualified for the program. For example, it appears that only compost is an eligible material. However, there are other organic-based fertilizer products that should be considered as alternative products. It is suggested that a qualified product should be allowed if it is a CDFA registered or licensed bulk fertilizer not produced from chemical or synthetic based feedstocks.
The minimum qualification for performance would still be the minimum reduction of 15% in traditional fertilizer applications.

Our company has produced an organic and nutrient rich bulk fertilizer made from organic and biosolids based feedstocks and has been successfully used on agriculture farms and ranches in northern California. This incentive program would be extremely beneficial to farmers and ranchers who desire to reduce the overall greenhouse gases used in the production, distribution, and application of these chemical/synthetic fertilizers.

Please feel free to contact me if you have any questions…thank you,

---

James Dunbar, P.E.
General Manager/
Business Development Manager - California

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From: Asha Sharma <asha@panna.org>
Sent: Thursday, September 23, 2021 10:56 AM
To: CDFA Healthy Soil Program_Technician@CDFA
Subject: Public Comment: Draft 2021 HSP Incentives Program RGA
Attachments: HSP RGA Public Comment Sept 2021.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Dear OEFI Staff:

I have attached the Pesticide Action Network's and Californians for Pesticide Reform's public comment letter on the Draft 2021 HSP Incentives Program RGA. We would welcome a conversation with staff on our recommendations and on any questions or comments that may arise.

Thank you for the opportunity to comment.

Best,
Asha

--
Asha Sharma
(Pronouns: she/her)
Organizing Co-Director, California
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2029 University Ave., Suite 200, Berkeley, CA 94704
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Californians For Pesticide Reform

September 23, 2021

Office of Environmental Farming and Innovation
California Department of Food and Agriculture
1220 N Street
Sacramento, CA 95814
Submitted via email to CDFA.HSP_tech@cdfa.ca.gov

Re: The 2021 HSP Incentives Program RGA must be amended to be inclusive of small and BIPOC farmers and include IPM conservation practices

Dear Office of Environmental Farming and Innovation (OEFI):

On behalf of the Pesticide Action Network (PAN) and the statewide coalition Californians for Pesticide Reform (CPR), we thank you for the opportunity to comment. We are very pleased that the legislature has allocated $75 million in FY 2021-22 and proposed to allocate $85 million in FY 2022-23 to the Healthy Soils Program (HSP). However, in order for these investments to make the largest impact on climate change mitigation and soil health while achieving state equity goals, we urge OEFI staff and CDFA to take significant steps to make the 2021 RGA more inclusive, and include Integrated Pest Management (IPM) conservation practices under the eligible conservation practices. Our detailed recommendations are below:

1) Add the NRCS Conservation Practice Standard Pest Management Conservation System Code 595 to the Eligible Conservation Practices

In its current form, the HSP Incentives Program fails to incentivize conservation practices that minimize the use of pesticides -- a critical need in order for California to reach its climate change mitigation goals. The science continues to mount, proving that pesticides contribute significantly to greenhouse gas emissions directly, by acting as greenhouse gases themselves or by releasing greenhouse gas emissions indirectly by impacting soil health. Organic systems, which minimize the use of synthetic pesticides and add organic inputs to the soil, have also been shown to reduce climate impacts. **In the attached Appendix I we detail the state of the science behind these findings.**

Given these research findings, we strongly urge OEFI staff to add the NRCS Conservation Practice Standard Pest Management Conservation System Code 595 to the list of eligible conservation practices under the Incentives Program RGA. This standard incentivizes farmers to transition away from toxic pesticides towards IPM practices that reduce the use of pesticides and emphasize a more holistic approach towards preventing and addressing pest pressure. In order to ensure that farmers that adopt this conservation practice achieve the intended results, we strongly

recommend that the program require applicants to demonstrate a reduction in pesticide use over the project period.

2) Minimize Reporting Requirements

As is, the application process and reporting changes in practices during the project period are overburdensome to farmers. For instance, minor changes in practices during the project period can require extensive paperwork that many producers, particularly small farmers, do not have time for. The HSP Incentives Program RGA must be amended to allow for on-farm experimentation, and allow farmers to figure out what practices work best for them and how to implement them, without overburdening them with paperwork.

Planning what conservation practices will be used on a single field for three years is a challenge for farmers, particularly on diversified farms with crop rotations. Many farmers are experimenting and learning what works as they go (e.g. experimenting with cover crop type and termination date); therefore, the program should better accommodate these changes without the onerous paperwork required of applicants. The program should have more streamlined, minimized reporting and be adjusted to allow for on-farm experimentation and changes without the accompanying bureaucracy during the project duration.

Without these changes, we are concerned that many farmers, particularly small farmers and socially disadvantaged farmers, will choose not to apply to the program in the future. We recommend that OEFI staff host an interagency meeting and listening sessions with farmers, at appropriate times and in multiple languages, to design the program to minimize reporting barriers, and find ways to foster on-farm experimentation with healthy soil practices.

3) Eliminate the "First Come, First Served" Application Process

CDFA has expressed a clear commitment to serving socially disadvantaged farmers and ranchers in California.[1] However, considering applications on a rolling basis excludes socially disadvantaged or small farmers who may lack the same resources, English proficiency or staffing capacity as larger farms. These barriers can result in slower application submissions, putting these farmers at a disadvantage in the application process.

We strongly urge OEFI staff to instead implement a 12-week application period and consider all applications at once at the end of the period. In order to reach small and socially disadvantaged farmers, OEFI staff should aim to distribute as many grants to as many farmers as possible, rather than awarding multiple grants to the same large farm or producer. We are happy to help advocate for additional resources that may be needed to adopt these changes.

4) Allow Farmers with One or Two-Year Leases to Apply

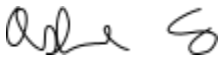
The program requires that "applicants must lease, own or otherwise control the fields and APNs where project activities are proposed to occur for the entirety of the project duration" or three years. However, many beginning farmers, small farmers or farmers of color rent their land -- and do not necessarily have a full three-year lease term. Therefore, the RGA should be amended to a

[1] 2020 Report to the California Legislature on the Farmer Equity Act. https://www.cdfa.ca.gov/farmerresources/pdfs/2020FarmerEquityReport.pdf

minimum of one-year lease in order to be more inclusive of farmers that lack longer lease terms but still are committed to healthy soil practices.

Thank you again for the opportunity to comment, and we would welcome a discussion with you or your staff on these topics to address any further questions or comments.

Sincerely,



Asha Sharma
California Organizing Director, Pesticide Action Network

Margaret Reeves
Senior Scientist, Pesticide Action Network

Jane Sellen
Co-Director, Californians for Pesticide Reform

Sarah C. Aird
Co-Director, Californians for Pesticide Reform

##########

Pesticide Action Network *(PAN) North America is one of five regional centers worldwide representing hundreds of organizations in more than 90 countries. We work to promote the transition to a more just and sustainable food and agriculture system that is free from hazardous pesticides. We represent more than 5,000 California members.*

The statewide coalition ***Californians for Pesticide Reform*** *(CPR) is a statewide coalition of 200+ organizations working together to protect public health, improve environmental quality and support a sustainable and just agricultural system by building a diverse movement across California to change statewide and local pesticide policies and practices.*

Appendix I: Pesticides' contribution to greenhouse gas emissions

Commonly-used fumigants contribute to GHG nitrous oxide emissions

- Soil fumigants, which are injected as a gas or applied via irrigation into soil to control weeds, pests and soil borne diseases, can cause increased emissions of nitrous oxide (N_2O). They represent roughly one-fifth of the pesticides used in California. A recent study shows that the application of the third most commonly-used fumigant in California -- chloropicrin -- can increase N_2O production by 700-800%[2]. Researchers concluded that similar classes of fumigants would yield similar increases in emissions.
- A later study found that, in addition to chloropicrin, two other MITC-producing fumigants - metam sodium and dazomet - also increase nitrous oxide production significantly.[3] Altogether nearly 20 million pounds of these three fumigants are used every year on California fields.[4] This study didn't consider the MITC-producing fumigant metam potassium, another commonly-applied fumigant of which approximately 8.5 million pounds are applied in California each year, and which we expect would produce the same impact.
- Compared to fertilizer-induced N_2O emissions, which generally return to background rates within 2 weeks after application, the effect of fumigant-induced N_2O emissions were found to last more than 48 days.[5]

Pesticides contribute to formation of GHG tropospheric ozone (O_3)

Eighty to ninety percent of pesticides may volatize within a few days of application.[6,7] Volatile organic compounds (VOCs), including pesticide VOCs, react with sunlight and NO_x to form tropospheric ozone (O_3),[8] a GHG that is harmful to plants and animals. Tropospheric O_3 is **the third most important greenhouse gas** after carbon dioxide (CO_2) and methane (CH_4).[9] Its abundance is controlled primarily by emissions of CH_4, carbon monoxide (CO), nitrogen oxides (NOx), and VOCs. VOC pesticides include the fumigants methyl bromide, 1,3-dichloropropene, chloropicrin, metam sodium, metam potassium and dazomet. In California's San Joaquin Valley VOC nonattainment areas, 65% of pesticide VOC emissions are from high VOC formulations of

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[2] Spokas K., Wang D. 2003. Stimulation of nitrous oxide production resulted from soil fumigation with chloropicrin. *Atmospheric Environment* 37 (2003) 3501–3507. https://doi.org/10.1016/S1352-2310(03)00412-6

[3] Spokas K., Wang D., Venterea. R. 2004. Greenhouse gas production and emission from a forest nursery soil following fumigation with chloropicrin and methyl isothiocyanate. *Soil Biology & Biochemistry* 37 (2005): 475–485. https://doi.org/10.1016/j.soilbio.2004.08.010.

[4] Department of Pesticide Regulation annual Pesticide Use Reports. https://www.cdpr.ca.gov/docs/pur/purmain.htm.

[5] Spokas, K., Wang, D., Venterea, R. & Sadowsky, M. (2006) Mechanisms of N2O production following chloropicrin fumigation. *Applied Soil Ecology* **31**, 101-109.

[6] Majewski, M. S. & Capel, P. D. (1996) Pesticides in the atmosphere: distribution, trends, and governing factors. Vol. 1 (Ann Arbor Press, Inc.; CRC Press.

[7] Aktar, M. W., Sengupta, D. & Chowdhury, A. (2009) Impact of pesticides use in agriculture: their benefits and hazards. Interdisciplinary toxicology 2, 1-12, doi:10.2478/v10102-009-0001-7.

[8] Marty, M., Spurlock, F. & Barry, T. (2010) in Hayes' Handbook of Pesticide Toxicology (Third Edition) (ed Robert Krieger) 571-585 (Academic Press.

[9] Atmospheric Chemistry and Greenhouse Gases - IPCC https://www.ipcc.ch/site/assets/uploads/2018/03/TAR-04.pdf

non-fumigant pesticides including abamectin, chlorpyrifos, gibberellins and oxyfluorfen.[10] The contribution of these pesticides must also be measured.

Sulfuryl fluoride contributes to GHG emissions

Sulfuryl fluoride is a toxic air contaminant and an extremely potent short-lived climate pollutant, reported to have a 20-year Global Warming Potential (GWP) of 6,840. It's also one of the most commonly-used fumigants in the state, with almost 3 million pounds applied in California in 2018, mainly for structural fumigation but with 0.5 million pounds used for post-harvest fumigation of nuts and other commodities.[11] Between 50 to 60% of the entire global usage of sulfuryl fluoride takes place in California.[12] It is also an extremely toxic pesticide and a neurotoxin, which causes illness, disabilities and death.

Synthetic pesticides inhibit the ability of soil to sequester carbon and can lead to increased use of synthetic fertilizers

Synthetic pesticides, through their deleterious effect on microorganisms, decrease the soil's capacity to sequester carbon, build soil organic matter (SOM) and provide the many associated benefits including cycling and provision of nutrients, suppression of phytopathogens, and building resistance to both biotic and abiotic stressors. Pesticide impacts include inhibition of N-fixing bacteria, decreased populations of mycorrhizal fungi, detrimental shifts in nematode populations, and decimation of earthworm populations.[13] Applications of the common fungicide captan, for example, is associated with decreased populations of N-fixing bacteria and increased populations of denitrifiers (and potential generation of NO_2).[14] Reduced N-fixation requires more synthetic N fertilizers, also leading to greater N_2O emissions.

- A recent review of almost 400 studies showed pesticide use was associated with damage to soil invertebrates in more than 70% of the studies.[15] Soil invertebrates are critical to carbon sequestration in soils, being responsible for the formation of more than 50% of soil aggregates, which are essential to building soil organic carbon.[16]

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[10] https://ucanr.edu/blogs/blogcore/postdetail.cfm?postnum=11273

[11] Department of Pesticide Regulation annual Pesticide Use Reports. https://www.cdpr.ca.gov/docs/pur/purmain.htm.

[12] Gallagher, G., Zhan, T., Hsu, Y. K., Gupta, P., Pederson, J., Croes, B., ... & Wolf, K. (2014). High-global warming potential F-gas emissions in California: Comparison of ambient-based versus inventory-based emission estimates, and implications of refined estimates. *Environmental science & technology*, 48(2), 1084-1093.

[13] Pesticide Action Network (2020) Pesticides and Soil Health: State of the Science and Viable Alternatives http://www.panna.org/resources/pesticides-and-soil-health-state-science-and-viable-alternatives

[14] Martınez-Toledo MV, Salmeron V, Rodelas B, Pozo C, Gonzalez-Lopez J. 1998. Effects of the fungicide Captan on some functional groups of soil microflora. *Applied Soil Ecology* 7: 245–255; doi: https://doi.org/10.1016/S0929-1393(97)00026-7.

[15] Gunstone et al. (2021) Pesticides and Soil Invertebrates: A Hazard Assessment, Frontiers in Environmental Science. 9, 122. https://www.frontiersin.org/article/10.3389/fenvs.2021.643847.

[16] Stork, N. E., and Eggleton, P. (1992). Invertebrates as determinants and indicators of soil quality. Am. J. Altern. Agric. 7, 38–47. doi: 10.1017/S0889189300004446.

- Research shows that soil microbial activity decreases proportionally to the amount of pesticides applied to the soil.[17] Not only are soil microbes essential for the breakdown of carbon from organic matter, but they also help form stable soil organic carbon and persistent soil organic matter (SOM) through the formation of soil microaggregates, which protect SOM from decomposition.[18] This process is essential for carbon sequestration in soils.

Organic farming as a critical nature-based climate solution

Previous investment plans have not incorporated the latest science that outlines the climate benefits of organic farming. Achieving carbon neutrality requires building on proven tools for sequestering carbon and reducing emissions. UC California research points to organic farming as an effective method to sequester carbon and reduce GHG emissions.

- A UC Davis Long-Term Research on Agricultural Systems (LTRAS) study found that after 10 years, organic systems resulted in 14 times the rate of carbon sequestration as the conventional system[19]. After 20 years, organically-managed soils sequestered significantly more soil organic carbon than conventionally-managed soils[20].
- Organic agricultural systems, which avoid the use of synthetic fertilizers and pesticides, have been found to significantly reduce greenhouse emissions -- with one study showing organic management to increase soil organic carbon by 36 percent after 12 years in California cropping systems.[21]
- Organic crop and livestock production practices build long-term soil fertility, creating healthy soils that can store increased levels of nutrients, including carbon[22].
- The Rodale Farming Systems Trial, which is the longest running organic comparison study in the United States, documented that after 22 years, soil organic carbon increased by 15-28% in organically-managed soils compared to 9% in the conventionally-managed soils[23].

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[17] AL-Ani, M. A., Hmoshi, R. M., Kanaan, I. A., & Thanoon, A. A. (2019, September). Effect of pesticides on soil microorganisms. *Journal of Physics: Conference Series* (Vol. 1294, No. 7, p. 072007). IOP Publishing.

[18] Gougoulias, C., Clark, J. M., & Shaw, L. J. (2014). The role of soil microbes in the global carbon cycle: tracking the below‐ground microbial processing of plant‐derived carbon for manipulating carbon dynamics in agricultural systems. *Journal of the Science of Food and Agriculture*, 94(12), 2362-2371.

[19] Kong, A. Y., Six, J., Bryant, D. C., Denison, R. F., & Van Kessel, C. (2005). The relationship between carbon input, aggregation, and soil organic carbon stabilization in sustainable cropping systems. *Soil Sci Soc Am J.*, 69, 1078-1085.

[20] Wolf, K., Herrera, I., Tomich, T. P., & Scow, K. (2017). Long-term agricultural experiments inform the development of climate-smart agricultural practices. *California Agriculture, 71,* 120-124.

[21] Horwath, W. R., Deveˆvre, O. C., Doane, T. A., Kramer, T. W., and van Kessel, C. (2002). Soil carbon sequestration management effects on nitrogen cycling and availability. In "Agricultural Practices and Policies for Carbon Sequestration in Soil" (J. M. Kimble, R. Lal, and R. F. Follett, Eds.), 155–164.

[22] Suddick, E. C., Scow, K. M., Horwath, W. R., Jackson, L. E., Smart, D. R., Mitchell, J., . . . Six, J. (2010). The potential for California agricultural crop soils to reduce greenhouse gas emissions: a holistic evaluation. *Advances in Agronomy, 107,* 123-162.

[23] Pimentel, D., Hepperly, P., Hanson, J., Douds, D., & Seidel, R. (2005). Environmental, energetic and economic comparisons of organic and conventional farming systems. *Bioscience, 55*(7), 573-583.

- An extensive 2017 study comparing soils from 659 certified organic farms and 728 conventional farms found that organic farms across 48 states sequester significantly more carbon than conventional farms[24].
- Globally, evidence shows that organically-managed soils hold more carbon and have higher rates of carbon sequestration than soil from non-organic systems[25].
- One meta-analysis of 59 studies found total soil organic carbon to be on average 19% higher in organic than conventional systems.[26]
- Another metaanalysis found that organic farming practices led to soil organic carbon stocks that were 3.50 ± 1.08 Mg C ha−1 higher than in nonorganic systems over a 14 year period, and could offset 36% of total emissions from the agricultural sector in the United States.[27]

Omitting whole-farm solutions like organic farming ignores the latest science and misses the opportunity to adopt multiple climate-mitigating practices through one strategy. Furthermore, agricultural practices currently emphasized in the HSP, such as no-till, could result in an increase in pesticide use unless pesticide reduction is actively incentivized. For instance, a recent meta-analysis of peer-reviewed articles from 1985–2016 showed a greater concentration of atrazine, cyanazine, dicamba, and simazine in runoff from no-till than in conventional till fields.[28]

Pesticides contribute to climate change at all stages of the pesticide life cycle and merit action along with additional study

Pesticides' role in contributing to climate change has been insufficiently studied. The studies that do exist indicate that pesticides increase GHG emissions, but there is much research still to be conducted, and this research must be holistic and include all direct and indirect aspects of the pesticide life cycle: from production to transportation, storage, energy costs of application, emissions arising from applications, and pesticide-derived modifications of environmental processes involved in the GHGs flux exchanges. When full life cycles of pesticides are studied, their contributions to GHG emissions are much higher. For instance, one study of pesticides' contribution to GHG emissions looked at a typical drip irrigated tomato system in South Florida. It showed agrochemicals as the largest contributor of GHG emissions. Pesticides (12.8% of

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[24] Ghabbour, E. A., Davies, G., Misiewicz, T., Alami, R. A., Askounis, E.M., Cuozzo, N.P., . . . Shade, J. (2017). Chapter one - national comparison of the total and sequestered organic matter contents of conventional and organic farm soil. *Advances in Agronomy, 146,* 1-35.

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[26] Lori M., Symnaczik S., Mäder P., De Deyn G., Gattinger A. 2017. Organic farming enhances soil microbial abundance and activity – A meta-analysis and meta-regression. PLOS ONE. 25. https://doi.org/10.1371/journal.pone.0180442 July 12.

[27] Gattinger, A., A. Muller, M. Haeni, C. Skinner., A. Fliessbach, N. Buchmann, P. Madder, M. Stolze, P. Smith, N.E. Scialabba, and U. Niggli. 2012. Enhanced topsoil carbon stocks under organic farming, PNAS. 109 (44) 18826-18231. https://doi.org/10.1073/pnas.1209429109

[28] Elias, D., Wang, L., & Jacinthe, P. A. (2018). A meta-analysis of pesticide loss in runoff under conventional tillage and no-till management. *Environmental monitoring and assessment*, 190(2), 1-17.

agrochemicals applied) accounted for 61% of agrochemical-GHG emissions[29]. Of those emissions, soil fumigants, fungicides and herbicides accounted for 34%, 17% and 10%, respectively. Only energy used for production, transportation and storage were included; energy costs of application were not, meaning the contribution was likely even higher than the study estimated.

[29] Jones, C. D., Fraisse, C. W. & Ozores-Hampton, M. (2012) Quantification of greenhouse gas emissions from open field-grown Florida tomato production. *Agricultural Systems* **113**, 64-72, doi:https://doi.org/10.1016/j.agsy.2012.07.007.

From: Kelly O"Roke
To: CDFA Healthy Soil Program_Technician@CDFA
Subject: Healthy Soils Public Comment
Date: Friday, September 10, 2021 11:07:11 AM

Good Morning,

I direct a regional non-profit here in Humboldt County,CA which provides financial support for sustainability for licensed Cannabis operators. This year we were awarded a $50,000 grant to subsidize environmental certification for Cannabis. In the 3 months since the award was announced, we have brought on over 16 new small farms, many of them family run, and we provided subsidies for 15 renewing farms as well. So far we have saved the small producers here over $35,000 in certification fees and were also able to identify and stop the use of many non-approved materials and practices through the process of inspection and certification.

The largest portion of subsidies went to a regenerative certification for hemp and cannabis called Sun+Earth Certified, which requires crops to be grown in native living soil and under the sun without supplemental lighting. They also require that certified farms' practices must result in a measurable decrease in the amount of imported NPK-- instead focusing on closed-loop systems which regenerate and revitalize the soil and surrounding eco systems. I would love to share more about some of these operations with anyone who is interested to learn, and could also facilitate farm tours or phone calls with the over 30 licensed farms we are assisting this year if you need more input from farmers.

I know Cannabis has a bad reputation in terms of environmental impact, but the truth is there is a large community of small, organic, family-run farms who could really use financial support to either implement more regenerative practices and offset costs of certification, receive money back on their excise taxes due to these "way above the bar" practices and also this money would really go a long way to help local agricultural suppliers achieve OMRI/CDFA/CCOF approval, which in turn helps the farmers prove they are farming organically or regeneratively. Most importantly, the Cannabis market is skewing toward large-scale, indoor production--a tragedy in terms of our climate battle. The market has bottomed out for sun-growers, and they are barely holding on financially. A program like this could provide a lot of relief for the farmers who are already restoring soils, and are in danger of losing their farms due to market conditions.

I do not see an explicit exclusion for these types of regenerative Cannabis gardens in your RGA. I hope that this means that eligible operations could apply for these funds. Is it correct that Cannabis farmers could apply?

I wish I could somehow properly explain what I see and feel (and taste) when I visit a regenerative farm and I want to encourage the dept that there are VERY creative, motivated and passionate (LICENSED) Cannabis and vegetable farmers in the Cannabis world who could share much knowledge with the non-cannabis agricultural world and could also do much good in getting the rest of the regulated Cannabis industry implementing these practices at large scale. This emerging market stands a very good chance at building systems which are more sustainable than the prior centuries agricultural practices.

Yesterday I visited an incredible biodynamic farm in Mendocino County which recently acquired 5000 sq feet of cannabis, just to help support their organic orchards and vineyards. It was the most inspiring farm I've visited to date. These people have so much they could share with the larger cannabis community, and also have much to learn about Cannabis cultivation (their first crop went was seeded and unsellable because they didn't know to separate males!) But they have the right idea-- the price per pound of this agricultural product could well help to offset the deflated prices of other organic produce, **making smaller scale farming VIABLE.** But if we let all of our small regenerative Cannabis farmers go under during a market crash that was a result of State policy, we all lose! If we allow Cannabis to just develop into an industrial commodity, we have less chance at expanding these practices to the larger agricultural world.

I originally come from Oklahoma. My grandfather was born to a starving family in a 2 room farm house in southwest OK in the midst of arguably the worst man-made ecological disaster in history, the great plow up-- the dust bowl. I grew up in the long aftermath of both that, and the corporate industrial takeover of farming and ranching. The legacy is never-ending debt and poverty. The legacy is destroyed rural communities, addiction, disillusionment, and food deserts. Inadequate schools and families spread out through the search for work. If only we could have known back then that ever bigger yield, no bugs, and 'efficient' management taken too far would lead to a massive loss of culture, a massive loss of vitality in our soils and waterways, a massive loss of jobs, of meaningful ways of living and relating with each other.

We need small farms, we need healthy soils. Cannabis flower can sell for over $2000 per pound. This little flower can not only make California's economy boom, but also revitalize small farming culture, regeneration of the soil, and creative cutting edge management practices that bring together science and traditional knowledge. Please consider including non-profits or individual cannabis farmers in this RGA. Like many AG programs, technical assistance through a non-profit like ours could greatly facilitate program participation and we would certainly apply on behalf of our farms, if we were eligible.

Thank you so much for reading this message. I will plan to attend the Webinar.

Kelly O'Roke
Director of the Redwood Alternative Agriculture Fund
707-630-2275
www.raafhumboldt.org

From: Adria Arko <adria@sanmateorcd.org>
Sent: Thursday, September 23, 2021 2:53 PM
To: CDFA Healthy Soil Program_Technician@CDFA
Subject: HSP RGA Comments
Attachments: HSPInventivesDraftRFP_Comments_09222022.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

To whom it may concern,
Please see San Mateo Resource Conservation District's comments on the RGA for the Healthy Soils Program attached.
Best,

Adria Arko (she/her)
Senior Program Manager: Climate and Agriculture
San Mateo Resource Conservation District
Office:650.712.7765x105
Cell: 831-216-8020
Website | Ag Ombudsman Site | Facebook | Instagram

SAN MATEO RESOURCE CONSERVATION DISTRICT

*I am currently working remotely, so email is preferred.

SAN MATEO RESOURCE CONSERVATION DISTRICT

PHONE: 650.712.7765

80 STONE PINE ROAD, SUITE 100
HALF MOON BAY, CA 94019

SANMATEORCD.ORG

September 23, 2021

California Department of Food and Agriculture
1120 N Street
Sacramento, CA 95814

Re: 2020 CDFA HSP Incentives Program- Request for Grant Applications Draft for Public Comment

To whom it may concern:

Thank you for the opportunity to share our comments on the 2021 Healthy Soils Incentives Program Request for Grant Applications. San Mateo Resource Conservation District has been a Technical Assistance Provider for several years. **We appreciate the funding opportunity that CDFA has made available for agricultural producers** and have a few recommendations to improve the program by expanding eligibility and accessibility, and opportunities for accelerating adoption of healthy soils and conservation practices.

CDFA's Compost White Paper lists "conservation lands" are ineligible for rangeland compost application, however there is no specific reasoning behind this or no clarification for what conservation lands are. Many agricultural lands in California in conservation easements, either through the state's Williamson Act or private easements. Conservation landowners are well positioned as conservation partners to be effective implementers of healthy soils practices, including rangeland compost application. In San Mateo County, where most of the agricultural land is owned by conservation landowners, we have both tenants and landowners interested in the rangeland compost practice to restore degraded soils. The grazing lands where we've recommended the practice through our Conservation and Carbon Farm Plans meet all the other factors for eligibility included in the Compost White Paper. Since the program requires evaluation for this practice, **conservation lands should be eligible for the Healthy Soils Program.**

We understand CDFA's intention to develop the rolling application period because projects may get implemented faster. However, as we, and other TAPs, have shared previously, the rolling application period was very challenging and frustrating for both producers and TAPs to navigate. In a survey following last year's HSP grant period **100% of farmers said the rolling application was "okay" or worse.** Farmers who spent time on their applications before the funding was allocated, felt as though their work wasn't worth it because their project wasn't even reviewed, reducing their desire to engage with CDFA and our RCD on this program in the future. The rolling application period ignores the fact that some farmers may not be able to operate under the quick application period because they are small, work alone, want to be educated on the practices they could apply for, or don't speak English as their primary language, which are not reasons to prevent them the opportunity to access this funding. **A set application period would allow each farmer, regardless of size or resources, the same amount of time to prepare their application and it would ensure that all the work that went into thoughtfully prepared applications was worthwhile** because applications would all be reviewed.

We are very lucky to have a state agency working to incentivize adoption of healthy soils practices, however, to increase adoption, TAPs need time to do adequate outreach and work with producers on project ideas. Unfortunately, the TAP contracts have been executed just one to two weeks before the grant solicitation is released. Planning a workshop with enough notice for producers to attend takes at least four weeks. Connecting with producers on site to provide the technical assistance we are contracted to do also takes time. As previously discussed with CDFA, **the RGA should be released at least six weeks after TAP contracts are executed, so that quality outreach about HSP can be conducted to help more farmers enroll in the program.**

A new addition to this RGA is for milkweed requirements for Conservation Cover projects. Xerces Society does not recommend planting native milkweed within 5-10 miles of overwintering sites on the coast in Central and Northern California. There are other beneficial pollinator and monarch species that can be planted. **To avoid detrimental environmental impacts, we suggest that you require that the farmer consult with a technical assistance provider to determine the best species to plant.**

Lastly, the cost of implementation of projects (materials, labor, transportation, etc.) is higher in San Mateo County, and in other high-cost counties, then most other places in the state, so average reimbursement rates do not always cover the cost of the project in those areas, reducing incentive for farmers to participate and **adding costs to farmers who are already burdened by other high costs in these areas, many of whom are small farms**. While we appreciate that CDFA is working with NRCS to align reimbursement rates to the Environmental Qualities Incentives Program, we hope you will also consider that merely doubling their reimbursement rates does not mean that 100 percent of the project costs will be covered in all areas. For example, San Mateo County producers pay $67/ton for compost, hauling and spreading to get product from agricultural quality suppliers. Closer compost facilities are available, but they are contaminated with plastic, glass, and other inert material from municipal waste. **CDFA's Healthy Soils Program, should provide adequate funding for agricultural producers to procure compost from sources that will enhance, not litter, their soils.**

Thank you for considering our recommendations. We appreciate the time that CDFA staff have spent developing and working to continuously improve this program to provide support to California's growers. Please feel free to reach out to me if you have any questions.

Sincerely,

Adria Arko
Senior Program Manager, Agriculture and Climate
San Mateo Resource Conservation District

adria@sanmateoRCD.org
650-712-7765 x105

From: Charles Delgado <cdelgado@suscon.org>
Sent: Thursday, September 23, 2021 4:01 PM
To: CDFA Healthy Soil Program_Technician@CDFA
Cc: Ryan Flaherty; Sarah Castle; John Cardoza; Ashley Boren
Subject: HSP Demonstration Projects - Sustainable Conservation Comments
Attachments: SusCon HSP Demonstration Projects Comment Letter September 2021.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

To whom it may concern,

Please find attached to this message Sustainable Conservation's comments on the draft RGP for HSP Demonstration Projects.

Thank you,

Charles Delgado

Sustainable Conservation

Charles R. Delgado | **Policy Director**
pronouns: he/him/his | office: 916-469-5159
cdelgado@suscon.org | suscon.org

Sustainable Conservation

September 23, 2021

California Department of Food and Agriculture
Office of Environmental Farming and Innovation
1220 N Street
Sacramento, CA 95814

RE: HSP Demonstration Projects Draft RGA - Comments

To Whom it May Concern,

Sustainable Conservation applauds the Legislature and the Administration for their leadership in providing funding to support the Healthy Soils Program through the proposed HSP Incentives Program and the HSP Demonstration Projects grants. Improved soil health practices are a great opportunity to help California's agricultural sector in meeting its goals to reduce GHG emissions, conserve water, and adapt to changing climate conditions. These programs, through the grants they will provide, are a step forward in developing these practices and enabling their adoption throughout the state's farms and dairies.

We believe there is an opportunity to improve the outcomes of the proposed Demonstration Projects RGA by expanding the list of eligible projects under Type A. **Sustainable Conservation requests that cover crop projects be added to this list, due to the potential for cover cropping to achieve co-benefits as detailed in the RGA.**

In the specifications for Type A project eligibility, the RGA identifies a priority on collecting data related to project co-benefits to soil health, environmental water, and air quality. The air quality and soil health benefits of cover cropping practices are acknowledged already in the companion HSP Incentives Program RGA, and are well-documented. In addition, cover cropping has documented environmental water benefits; improving water infiltration on parcels, reducing runoff, and increasing soil water holding capacity.

However, what is not well-understood at present is the extent to which cover cropping practices affect net water use in the agricultural sector, and whether these practices reduce available water supplies for normal crops in non-fallowing years. Knowing this information is critical to enable adoption and continuity of cover cropping over many years, which is the goal of the Healthy Soils Program. This information is also important to ensure that policy and decisions related to water distribution and allocation are based on best-available science. Unfortunately, despite the lack of scientific data available on evapotranspiration of cover crops as it relates to the potential water savings from greater infiltration and reduced runoff, decisionmakers such as Groundwater Sustainability Agencies are beginning to be forced to try and account for this water use nonetheless.

This has led to a system of counterproductive disincentives to a beneficial soil health practice. In our conversations with growers throughout the state, we have encountered many who have been

Sustainable Conservation

dissuaded from utilizing cover crops due to accounting mechanisms implemented by local authorities that penalize users for water use based on imperfect monitoring and data systems, which do not accurately reflect the amount of water uptake or water benefits for cover crops. For every grower opting out of cover cropping, we are missing potential opportunities to reap the benefits of soil health, which can include reduced emissions, increased water quality, and long-term water savings that will benefit depleted groundwater basins far more than short-term penalties based on guesswork. By adding cover crops as an eligible use under Type A, the resources available under HSP Demonstration Projects can be utilized to their maximum potential by filling the gap with water-related measurements. Research that allows local agencies to accurately account for the amount of water used in cover crop practices will enable much more informed decisions that encourage the soil health practices that the state needs in its most drought-affected regions.

Through our work partnering with the agricultural sector, we know that many growers would be eager to implement cover crop practices. Better data, gathered through assistance made available by HSP Demonstration Projects, would make for better decisions in this area.

If you have any questions about our feedback, please feel free to contact me at 916.469.5159, or cdelgado@suscon.org.

Sincerely,

Charles R. Delgado

Charles R. Delgado
Policy Director

From: Jock Gilchrist <jock@theclimatecenter.org>
Sent: Thursday, September 23, 2021 1:30 PM
To: CDFA Healthy Soil Program_Technician@CDFA
Cc: Ellie Cohen
Subject: Comment on the Healthy Soils Program by The Climate Center
Attachments: Comment HSP CDFA by The Climate Center 9.23.21.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Hello,

Attached please find The Climate Center's letter supporting and making recommendations on the Healthy Soils Program. Thank you for the opportunity to comment!

Best regards,
Jock Gilchrist

--
Jock Gilchrist
Research and Initiative Manager
The Climate Center
(c): 845 337 0180

Contact
www.theclimatecenter.org
1275 4th Street #191
Santa Rosa, CA 95404
707–525-1665

September 23, 2021

Office of Environmental Farming and Innovation (OEFI)
California Department of Food and Agriculture (CDFA)
1220 N Street
Sacramento, CA 95814

Re: Healthy Soils Program Comments
Comments Submitted via: CDFA.HSP_tech@cdfa.ca.gov

Dear OEFI Staff:

The Climate Center is a climate- and energy-focused nonprofit located in Santa Rosa. Our Climate-Safe California (CSC) campaign aims to dramatically accelerate climate action to achieve net-negative emissions statewide by 2030. Thank you for the opportunity to comment on the Healthy Soils Program (HSP).

The climate crisis is advancing quickly – more quickly than even scientific models predicted.[1,2] California also faces ongoing and worsening drought, water scarcity, and wildfires that are exacerbated by the climate crisis. In addition to threatening our economy, public health, and natural lands, these crises impinge on California's ability to retain its agricultural productivity.

HSP is a vital solution to these challenges. In addition to enhancing working lands' resilience in the face of climate extremes, it also addresses the root of the problem by sequestering atmospheric carbon in soils. The Climate Center is a vocal and public supporter of HSP.[3]

We were thrilled to learn that the legislature will invest $75M in the program in FY 2021-2022 and recommends an $85M investment in FY 2022-2023. We applaud OEFI staff in their commitment to administer this program, incorporate feedback, and deliver the benefits that farmers increasingly demand.

Below are The Climate Center's recommendations to further increase the efficacy and impact of HSP.

The Climate Center supports **a further increase in HSP funding**. Recent increases in program funding are an important step forward. Still, soon-to-be-published research by The Climate Center indicates

[1] https://www.nature.com/articles/d41586-018-07586-5
[2] https://www.theguardian.com/environment/2021/jul/02/canadian-inferno-northern-heat-exceeds-worst-case-climate-models
[3] https://calmatters.org/commentary/my-turn/2021/02/to-counter-the-worsening-drought-california-needs-healthy-soils/

that at $3 billion per year, California working lands could sequester 100 million metric tons of CO_2e annually beginning in 2030, with increasing sequestration up to that threshold between now and then. Not all of the $3B need go to HSP, but funding on the level of $250M per year for HSP would begin to achieve the massive scale needed for working lands to play a meaningful role in zeroing out California emissions. This accrual of carbon in soils would provide soil fertility and yield stabilization benefits, improve water absorption and storage, and reduce the need for synthetic fertilizers, which are known to damage air and water quality.[4]

The Climate Center's CSC campaign also puts justice, equity, and access at the heart of climate solutions. To that end, in line with comments by CalCAN and American Farmland Trust, The Climate Center recommends that **HSP prioritize small- and mid-sized farms, BIPOC farmers, and women farmers**. HSP can do this by reviewing their applications first and prioritizing them for awards. This could entail ending the rolling application period in favor of quarterly, or regular-interval, application deadlines. Alternatively, instead of changing the rolling application process, HSP could **dedicate a significant portion of funds (e.g., 50%) to serve disadvantaged farming populations**.

On related note, all **HSP program materials should be translated into multiple languages** that reflect the varied farming and language communities throughout the state.

We strongly recommend **significant additional investments in state technical support to farmers and ranchers** to help them take advantage of new state climate-friendly programs.

Finally, we echo CalCAN's recommendation that **implementation and reporting requirements be altered to reflect the dynamic and at times unpredictable nature of farming**, especially for smaller, diversified growers. HSP is designed to help introduce farmers to new, sustainable agriculture techniques, so experimentation and adaptation are not only necessary, but proof positive of the program's effectiveness. They show that farmers are applying principles and learning how to best incorporate soil health practices to their unique conditions. Farmers' needs can change around, for example, compost application rate and timing, cover crop seed mix, or crop rotations. When this happens, burdensome paperwork, reporting, review, and approval processes can hinder farmers' ability to be flexible and responsive and can hamper their enthusiasm about HSP. We respect the importance of compliance and program monitoring for CDFA. Streamlined reporting requirements could make both CDFA staff and farmers' lives easier. The Climate Center is interested in supporting this process via meetings and listening sessions between HSP stakeholders and state agencies.

Thank you for your dedication to the success of HSP. The Climate Center appreciates the opportunity to comment and make recommendations to further enhance the effectiveness of this nation-leading program.

Sincerely,

Ellie Cohen
Chief Executive Officer
ellie@theclimatecenter.org

[4] https://e2.org/wp-content/uploads/2021/03/Jock-Final-Report-The-Promise-of-Regenerative-Agriculture.pdf

Hessom, Elizabeth@CDFA

From: Jessica Kanter <jakanter@ucdavis.edu>
Sent: Thursday, September 23, 2021 4:41 PM
To: CDFA Healthy Soil Program_Technician@CDFA
Subject: HSP RGA Comments
Attachments: HSP Comment Letter_JK.docx

Follow Up Flag: Follow up
Flag Status: Flagged

Hello,

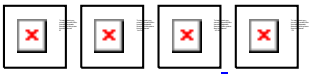
On behalf of the University of California Cooperative Extension Small Farms and Specialty Crops program, I would like to submit comments on the most recent Healthy Soils Program (HSP) draft RGA. Please find my comment letter attached. Let me know if you have any questions.

Thank you,

Jessie

--
Jessica Kanter (she/her)
UC Cooperative Extension Small Farms and Specialty Crops Program, Fresno County
M.S. Soils and Biogeochemistry
M.S. International Agricultural Development
jakanter@ucdavis.edu // jakanter@ucanr.edu
612-868-0920

Click on the icons below to explore Information and resources from UCCE Small Farms:



UC CE
UNIVERSITY OF CALIFORNIA
Agriculture and Natural Resources
Cooperative Extension

9/23/21

Office of Environmental Farming and Innovation (OEFI)
California Department of Food and Agriculture (CDFA)
1220 N Street
Sacramento, CA 95814

Re: Healthy Soils Program Comments

Dear OEFI Staff:

I work for the University of California Small Farms and Specialty Crops Program in Fresno. We have provided technical assistance to 14 small-scale diversified farmers in applying for the Healthy Soils Program and implementing projects. Most of the farmers we work with are designated as "socially disadvantaged" and do not speak English as their first language.

We recognize the importance of the Healthy Soils Program in providing farmers with money to implement practices that benefit the health of their soils and in turn impact the health of their communities. These practices may be unfamiliar or cost-prohibitive without incentive programs such as this one. The farmers we support in the Healthy Soils Program have expressed positive feedback around the practices - compost, in particular. One farmer decided to buy their own compost spreader after the first year of the program because they were so satisfied with the impact that compost had on their crops. There is increasing awareness and demand for compost and other soil improving inputs, which makes programs such as HSP very important.

That being said, the Healthy Soils Program does not appear to be designed with small-scale, diversified farmers in mind – many of whom are socially disadvantaged. As a program that claims to give priority to socially disadvantaged groups, CDFA must think about how to better design this program to accommodate their farming systems. One challenge with HSP is that farmers practicing crop rotation cannot necessarily apply a practice to their entire farm at once – they need to stagger applications over the year as they rotate their crops. Yet, HSP requires that practices be implemented on the same total acreage each year. I recommend addressing this challenge by allowing greater flexibility across the fiscal years of the grant – for instance, a total amount of compost for three years that can be applied at any time as long as it is not applied to the same place more than once per year. Same with cover crop seed, as the same part of the field may be fallow one year but not the next based on a farmer's crop rotation. This

would include allowing deliveries of multiple compost amounts as opposed to the amount needed for an application of the entire field all at once. This would also allow for flexibility for semi-perennial crops such as lemongrass that do not fit into a 1-year rotation. Greater flexibility would also demonstrate respect for local knowledge of farmers in how to schedule applications of practices. Another challenge is that there are often extreme delays in processing executed grant agreements and advanced payments, so practices scheduled within the first 6 months cannot be implemented even though they are required to be implemented for three years in a row. One way to address this would be to allow farmers to apply for a 3.5-4-year grant period up front rather than a three-year period in which we are often having to ask for extensions. Paperwork may take the first 5-6 months of the workplan, while activities can be planned for after the paperwork has been processed. Additionally, changes to workplans and extensions to grant agreements take a long time for approval and require detailed documentation, which can be prohibitive. One suggestion is to approve a range of practices from the beginning – for instance, a list of plant species or cover crop mixes to choose from without having to be so specific in the workplans and ask for approval if things change. Giving farmers a list of options to choose from will allow them to experiment and find out what works best in their climate and farming system. If the point of the program is to incentivize behavior change, there has to be space for farmers to experiment and adapt.

Another challenge with HSP is that the reimbursement rate for some practices is too low. One example for which the rate is too low is hedgerow and windbreak plantings, and the rate does not cover irrigation costs needed to establish these plantings, which are variable based on region. I recommend increasing the payment rate per feet planted for hedgerows and windbreaks and considering regional cost differences when determining payment rates. Regarding access to resources, many small-scale farmers do not have equipment needed to spread compost, seed cover crops, etc. – especially since the program requires that these practices have not been done before on a particular APN. Therefore, farmers often must rent, purchase, or borrow the equipment, or hire someone with equipment. This can be expensive, up to $600-$700/day per rental in our experience. I recommend that CDFA includes a payment of $800 per year for rental equipment. Finally, certified compost facilities do not deliver small amounts of compost, for instance under 25 tons and farmers who need less than 25 tons often have to buy more than they need if they want it delivered. CDFA gives $50/ton – for a small grower who must buy a full truckload of compost at a time and also has to rent equipment to spread the compost, this is not enough. There is a need for more money for compost on smaller acreage. Another suggestion is to allow the use of non-certified compost providers so that farmers can source compost from closer to their farm and can purchase the exact amounts required. CDFA can include funding for laboratory testing of the compost to verify the C:N ratio and other required indicators.

In CDFA's 2020 Report to the California Legislature on the Farmer Equity Act, CDFA explains how in the first years of the program, funding for the Healthy Soils Program prioritized socially disadvantaged applicants, with nearly 50% of funded projects awarded to these groups. Last year, when the program shifted to accepting applications on a first-come, first-served basis, none of the new growers that we helped apply for the Healthy Soils Program were funded

because we could not get the applications in as quickly as was necessary. Therefore it was surprising to see that this round of funding will be accepted on a rolling basis again. The “first-come, first-served” nature of this program magnifies the potential impacts of inequitable access to the incentive money because a timely application is integral to receiving money. This is not always feasible for less-resourced, non-English speaking farmers. Therefore, I recommend moving away from a first-come, first-served approach and ensure that equity is being considered in who receives grant money.

Making these improvements to HSP is urgent because this is a matter of equity and inclusion and making this program work for small-scale, diversified growers. It is also a matter of shifting our agricultural systems to facilitate greater crop biodiversity, which may provide the link between stress and resilience. A diversity of organisms is required for ecosystems to function and provide services, while biodiversity provides a buffer against environmental fluctuations, which is the motivation for Climate Smart Farming practices to my understanding. In CDFA’s 2020 Report to the California Legislature on the Farmer Equity Act, CDFA states that it is committed to addressing the challenges facing socially disadvantaged farmers and ranchers through improved programs, policies, and communication. This is where we need to see this commitment.

Thank you for your consideration.

Sincerely,
Jessie Kanter
UC Cooperative Extension Small Farms and Specialty Crops Team

From: Sarah E Light <selight@ucanr.edu>
Sent: Thursday, September 23, 2021 1:55 PM
To: CDFA Healthy Soil Program_Technician@CDFA
Subject: Healthy Soils Program Feedback
Attachments: SARAH LIGHT HSP FEEDBACK.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Hello, attached please find my letter with recommendations for improving the program. Respectfully,
Sarah Light

--
Sarah Light
Agronomy Advisor
UC Cooperative Extension
Sutter, Yuba, and Colusa Counties
530-822-7515
http://cesutter.ucanr.edu/SacramentoValleyFieldCrops/

Soil Health YouTube Channel: https://www.youtube.com/channel/UCRI4lXL4f_ro_Flnp4lu6IA

University of California
Agriculture and Natural Resources

Cooperative Extension Sutter-Yuba Counties

142A Garden Highway
Yuba City, CA 95991-5512
(530) 822-7515 office
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http://cesutter.ucanr.edu

September 23, 2021

Office of Environmental Farming and Innovation (OEFI)
California Department of Food and Agriculture (CDFA)
1220 N Street
Sacramento, CA 95814

Re: Healthy Soils Program Comments

Dear OEFI Staff:

I am an Agronomy Advisor with the University of California Cooperative Extension. I have been in this role for over 4 years. Prior to that I worked at the USDA Agricultural Research Service on a biochar research project. I have a dual MS in Soil Science and Plant Pathology from Oregon State University. I am a current and founding member of the Western Cover Crop Council, a board whose role is to increase adaptation of cover cropping in the Western United States. I am also the chair of the Southwest Committee of this board, which serves California, Arizona, and Nevada. In addition, I serve on the board of the California branch of the Agronomy Society of America (CalASA). In addition to my experience with applied soil management and soil health, I am very familiar with the CDFA Healthy Soils Program. I was a co-PI on a statewide demonstration project that ended this year and am the PI of two current HSP demonstration projects in Colusa County. One of these projects is a collaboration with the Colusa County Resource Conservation District as well as local growers, and we have used this project to build our capacity to do outreach on soil health in the region, including starting a soil health Youtube channel, The Soil Health Connection, which I co-host. I am passionate about soil health and spend most of my work energy focused on doing research and extending knowledge to farmers about soil health and cover crops, including giving presentations and publishing extension materials.

It is my personal opinion, that CDFA has implemented administrative and reporting requirements for the Healthy Soils Program that impede the ability of grant recipients to do our jobs. I believe the requirements have lost sight of the mission of the program, which is to promote the adoption of these practices, and are unduly burdensome on grant recipients. I have had colleagues state that they would never apply for a grant through this program again and that they regret having applied at all. I have also had growers contact me directly to voice similar complaints. As a healthy soils advocate who has high hopes for this program, this is deeply disappointing to me. Respectfully, the paperwork is killing the program.

Below, I share a number of urgent recommendations to address these challenges and get the program back on track to achieving its mission.

1) **Reduce reporting requirements to no more than once per year and work with extension professionals to streamline reporting.** Detailed reporting is currently required twice a year, which

seems unnecessary. Annual reporting or, better yet, a mid-project report and a final report (two total per project), would be much more reasonable for a 3-year project of this size. CDFA can also make the reporting requirements much easier for growers and PIs by having a streamlined system for tracking outreach events. Currently, there is a lot of paperwork and emailing back and forth with no clear way of knowing how the outreach participants are being tracked. Can the CDFA HSP team take the outreach information we provide, put it in some central tracking system or spreadsheet, and send us an annual update on how we are doing? Or, at project initiation, provide us with a manner to track ourselves? The amount of emailing required for ever bi-annual report is burdensome. Another suggestion to reduce the paperwork is that if a PI has to make a change to the project plan, which is to be expected given that we are working in managed natural systems and there are many unexpected variables that happen in agriculture (weather-related, pests, other agronomic issues), there should be some easy method of making a change and quickly notifying the CDFA without penalty or lengthy explanation. If mid-year check ins are required, what about a 30 min phone call with each PI, or a quick email to say: "yes, it's going well, no it's not and I require this assistance." This amount of communication should be sufficient for mid-project reporting. It feels like this reporting is designed to get PIs in trouble for not rigidly complying with the commitments every year, not to assist PIs is completing the work.

CDFA's inflexible enforcement of various aspects of the reports we submit (e.g. file formats) and repeated threats of withholding funds has also been frustrating and stress-inducing, especially in the context of the pandemic, when we have not been able to have field days. As a researcher and extension professional whose job evaluation and promotions are dependent on doing successful outreach and extension to farmers, I am used to collecting and reporting data, but HSP's tedious reporting and verification (e.g. verifying if someone is a farmer or rancher) has at times felt insulting. Extension professionals deserve more respect and trust. It is in the urgent interest of all parties to discuss with CDFA, the Science Advisory Panel, and other relevant agencies ways to improve the program's reporting requirements for growers and demo project PIs that will also satisfy CDFA's obligations.

2) **Make it easier for people to make changes without such tedious paperwork**. I dread having to make even minor changes to my demonstration projects because it takes so many hours and is so tedious. The problem is so acute that I have actually considered paying for expenses associated with a minor change in my HSP project from other accounts because it would be significantly easier than getting the change approved by CDFA.

For example, I recently called my CDFA contact to ask about a minor change to my demonstration project (not implementing very small summer cover crop variety trial plots in field edges due to extreme drought conditions) that would result in a reduction of $275 from the overall project budget of $100,000. This change would not affect the project's COMET planner GHG reduction estimate or any other relevant metric related to project success. I was not requesting any change to my outreach plan. To get this change approved, I was asked to send a detailed email that could be shared with whole HSP team, which I did. Then, I got an email back saying I needed to change my scope of work (SOW), fill out a project change request (PCR) form and a line item shift request (LISR) form to provide justifications and changes in budget due to the revision. This took me about 4 hours to complete in total between the call, the emails, and the forms, which were redundant I strongly recommend CDFA find a way to simplify this process for minor project and budget changes.

3) Revise outreach and education requirements to accommodate missing events due to COVID-19 and expand the target audience to better achieve program goals: We need a COVID-19 exemption that reduces the outreach requirements for grants. Yes, CDFA did extend project end dates, which is helpful. CDFA also allows PIs to make up missed in-person outreach through virtual methods, however, there are limits to the number of virtual events that will be of interest to clientele. I had a

field day scheduled for May 12, 2020 that was cancelled. I hosted a virtual event the following year (2021) as was expected. I am now being asked how I plan to make it up with another event before the end of the project term even though I already have planned to host an event at the site this coming season (2022). This means I have to plan two outreach events in one year for the same project. Not only is this a lot of work for me, but also, I strive to plan interesting and highly impactful extension events for my clientele. Organizing an event just to organize an event is never my goal as an extension educator. Rather, my goal is to share knowledge, work with growers to change management practices. Forcing PIs to hold events to meet the requirements of a grant doesn't guarantee this goal. Despite my missing 2020 field day, I regularly present about soil health and cover crops, including data and lessons learned from my current demonstration projects and others, at soil health outreach and other organizations' events. For example, I just presented at a PAPA (Pesticide Applicators Professional Association) event online, a webinar, during which I discussed cover crops and soil health and their role in reducing the off-site movement of environmental contaminants. There were 227 people on it.

I understand that HSP is designed to reach California farmers and ranchers, but the outreach requirements are missing the mark on how farmers and ranchers are making decisions and getting information. Most farmers work with a Pest Control Advisor or a Certified Crop Advisor or both to make management decisions on their farms. This is in part due to the regulatory environment in the state. Why can't professional agriculture advisors like CCAs and PCAs, who advise farmers on how to manage their operations, be counted toward participants at outreach events? The impact of extending knowledge to agricultural professionals and advisors is tremendous as they work with many growers at once. These advisors were the majority of the participants on the PAPA webinar I mentioned above. Can that presentation be counted toward my outreach goals? If the point of the program is to increase knowledge, and adaptation then this certainly would be a huge benefit both to the agricultural sector as well as HSP grant recipients. In addition, I feel that having to submit sign in sheets for all events, especially those organized by other organizations, is a difficult ask due to privacy concerns. However, PAPA charges money for their seminars and offers continuing education credits. Thus, it is guaranteed that everyone participating is maintaining a license. Even allowing PIs to count 50% of the participants and auxiliary presentations would go a long way to helping us achieve our outreach goals. In addition, the true impact of the HSP program isn't being quantified if you are omitting these efforts. The impact of the HSP program is tremendous and should be measured appropriately to guarantee future funding by the state. Allowing us to report all of our efforts, including to non-farmers and ranchers, would be a win-win to both project leaders and the CDFA HSP, in my opinion.

I sincerely hope this program can make some improvements to better live up to its full potential and would be happy to participate in a discussion with CDFA, the Science Advisory Panel, and other relevant agencies about ways to make those improvements. Thank you for your consideration of this feedback. Feel free to contact me with any questions.

Respectfully,

Sarah Light

Sarah Light
Agronomy Advisor
UC Cooperative Extension
Sutter, Yuba, and Colusa Counties

From: Sarah E Light <selight@ucanr.edu>
Sent: Monday, September 13, 2021 2:10 PM
To: CDFA Healthy Soil Program_Technician@CDFA
Subject: Public Comments on Healthy Soils Program Guidelines

Hello, I see biochar was added in for orchard crops. I would suggest biochar should be added in for annual cropping systems as well. Depending on the biochar (beginning substrate and method of production, biochar is shown to have more permanent presence of the soil and opportunity for building soil C.

This article has some information about biochar: https://www.frontiersin.org/articles/10.3389/fenvs.2020.514701/full

Thank you,
Sarah

--
Sarah Light
Agronomy Advisor
UC Cooperative Extension
Sutter, Yuba, and Colusa Counties
530-822-7515
http://cesutter.ucanr.edu/SacramentoValleyFieldCrops/

Soil Health YouTube Channel: https://www.youtube.com/channel/UCRI4lXL4f_ro_Flnp4lu6IA

From: Taylor Thompson <tthompson@yuroktribe.nsn.us>
Sent: Monday, September 20, 2021 3:56 PM
To: CDFA Healthy Soil Program_Technician@CDFA
Subject: HSP Demo & Incentives Grants RFA Comments
Attachments: 2021_hsp_incentives_program_draft_rga_TT Comments.pdf; 2021_hsp_demo_projects_draft_rga_TT Comments.pdf

Osiyo (Greetings),

I hope you are doing well!

I am the Food Sovereignty Division Manager of the Yurok Tribe and am overseeing many of the food programs that the Tribe has. I read through this RFA and had a few thoughts, particularly on how this funding opportunity could be more available and applicable to tribal applicants. Please let me know if you have any questions or would like more information on any of the comments I made.

I appreciate all of your work gathering community input on your grants!

Wado (Thank you),

Taylor Thompson
Gender Pronouns: They/Them/Theirs
Food Sovereignty Division Manager
Yurok Tribe Environmental Program
Cell: (707) 458-5184
tthompson@yuroktribe.nsn.us

… working to protect the lands, air and water resources of the Yurok Indian Reservation for the benefit of current and future generations of tribal members.

2021 HEALTHY SOILS PROGRAM
INCENTIVES PROGRAM

Request for Grant Applications

Draft for Public Comment

Release date: September 9, 2021

Comments due by: 5:00 p.m. PT on September 23, 2021

Comments must be sent via email to CDFA.HSP_tech@cdfa.ca.gov

Office of Environmental Farming and Innovation
California Department of Food and Agriculture
1220 N Street, Sacramento, CA 95814

CONTENTS

BACKGROUND AND PURPOSE

The California Department of Agriculture (CDFA) is pleased to announce funding availability through a competitive grant process for the 2021 Healthy Soils Program (HSP) Incentives Program.

The 2021 HSP Incentives Program is part of the Healthy Soils Program (HSP), which stems from the California Healthy Soils Initiative, a collaboration of state agencies and departments that promotes the development of healthy soils on California's farmlands and ranchlands. The 2021 HSP Incentives Program is funded by California State Budget, authorized by the Budget Act of 2021 (SB 129, Chapter 69).

The objectives of the HSP are to increase statewide implementation of conservation management practices that improve soil health, sequester carbon and reduce atmospheric greenhouse gases (GHGs) by (1) providing financial incentives to California growers and ranchers for agricultural management practices that sequester carbon, reduce atmospheric GHGs and improve soil health, (2) funding on-farm demonstration projects that conduct research and/or showcase conservation management practices that mitigate GHG emissions and improve soil health, and (3) creating a platform promoting widespread adoption of conservation management practices throughout the state.

The HSP Incentives Program addresses Objective 1. Objectives 2 and 3 are addressed in the 2021 HSP Demonstration Projects. Request for Applications for both the HSP Incentives Program and the HSP Demonstration Projects are available on the HSP website: https://www.cdfa.ca.gov/oefi/healthysoils/.

FUNDING AND DURATION

CDFA was appropriated $50 million from the California State Budget, authorized by the Budget Act of 2021 to fund HSP – Incentives Program and Demonstration Projects. The HSP Incentives Program will provide financial incentives to California growers and ranchers for implementation of agricultural management practices that sequester carbon, reduce atmospheric GHGs, and improve soil health.

- The maximum grant award is $100,000.
- The application submission period will be on a rolling basis, starting TBD and continuing until TBD or until available funds are expended, whichever is earlier.
- Grant funds cannot be expended before the grant agreement is executed or after the grant agreement term has ended.
- Cost sharing (matching funds or in-kind contributions) during grant duration is not required but encouraged (See: Project Duration and Cost Sharing).
- CDFA reserves the right to offer an award different than the amount requested.

The HSP Incentives Program funds may be combined with other funds as match for the same project, such as funds from the United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Environmental Quality Incentive Program (EQIP). However, HSP funds cannot cover activities or costs funded by other federal or state grant programs.

ELIGIBILITY AND EXCLUSIONS

ELIGIBILITY

- California farmers, ranchers and Federal and California Recognized Native American Indian Tribes are eligible to apply.
- Projects must be located on a California agricultural operation. For the purpose of this program, an agricultural operation is defined as row, vineyard, field and tree crops, commercial nurseries, nursery stock production, and livestock and livestock product operations.
- University and research farms, and city community gardens are not eligible for funding through the HSP Incentives Program. These entities may apply for the HSP Demonstration Projects.
- Awards are limited to one per agricultural operation using a unique tax identification number per round of funding. Individuals or business entities receiving grant award funds must be located in California.
- All projects must implement at least one of the eligible agricultural management practices listed under Eligible Agricultural Management Practices, on fields where said practice was not implemented previously:
    - A previously implemented practice cannot be implemented on same field. A previously implemented practice is eligible for funding only if it is implemented on a new, different field within the same APN or a new APN.
    - Practices must be implemented on the same field(s) within the APN and cannot be moved to different field(s) within an APN during the term of the grant agreement.
    - Practices must be implemented on the same total acreage throughout the term of the grant agreement as proposed in the application and memorialized in the grant agreement. Decrease in acreage of practice implementation and quantified GHG reductions in the project after signature by Recipient and execution of grant agreement may result in elimination of that practice from the project and subsequent reduction of project budget. Additionally, project may be considered incomplete and ten percent of total project budget may be withheld (see Project Verification).
- Projects must result in net GHG benefits (i.e., net positive GHG reductions) from

specific eligible agricultural management practices identified in this solicitation for the grant agreement term supported by document(s) of Carbon Sequestration and GHG Estimation Report(s) (See GHG Reduction Estimation).

- Applicants must provide past three years' baseline data on cropping and management histories directly related to fields identified by APNs where eligible agricultural management practices are proposed for implementation to be eligible for funding.
- Applicants must lease, own, or otherwise control the fields and APNs where project activities are proposed to occur for the entirety of the project duration. If leasing land, applicants must ensure the proposed project does not violate their lease agreement and document approval by the landowner to implement proposed practices(s) from date of grant agreement execution to TBD.
- If selected for funding, applicants must be able to execute a grant agreement within 30 days of receiving a notice of award.

EXCLUSIONS

- HSP Incentives Program funds cannot be used to implement management practices that are not listed under Eligible Agricultural Management Practices in this grant solicitation. All requirements for practice implementation must be followed.
- HSP Incentives Program funds cannot be used to fund fields with existing and ongoing implementation of any agricultural management practices listed under Eligible Agricultural Management Practices.
- Fields that have previously received HSP Incentives or Demonstration awards for a particular practice are not eligible to receive additional funding for the same practice. New fields within a previously funded APN, or new practices to be implemented on previously funded fields are eligible.
- Compost Application Practices and Whole Orchard Recycling may not be implemented on APNs where soil organic matter content is greater than 20 percent by dry weight in top 20 cm (or 8 inch) depth.
- Practices may not be implemented on lands or crop types that are not suitable based on NRCS Conservation Practice Standards and NRCS California Practice Scenarios.
- HSP Incentives program funds cannot be used for projects that use potted plants and plant growth media other than soil.

ELIGIBLE AGRICULTURAL MANAGEMENT PRACTICES

CDFA has identified eligible agricultural management practices that sequester carbon, reduce atmospheric GHGs and improve soil health for 2021 HSP projects. An applicant

must include the APN(s) of the field(s) where the eligible management practice(s) will be implemented. An applicant may include multiple practices on the same APN or the same practice on multiple APNs. Some practices may not be implemented on the exact same field as part of the same project. Refer to Non-Overlapping Practices for details.

The following management practices were selected from the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Conservation Practice Standards (CPS) and CDFA specified Compost Application and Whole Orchard Recycling Practices. HSP-specific GHG Quantification Methodology is currently available for these practices.

All practices must be implemented in accordance with their respective NRCS CPS requirements for implementation in California, CDFA Compost Application White Paper and CDFA's Whole Orchard Recycling Report. HSP-specific requirements for implementation of eligible practices are based on NRCS CPS documentation and 2021 NRCS California Practice Scenarios (HSP-specific practices only). Refer to the Program Requirements and Appendix A for details.

All eligible practices are divided into the categories below:

I. Cropland

1. Alley Cropping (USDA NRCS CPS 311)
2. Compost Application (CDFA Compost Application White Paper)
    a. Compost Purchased from a Certified Facility
    b. On-farm Produced Compost
3. Conservation Cover (USDA NRCS CPS 327)
4. Conservation Crop Rotation (USDA NRCS CPS 328)
5. Contour Buffer Strips (USDA NRCS CPS 332)
6. Cover Crop (USDA NRCS CPS 340)
7. Field Border (USDA NRCS CPS 386)
8. Filter Strip (USDA NRCS CPS 393)
9. Forage and Biomass Planting (USDA NRCS 512)
10. Grassed Waterway (USDA NRCS CPS 412)
11. Hedgerow Planting (USDA NRCS CPS 422)
12. Herbaceous Wind Barrier (USDA NRCS CPS 603)
13. Mulching
    a. Nature Materials (USDA NRCS CPS 484)
    b. Wood Chips (USDA NRCS CPS 484)
14. Multi-story Cropping (USDA NRCS CPS 379)
15. Nutrient Management (USDA NRCS CPS 590) (15% reduction in fertilizer

application *only*)
16. Residue and Tillage Management – No-Till (USDA NRCS CPS 329)
17. Residue and Tillage Management − Reduced Till (USDA NRCS CPS 345)
18. Riparian Forest Buffer (USDA NRCS CPS 391)
19. Riparian Herbaceous Cover (USDA NRCS CPS 390)
20. Strip Cropping (USDA NRCS CPS 585)
21. Tree/Shrub Establishment (USDA NRCS CPS 612)
22. Vegetative Barriers (601) (USDA NRCS CPS 601)
23. Windbreak/Shelterbelt Establishment (USDA NRCS CPS 380)

II. Orchard or Vineyard

1. Compost Application (CDFA Compost Application White Paper)
    a. Compost Purchased from a Certified Facility
    b. On-farm Produced Compost
2. Conservation Cover (USDA NRCS CPS 327)
3. Cover Crop (USDA NRCS CPS 340)
4. Filter Strip (USDA NRCS CPS 393)
5. Hedgerow Planting (USDA NRCS CPS 422)
6. Mulching
    a. Nature Materials (USDA NRCS CPS 484)
    b. Wood Chips (USDA NRCS CPS 484)
7. Nutrient Management (USDA NRCS CPS 590) (15% reduction in fertilizer application *only*)
8. Residue and Tillage Management – No-Till (USDA NRCS CPS 329)
9. Residue and Tillage Management − Reduced Till (USDA NRCS CPS 345)
10. Whole Orchard Recycling (CDFA HSP WOR)
11. Windbreak/Shelterbelt Establishment (USDA NRCS CPS 380)

III. Grazing Land

1. Compost Application
    a. Compost Purchased from a Certified Facility
    b. On-farm Produced Compost
2. Hedgerow Planting (USDA NRCS CPS 422)
3. Prescribed Grazing (USDA NRCS CPS 528)
4. Range Planting (USDA NRCS CPS 550)
5. Riparian Forest Buffer (USDA NRCS CPS 391)
6. Silvopasture (USDA NRCS CPS 381)
7. Tree/Shrub Establishment (USDA NRCS CPS 612)
8. Windbreak/Shelterbelt Establishment (USDA NRCS CPS 380)

TECHNICAL SPECIFICATIONS FOR ESTIMATION OF GHG BENEFITS

Expected Life of Practices:

To estimate the net GHG benefits due to a practice implementation, the expected life of the practice is as follows:

Eligible Agricultural Management Practice	Expected Life of Practice*
Practices that involve planting of woody cover (trees and shrubs)	10 Years
All other practices	3 Years

*Expected Life of Practice for the HSP is different from that required by USDA-NRCS, and distinct from the grant duration.

In addition to the NRCS CPS requirements, 2021 NRCS California Practice Scenarios and the table provided above, the following scientific documents were used to establish requirements for implementation of practices:

1. White paper titled 'Compost Application Rates for California Croplands and Rangelands for a CDFA Healthy Soils Incentives Program', available at: https://www.cdfa.ca.gov/oefi/healthysoils/docs/CompostApplicationRate_WhitePaper.pdf
2. California Air Resources Board (CARB) Healthy Soils Quantification Methodology (QM) available at: https://ww2.arb.ca.gov/resources/documents/cci-quantification-benefits-and-reporting-materials.
3. COMET-Planner Report: This report explains the scientific approaches that the quantification methodology has been utilized to estimate greenhouse gas reduction benefits for the CDFA HSP and is available at: http://bfuels.nrel.colostate.edu/health/COMET-Planner_Report_Final.pdf
4. CDFA's Report on Whole Orchard Recycling: https://www.cdfa.ca.gov/oefi/healthysoils/docs/CDFA_WOR_Report.pdf

Technical information from these documents was evaluated and synthesized to develop Program Requirements and Appendix A.

PROGRAM REQUIREMENTS

Submitted applications must meet all applicable requirements in this section to be considered for funding.

- Eligible agricultural management practices can be implemented alone or in combinations, except where specified, on one APN or several APNs. Specific fields within each APN where agricultural management practice(s) will be implemented

should be named by Field (Such as Field 1, Field 2, Field 3, etc.).
  - Each field must be outlined clearly on the APN map.
  - All fields must have the selected agricultural management practices implemented each year for the duration of the project term.
  - Implementations must begin prior to the end (i.e. December 31) of each project year.
  - Multiple management practices may be included within the same APN (except for Non-Overlapping Practices), and multiple APNs within the same agricultural operation may be included in the project.
  - Once awarded, recipients may not change the APNs included in the grant application through the duration of the project.
  - Implementation of eligible management practices will be incentivized based on payment rates provided in Appendix A.

- Projects proposing to implement Prescribed Grazing must be located on grazing lands (i.e. rangelands, grazed grasslands, and pastures). Applications for prescribed grazing projects must include a Grazing Management Plan prepared by a professional Certified Rangeland Manager.

- Fields where implementation of Riparian Forest Buffer and/or Riparian Herbaceous Cover practices is proposed must be adjacent to and upgradient from water courses or water bodies. Please refer to the USDA NRCS CPS 390 and 391 for more information.

- Projects proposing to implement Conservation Crop Rotation must provide a detailed plan for crop rotation, listing all cash crops and/or cover crops to be planted in the correct sequence as part of the Work Plan.

- Projects proposing to implement Cover Crops may not claim post-termination cover crop residue as mulching practice with natural materials to prevent overestimation of GHG reductions achieved.

- Projects proposing to implement practices that involve establishment of permanent woody cover must take into consideration wildlife and pollinator needs when selecting or siting tree or shrub species. Increasing species diversity, including use of native species, and avoiding species with invasive potential should be considered. Crop trees may not be planted exclusively.

- Implementation of Compost Application practices must meet the requirements below.

- Compost Application Rates eligible for funding are provided in the table below.
-

Agricultural System	Compost Type	Tons/Acre*
Cropland	Higher N (C:N ≤ 11)	3 – 5
	Lower N (C:N > 11)	6 – 8
Orchard/Vineyard	Higher N (C:N ≤ 11)	2 – 4
	Lower N (C:N > 11)	6 – 8
Grazing Land	Lower N (C:N > 11)	6 – 8

*Compost application rates eligible for funding through this program were developed under the guidance of the Environmental Farming Act – Science Advisory Panel (EFA-SAP) and are published in a white paper report titled "Compost Application Rates for California Croplands and Rangelands for a CDFA Healthy Soils Incentives Program" (abbreviated as Compost Application White Paper) by CDFA.

- Sources of compost eligible for funding must meet the following requirements.
  - If compost is purchased:
    a. Compost must be produced by a facility permitted or otherwise authorized by state and local authorities that can demonstrate compliance with all state regulations. STA (US Composting Council's Seal of Testing Assurance Program) or CDFA-OIM (Organic Input Material) Program certified compost is recommended. Applicants may look up certified composting facilities at the CalRecycle SWIS/Site Search website: https://www2.calrecycle.ca.gov/SolidWaste/Site/Search
    b. A report of laboratory analysis on compost C:N ratio is required.
  - If compost is produced on-farm:
    a. Plant and animal materials must be composted through the processes outlined below and a farm log must be maintained to document the process.
       - ***In-vessel or Static Aerated Pile System***: Maintain a temperature between 131°F and 170°F for 3 days.
       - ***Windrow Composting***: Maintain a temperature between 131°F and 170°F for 15 days. The materials must be turned a minimum of five times.
    b. C:N ratio of the compost to be applied must be verified

through laboratory testing before application. Type of material(s) used for composting must be documented.

c. Compost used in this practice must be produced at the agricultural operation where the project is located. Externally sourced compost must be purchased from a certified facility.
d. Compost used in this practice cannot be vermicompost.

- Implementation of the Whole Orchard Recycling (WOR) practice must meet the following requirements below:
  - Only orchards with trees at least ten years of age are eligible.
  - Following woodchip incorporation, land must be fallowed or replanted with trees within 3 years.
  - Orchards should be chipped and incorporated in place on the field in which they were grown, without exporting chips off-site or to new fields.
  - The WOR practice must not be implemented in soils with Soil Organic Matter greater than 20%.
  - Chips must be evenly distributed throughout the orchard. If a service provider is contracted, their commitment to spread the wood chips must be in the contract/invoice for verification purposes.
  - Chips must be incorporated into the soil to at least 6 inches depth.

- *Non-Overlapping Practices*: For the purposes of the HSP, practices in the same group cannot be implemented on the exact same land area or field, i.e., cannot overlap or be on top of each other, as noted below. If proposed together, only one practice may be funded. CDFA HSP Re-Plan Tool is designed to facilitate applicants
  - Group I:
    - Cover Crop (USDA NRCS CPS 340)
    - Conservation Crop Rotation (USDA NRCS CPS 328)
    - Strip Cropping (USDA NRCS CPS 585)
  - Group II:
    - Residue and Tillage Management – No-Till (USDA NRCS CPS 329)
    - Residue and Tillage Management − Reduced Till (USDA NRCS CPS 345)
  - Group III: Compost Application: Compost must either be
    - Purchased from a Certified Facility, or,
    - On-farm Produced Compost
  - Group IV:
    - Alley Cropping (USDA NRCS CPS 311)

        - Multi-story Cropping (USDA NRCS CPS 379)
    - Group V:
        - Mulching (USDA NRCS CPS 484)
        - Whole Orchard Recycling
    - Group VI
        - Conservation Cover (USDA NRCS CPS 327)
        - Contour Buffer Strips (USDA NRCS CPS 332)
        - Field Border (USDA NRCS CPS 386)
        - Filter Strip (USDA NRCS CPS 393)
        - Forage and Biomass Planting (USDA NRCS 512)
        - Grassed Waterway (USDA NRCS CPS 412)
        - Herbaceous Wind Barrier (USDA NRCS CPS 603)
        - Range Planting (USDA NRCS CPS 550)
        - Riparian Herbaceous Cover (USDA NRCS CPS 390)
        - Vegetative Barriers (601) (USDA NRCS CPS 601)
    - Group VII
        - Alley Cropping (USDA NRCS CPS 311)
        - Hedgerow Planting (USDA NRCS CPS 422)
        - Multi-story Cropping (USDA NRCS CPS 379)
        - Riparian Forest Buffer (USDA NRCS CPS 391)
        - Tree/Shrub Establishment (USDA NRCS CPS 612)
        - Windbreak/Shelterbelt Establishment (USDA NRCS CPS 380)
    - Group VIII
        - Any practice listed in Group VI and mulching
        - Any practice listed in Group VI and Group VII with reduced-till or no-till.

    Note: There may be practices (individual or combination) in addition to those listed above that may not overlap for a specific project. These may be evaluated by CDFA on a case-by-case basis and addressed during pre-project consultation.

- Requirements noted in Appendix A must be followed for all HSP practices.

- Applicants must use the CDFA HSP Re-Plan Tool to develop their project design, determine if they may be located in AB 1550 Priority Populations, eligibility for Compost Application and Whole Orchard Recycling, and assistance in selecting species to be planted for specific practices based on the USDA NRCS California eVegGuide.

- CDFA strongly encourages applicants to enhance on-farm biodiversity through utilizing plant species (in applicable management practices) that support pollinator

habitat and help meet the goals identified in the California Biodiversity Action Plan.

- Applicant ID: An agricultural operation can only submit one grant application using a unique tax identification number. If an agricultural operation does not have a unique tax identification number, that operation should only use the last four digits of their social security number (e.g., XXX-XX-1234) as their unique identification number in their grant application.

  An agricultural operation must use the operation's legal business name and associated tax identification number in their application. The business name provided in the application is the entity to which CDFA will extend a Grant Agreement if the project is selected for an award. (See: Award Process).

- Project Duration and Cost Sharing: The HSP Incentives Program will provide funds for the grant duration. Though not required, applicants are encouraged to provide cost share to the project through the grant duration. Cost sharing can be in the form of matching funds or in-kind contributions. Matching funds refers to a dollar amount committed to a project from a source other than the HSP Incentives Program. An in-kind contribution is the estimated dollar value of any time, property, or supplies donated to a project, including costs associated with labor for work involved in the implementation of the proposed project. Applicants are required to certify that cost-share, if provided, has been secured at the time of application submission.

  Timeline for implementation of awarded projects is provided below:

Project Year	Duration of Project Year	Implementation Must Begin No Later Than
1	Date of grant agreement execution – TBD	TBD
2	TBD	TBD
3	TBD	TBD

- *Baseline Data:* Applicants must submit the following baseline data at the time of application.
  - Cropping history in the past three years (January 2018 – January 2021) in all APN(s) included in the application.
  - Management practice history in the past three years (January 2018 – January 2021) in all APN(s) included in the application.

- Provide the proposed plan of crops for all APNs/Fields included in the project during the next three years (2020 through 2023).

Applicants proposing to include Compost Application and/or Whole Orchard Recycling practices in their projects must use the CDFA HSP Re-Plan Tool to check if the project site is eligible for the practice. Compost Application and Whole Orchard Recycling are not allowed on a field that has soil organic matter content greater than 20 percent by dry weight for a 20 cm (or 8 inch) depth.

- *GHG Reduction Estimation*: An estimation of the reduction in GHG emissions from the selected Eligible Agricultural Management Practices and associated payments must be calculated using the Quantification Methodology (QM) and calculator tools developed by the California Air Resources Board (CARB). The QM and calculator tool are adapted from the USDA-NRCS COMET-Planner methodology. The calculator tool used for HSP is available at http://comet-planner-cdfahsp.com/

  COMET-Planner Report will be generated upon completion of the calculation, which must be included as part of the application, and is required for all eligible agricultural management practice(s) selected. Projects eligible for HSP funding must achieve net GHG reductions, i.e., GHG reductions estimated using the QM and calculator tool must be positive in consideration of all the practices selected.

TIMELINE

The application period begins TBD. The deadline to submit a grant application is TBD by 5:00 p.m. PT. Applications will be accepted on a rolling-basis and reviewed first-come-first serve. No exceptions will be granted for late submissions.

Activity	Date
Invitation to Submit Grant Applications	TBD
CDFA Grant Application Workshop Webinars	TBD
Applications Due	Accepted on a rolling basis until TBD or until funds are expended, whichever is earlier.
Review Period and Award Notification	On a rolling basis, until TBD. Applications will be reviewed in the order received.

WORKSHOPS AND TECHNICAL ASSISTANCE

CDFA will conduct three workshops on the 2020 HSP grant application process and program requirements. All workshops will be remotely accessible through live webinar.

CDFA cannot assist in the preparation of grant applications; however, general questions may be submitted to cdfa.HSP_Tech@cdfa.ca.gov. CDFA will conduct two rounds of Questions and Answers (Q&A) to address general questions about the application submission process and program requirements. Responses to all questions received during the workshops and webinars or by email will be posted to CDFA's HSP Incentives Program website according to the schedule below.

Questions Received by	Answers Provided by
TBD	TBD
TBD	TBD
TBD	TBD

In addition, CDFA-funded Technical Assistance (one-to-one on-demand assistance) across the state will be provided free of cost to all potential applicants. These technical assistance providers (TAPs) consist of experts in agricultural management practices from California academic Research Institutions, Resource Conservation Districts, and non-profit organizations. TAPs should not charge any additional fees or subsequent commitments (financial or otherwise) to help submit applications. Assistance may include technical aspects of the application process such as GHG calculation requirements, practice selection, project design, availability of a computer and internet to prepare the application. CDFA strongly encourages applicants to obtain technical assistance when developing a grant application.

Information about CDFA-conducted workshops and CDFA-funded Technical Assistance is available at https://www.cdfa.ca.gov/oefi/healthysoils/IncentivesProgram.html and https://www.cdfa.ca.gov/oefi/technical/.

GRANT APPLICATION PROCESS

HOW TO APPLY

The 2021 HSP Incentives Program is a web-based application process, accessible at [link TBD]. The grant application is a series of questions in one or more of the following formats: a drop-down menu; a check box; a text box with predetermined character limitations; or as a document attachment. Responses to all questions must be submitted in the manner and format required by the application questionnaire electronically without exception. Preview of application questions is available in the Preview of Application

Questions [link TBD].

Applicants are encouraged to gather all required information using information provided under Required Application Documents to facilitate effective and timely submission of the grant application.

APPLICATION PERIOD

The 2021 HSP Incentives Program will accept and award applications on a rolling basis starting TBD and continue until 5:00 p.m. PT on TBD, or until available funds are expended, whichever is earlier. Upon submission during this time-frame, a submitted application will be evaluated and decision to award the project will be made according to the Review and Evaluation process. Evaluation process for an application will be conducted in the order it was received during the application period.

APPLICATION SECTIONS

The 2021 HSP Application consists of the following sections available within the web-based application:

Applicant Information: This section includes names and contact information of the applicant organization, applicant, primary contact person(s) and collaborators for the project.

Project Overview: This section includes an overview of project, i.e., a brief description and total project cost.

Project Logistics: This section includes details of the proposed project, such as APNs on which practices will be implemented, number of proposed practices, associated acreage, and project baseline data.

Project Design: This section includes a schematic of the project design with a map that includes APNs on which project will be implemented, with a detailed layout of practices to be implemented, total acreage of each practice and plant species to be planted on each field (if applicable). The project design must be created using the CDFA HSP Re-Plan Tool.

Project Work Plan: This section must be completed within the template provided by CDFA. Follow instructions provided in the web-based application and template.

Project Budget and GHG Emission Reduction Estimation: Estimate cost of practice implementation and GHG emission reduction must be estimated using the CDFA HSP

COMET-Planner tool. Follow instructions provided in the CARB Greenhouse Gas Quantification Methodology for CDFA Healthy Soils Program and the web-based application.

Conservation Plan: Providing a Conservation Plan is optional, however, applications that include a qualified conservation plan with the application will receive additional points during review (See: Evaluation Criteria). A conservation plan is a plan of broad environmental/ecological impacts and solutions for the whole farm and is prepared by an NRCS specialist, an NRCS-trained individual or entity, a certified Crop Advisor, a certified Professional Soil Scientist, or a certified Professional Agronomist. A Conservation Plan should include, at a minimum:

- An aerial photo or diagram of project fields.
- A list of current management decisions.
- The location of and schedule for applying new conservation practices.
- Resource Assessment: inventory of resources and resource concerns, soils information, topographic maps, plan maps showing location of property, existing practices, structures, planned practices, soils, water features and other environmentally sensitive areas, and environmental assessment.
- Information explaining how to carry out specific management decisions.
- A plan for operation and maintenance of the management practice(s).

Benefits to Socially Disadvantaged Groups and/or Priority Populations: This section consists of a series of multiple-choice questions which must be answered to determine if the project would be prioritized on the basis of providing benefits to Socially Disadvantaged Groups and/or Priority Populations. Supporting documentation to support claimed benefits must be provided as necessary.

REVIEW AND EVALUATION PROCESS

REVIEW PROCESS

CDFA will conduct multiple levels of review during the grant application process. The first level review is an administrative review to determine whether application is complete, program requirements were met and if applicable, assess an applicant's past grant performance. All required documentation must be submitted to avoid disqualification. Projects that do not pass the first level review will not be moved to the second level review.

The second level review is a technical review to evaluate the feasibility and overall likelihood of project success, including selection of HSP practices associated with suitable crop/land type, a clear and proper project design, a reasonable implementation timeline (work plan), and, the correct estimation of GHG emission reductions and carbon

sequestration. The technical review committee comprises of academic researchers, extension specialists and farm advisors affiliated with the University of California and California State University systems.

EVALUATION CRITERIA

Applications will be evaluated based on the following criteria (see Detailed Scoring Criteria for additional information). An application must score a minimum of 40 points to be considered for funding.

Criteria	Score
Project Logistics	10
Project Design	10
Project Work Plan	10
Project Budget and GHG Emission Reduction Estimation	20
Conservation Plan (if applicable)	10
Total	**60**

FUNDING PRIORITY

Twenty-five percent (25%) of the funds available for HSP Incentives Program will be awarded to the following applicants and/or projects:

- **Benefits to Socially Disadvantaged Farmers or Ranchers**[1]
  CDFA will ensure the inclusion of Socially Disadvantaged Farmers and Ranchers in all programs, including HSP, consistent with the Farmer Equity Act of 2017.

- **Benefits to Priority populations**
  SB 535 established statutory requirements that a minimum of 25 percent of California Climate Investments is allocated to projects that provide benefits to disadvantaged communities, and of that 25 percent, a minimum of 10 percentage points is allocated to projects that are also located within disadvantaged communities. AB 1550 (Gomez, Chapter 369, Statutes of 2016), amended these requirements by increasing the percent of funds for projects located in disadvantaged communities from 10 to 25 percent and added a focus on

[1] "Socially disadvantaged farmer or rancher" means a farmer or rancher who is a member of a socially disadvantaged group. "Socially disadvantaged group" means a group whose members have been subjected to racial, ethnic, or gender prejudice because of their identity as members of a group without regard to their individual qualities. These groups include all of the following:
(1) African Americans (2) Native Indians (3) Alaskan Natives (4) Hispanics (5) Asian Americans (6) Native Hawaiians and Pacific Islanders.

investments in low-income communities and households. Collectively, these communities are referred to as 'priority populations'. AB 1550 investment minimums apply to the overall appropriations of monies from the GGRF, not the individual agency programs. However, all California Climate Investments programs including the HSP are encouraged to maximize benefits to disadvantaged communities, low-income communities, and low-income households.

Priority populations can be identified using the mapping tools provided by CARB at www.arb.ca.gov/cci-resources. Projects are not required to provide benefits to priority populations. However, the projects that are determined to be providing benefits based on their responses to the application questions will be prioritized for funding.

To be considered as providing benefits to Priority Populations, applicants must provide answers to questions in the "Benefits to Socially Disadvantaged Groups and/or Priority Populations" Section of the electronic application and supporting documentation verifying that the projects meet the requisite criteria.

NOTIFICATION AND FEEDBACK

All applicants will be notified by email regarding the status of their grant application. Applicants may expect to receive feedback on their grant application within 6 weeks of submission.

DISQUALIFICATIONS

The following will result in the disqualification of a grant application:

1. Incomplete grant applications: applications with one or more unanswered questions necessary for administrative or technical review.
2. Incomplete grant applications: applications with missing, blank, unreadable, corrupt, or otherwise unusable attachments.
3. Applications requesting funding for more than the maximum award amount.
4. Applications with unallowable costs or activities not necessary to complete the project objectives.
5. Applications that do not comply with Eligibility and Exclusions or do not meet Program Requirements.

APPEAL RIGHTS: Any discretionary action taken by the Office of Grants Administration (OGA) may be appealed to CDFA's Office of Hearings and Appeals within ten (10) days of receiving a notice of disqualification from CDFA. The appeal must be in writing and

signed by the responsible party named on the grant application or his/her authorized agent. It must state the grounds for the appeal and include any supporting documents and a copy of the OGA decision being challenged. The submissions must be emailed to emailed to The submissions must be emailed to CDFA.LegalOffice@cdfa.ca.gov (preferred) or sent to the California Department of Food and Agriculture Office of Hearings and Appeals, 1220 N Street, Sacramento, CA 95814. If submissions are not received within the time frame provided above, the appeal will be denied.

AWARD PROCESS

PAYEE DATA RECORD

If an application is selected for an award, the applicant will receive a notification email from cdfa.HSP_Tech@cdfa.ca.gov with the payee data record form attached. The applicant must complete the form following the instructions provided on the form, sign, and send the signed form back to this email address within 5 business days. Late submission of the payee data form may result in delay of grant execution or cancelation of award.

PRE-PROJECT CONSULTATION

After receiving notification of award, each recipient will be contacted by CDFA via email to conduct a pre-project consultation. In some cases, a phone call with grant recipient may be necessary. A CDFA environmental scientist will discuss with the recipient the project work plan, including management practice(s), APN, field number, acreage, materials and/or plant species (if applicable) associated with practice implementation, and budget. The purpose of the pre-project consultation is to ensure that practices and implementation methods in the funded project are compliant with 2021 HSP Incentives Program requirements and to allow CDFA to schedule verification site visits, if needed.

GRANT AGREEMENT

CDFA will initiate the Grant Agreement process with applicants selected to receive a 2021 HSP Incentives Program grant award. Applicants with projects selected for an award of funds will receive a Grant Agreement package with specific instructions regarding award requirements including information on project implementation, verification, and payment process.

PROJECT IMPLEMENTATION

Once a Grant Agreement is executed, the grant recipient may begin implementation of the project. Recipients are responsible for the overall management of the awarded project to ensure all project activities are completed as identified in the Grant Agreement.

Implementation must begin on or after the date the Grant Agreement is executed, and no

later than TBD. Failure to implement the project prior to TBD may result in all or any portion of the grant funding withheld or termination of the Grant Agreement. Implementation of soil management practices in years 2 and 3 must begin prior to TBD, respectively.

PROJECT REPORTING REQUIREMENTS

Recipients are required to report annually soil organic matter content for each APN/ Field where HSP Management Practices are implemented. For this purpose, soil samples must be taken once prior to project implementation, one year and two years following initial project implementation.

Each submission should contain a laboratory report of soil organic matter content for each field from any of the accredited soil analytical laboratories recommended by CDFA[2]. The soil sampling protocol provided in HSP Soil Sampling Protocol for Soil Organic Matter Analysis must be followed when collecting soil samples.

PAYMENT PROCESS

Grant payment for the 2021 HSP Incentives Program is a flat-rate payment system on a reimbursement basis through yearly invoicing upon practice verification.

CDFA will provide the grant recipient with the necessary grant award and invoicing documents (See: Project Verification)

Note: For projects implementing compost application, information provided below must be noted:

- The estimated payments provided by the CDFA HSP Comet-Planner tool are based on the maximum allowable application rate for compost. In case of grant recipients applying compost at lower rates, the amount for reimbursements may be adjusted by CDFA to be consistent with tons of compost applied as part of the project. In case of projects applying on-farm produced compost, C:N ratio and applications rates must be consistent with those provided in the grant application. If finished compost has a different C:N ratio, application rates may be adjusted by CDFA to be consistent with allowable application rates for the HSP. This may result in a change in estimated payments and project budget.

ADVANCE PAYMENTS

If selected for funding, recipients may be eligible for advance payments of up to 25 percent of the grant award, subject to the provisions of section 316.1 “Advance Payments”

[2] CDFA recommended soil analytical labs are listed in HSP Soil Sampling Protocol for Soil Organic Matter Analysis.

of the California Code of Regulations, Division 1, Chapter 5.

PROJECT VERIFICATION

Recipients will be subjected to verification that the eligible agricultural management practices are implemented in a manner consistent with the USDA NRCS CPS guidelines, and Program Requirements in Appendix A. Verification will be conducted by CDFA environmental scientists who may conduct field evaluations by APN and/or remote evaluations through phone, video conferencing or emails to verify program compliance during the grant agreement term. CDFA may request any or all of the documentation listed in Appendix A in order to successfully complete project verification.

The purpose of project verification is to determine whether and when deliverables are being met and evaluate project progress to ensure the eligible agricultural management practice(s) are completed within the grant agreement term. Recipients may be required to submit project-related financial records and documentation (such as receipts for payment of services/goods) to ensure HSP Incentives Program funds are used in compliance with the Grant Agreement terms and conditions. Specific verification requirements for each practice implementation are noted in Appendix A and will be provided in the Grant Awards Procedures manual. The verification must be completed prior to payment of grant funds. CDFA will withhold up to 10 percent from the total grant award until the verification requirements are complete.

The State of California has the right to review project documents and conduct audits during project implementation and over the project life.

POST-PROJECT COMPLETION REQUIREMENTS

Execution of the Grant Agreement is conditional upon agreement to post-project completion requirements. Recipients are required to maintain implementation of practices incentivized through this program through the term of the grant agreement. However, benefits from implementation of practices are expected to be achieved in the long term. Recipients are encouraged to continue and/or expand these practices on their operations to achieve long-term benefits. Additionally, grant recipients are required to maintain, three years after completion of project, documentation related to their HSP funded projects, including records documenting maintenance of the agricultural management practice(s) and any soil testing reports for the project APNs/fields, to keep records of actual benefits achieved from the project, and provide organic matter testing report for soil samples taken at 3-year after practice implementation.

Failure to work with CDFA to provide the necessary project-related documentation will be

considered non-performance. In the event of non-performance, CDFA may take any action deemed necessary to recover all or any portion of the grant funding.

CDFA will contact a subset of awarded projects to collect data including, but not limited to, eligible agricultural management practice implementation and GHG reduction estimates, for three years after project completion.

STATE AUDIT AND ACCOUNTING REQUIREMENTS

In addition to HSP program requirements, awarded projects may be subject to State Audit and Accounting Requirements listed below.

AUDIT REQUIREMENTS

Projects are subject to audit by the State annually and for three (3) years following the final payment of grant funds. If the project is selected for audit, Grantee will be contacted in advance. The audit shall include all books, papers, accounts, documents, or other records of Grantee, as they relate to the project. All project expenditure documentation should be available for an audit, whether paid with grant funds or other funds.
Grantee must have project records, including source documents and evidence of payment, readily available and must provide an employee with knowledge of the project to assist the auditor. Grantee must provide a copy of any document, paper, record, etc., requested by the auditor.

ACCOUNTING REQUIREMENTS

Grantee must maintain an accounting system that:

- Accurately reflects fiscal transactions, with the necessary controls and safeguards.
- Provides a good audit trail, including original source documents such as purchase orders, receipts, progress payments, invoices, employee paystubs and timecards, evidence of payment, etc.
- Provides accounting data so the total cost of each individual project can be readily determined.

RECORDS RETENTION

Records must be retained for a period of three (3) years after final payment is made by the State. Grantee must retain all project records at least one (1) year following an audit.

DETAILED SCORING CRITERIA

CRITERIA	MAX POINTS
1. PROJECT LOGISTICS • Proposed practice not implemented in the field currently or last year. • For practice expanding to new acres: only new acres are eligible for funding. • Proposed practice implementation methods must be consistent with the requirements in the corresponding NRCS CPS documentation, CDFA Compost Application White Paper and/or CDFA Whole Orchard Recycling Report.	**10**
2. PROJECT DESIGN • Project design schematic (map) created using the CDFA HSP Re-Plan tool (other schematics or maps not accepted). Plant species in the project if applicable (e.g., for Cover Crop) is provided. • Compost Application: C:N ratio and application rate are indicated and within eligible range.	**10**

3. PROJECT WORK PLAN
• Tasks necessary to accomplish implementation of each proposed practice are feasible and all necessary tasks for each of the Project Year are included.
• Timeline for completing all tasks is reasonable and achievable.
• Please check:
  ○ All practices must be implemented/maintained each year for three years.
  ○ Soil samples must be taken prior to, one, two and three years after practice implementation.
	10

4. PROJECT BUDGET AND GHG EMISSION REDUCTIONS • Only budgets prepared using the CDFA HSP COMET-Planner tool are allowed. • CDFA HSP COMET-Planner Report is provided. • Acres/feet in the budget is only for new practice(s) and/or new acres of existing practice(s). Input data (county, practice, and acreage) is consistent with what is provided in the project design. For cover crop practice implementation where legume and non-legume species are to be used in the same field, only acreage for legume species should be entered**.**	**20**
5. CONSERVATION PLAN • Documents: meet minimum requirements for the conservation plan.	**10**

TOTAL POINTS	60

REQUIRED APPLICATION DOCUMENTS

All required application documents must be submitted by the deadline specified in this solicitation. In addition to the mandatory and optional attachments each applicant will provide, applicants must download, complete and upload the templates provided on this page: https://www.cdfa.ca.gov/oefi/healthysoils/incentivesprogram.html.

- Project Work Plan Template

The mandatory and applicable attachments include:

- CDFA HSP Re-Plan Report
- CDFA-HSP COMET-Planner Report
- Landowner Agreement (if applicable).
- Conservation Plan (if applicable).
- A Grazing management plan for Prescribed Grazing Practice (if practice is included).
- Supporting Documents showing that the project provides benefits to AB 1550 Priority Populations (if applicable).

APPENDIX A
2021 HSP Incentives Program: Payment Rates, Requirements and Implementation Guidelines

Application Phase							Implementation Phase	
Agricultural System	**HSP Practice**	**Practice Implementation**	**Payment Scenario**	**Payment Rate ($/Unit)**	**Number of Years to be Paid**	**Required Document or Information at Submission of Application**	**Implementation Guidelines**	**Verification Requirements**
Cropland	Alley Cropping (NRCS CPS 311)	Replace 20% of Annual Cropland with Woody Plants	Tree-planting, single row	$2,107.20 /Ac	1	Species and number of trees	(1) Potted seedling size at ≥2 gal; (2) Plant density at ≥40 trees/acre; (3) Tree protection and irrigation.	(1) 3-5 Geotagged photographs showing established trees, (2) Receipts of seedlings purchased; (3) Species and number of live plants; (4) Maintenance of plant growth in the project term and beyond.
Cropland	Compost Application (CDFA)	Compost (C:N ≤ 11) application to annual crops	On-farm produced compost	$50.00/ton	3	Compost C:N ratio, Application Rate, Acres to Be Implemented	(1) Application rate must be between 3-5 tons/acre; (2) Compost materials, method and Composting process must be documented.	(1) 3-5 Geotagged photographs showing compost piles, compost being spread and ground right after compost is applied; (2) A composting log including raw materials, method and temperatures during composting process; (3) Estimated total tonnage of compost applied; (4) Compost analysis report on C:N ratio; (5) Verification when compost is spread.
		Compost (C:N > 11) application to annual crops					(1) Application rate must be between 6-8 tons/acre; (2) Compost materials, method and Composting process must be documented.	

Cropland	Compost Application (CDFA)	Compost (C:N ≤ 11) application to annual crops	Purchased from a Certified Composting Facility	$50.00/ton	3		Application rate must be between 3-5 tons/acre	(1) 3-5 Geotagged photographs showing compost piles, compost being spread and ground right after compost is applied, (2) A copy of receipt for compost purchased; (3) Compost analysis report on C:N ratio; (4) Verification when compost is spread.
		Compost (C:N > 11) application to annual crops					Application rate must be between 6-8 tons/acre	
Cropland	Conservation Cover (NRCS CPS 327)	Convert Irrigated or Non-Irrigated Cropland to Permanent Unfertilized Grass Cover or Grass/ Legume cover	Introduced species	$273.78/Ac	1	(1) Introduced perennial or selected using CalFlora, (2) seeding rate & planting method	(1) Seeding rate at 21-40 pure live seeds per sqft; (2) Plant protection from animal damage and growth maintenance.	(1) 3-5 Geotagged photographs of fields showing established plants (>60% plant cover); (2) Receipts of seeds purchased including species names; (3) Good plant growth during the project term.
			Introduced species with foregone income	$458.16/Ac			(1) Seeding rate at 41-60 pure live seeds per sqft; (2) Plant protection from animal damage and growth maintenance.	
Cropland	Conservation Cover (NRCS CPS 327)	Convert Irrigated or Non-Irrigated Cropland to Permanent Unfertilized Grass Cover or Grass/ Legume cover	Native species	$305.60/Ac	1	(1) Mix of native perennials, (2) seeding rate & planting method	(1) Seeding rate at 21-40 pure live seeds per sqft; (2) Plant protection from animal damage and growth maintenance.	
			Native species with foregone income	$567.56/Ac				
Cropland	Conservation Cover (NRCS CPS 327)	Convert Irrigated or Non-Irrigated Cropland to Permanent Unfertilized Grass Cover or Grass/ Legume cover	Monarch species – mix species	$1,370.78 /Ac	1	(1) Mix of native perennial grass & forbs for wildlife, pollinators, or ecosystem restoration; (2) Seeding rate & planting method	(1) At least 4% native milkweeds (*Asclepias* spp.) and less than 50% grasses; (2) Seeding rate at 21-40 pure live seeds per sqft; (3) Plant protection from animal damage and growth maintenance.	
			Monarch species – mix species with foregone income	$1,383.20 /Ac				

Cropland	Conservation Cover (NRCS CPS 327)	Convert Irrigated or Non-Irrigated Cropland to Permanent Unfertilized Grass Cover or Grass/ Legume cover	Pollinator species	$1,095.52 /Ac	1	(1) Mix of native perennial grasses, legumes, and forbs to provide habitat for pollinators; (2) Seeding rate & planting method	(1) Mixed native species with less than 50% grasses; (2) Seeding rate at 21-40 pure live seeds per sqft; (2) Plant protection from animal damage and good maintenance.	(1) 3-5 Geotagged photographs of fields showing established plants (>60% plant cover); (2) Receipts of seeds purchased including species names; (3) Good plant growth during the project term.
			Pollinator species with foregone income	$1,088.74 /Ac	1			
Cropland	Conservation Crop Rotation (NRCS CPS 328)	Decrease Fallow Frequency or Add Perennial Crop to Rotations	Basic rotation	$20.48/Ac	3	A rotation plan including all crops in the sequence with at least one annual crop.	Effective implementation of the rotation plan to add higher residue and/or perennial crops to reduce erosion and increase other benefits.	(1) 3-5 Geotagged photographs of the field showing crops in the rotation (2) A farming log recording rotation implementation.
			Specialty crops	$54.64/Ac				
Cropland	Contour Buffer Strips (NRCS CPS 332)	Convert Strips of Irrigated Cropland to Permanent Unfertilized Grass Cover or Unfertilized Grass/Legume Cover	Introduced species, foregone income	$434.16/Ac	1	(1) A design schematic; (2) Perennial species; (3) seeding rate and planting method.	(1) Width of strips: ≥15 feet wide if ≥50% grass species OR ≥30 feet wide when legume/forbs are used alone, or ≥50% legumes; (2) Seeding rate at 41-60 pure live seeds per sqft; (3) Inoculate legumes at planting time if legume species is used; and (4) Good maintenance.	(1) 3-5 Geotagged photographs of fields showing established strips (>60% plant cover); (2) Receipts of seeds purchased; (3) Plant species name and seeding rate; (4) Good plant growth during the project term.
			Native species, foregone income	$464.02/Ac	1	(1) A design schematic; (2) Native perennial species; (3) seeding rate, planting method	(1) Width of strips: ≥15 feet wide if grass species consists of 50% or more OR ≥30 feet wide when legume/forbs are used alone, or legumes consist of 50% or more; (2) Seeding rate at 21-40 pure live seeds per sqft; (3) Inoculate legumes at planting time if legume species is used; and (4) Good maintenance.	

Cropland	Contour Buffer Strips (NRCS CPS 332)	Convert Strips of Irrigated Cropland to Permanent Unfertilized Grass Cover or Unfertilized Grass/Legume Cover	Wildlife Pollinator, foregone income	$464.02/Ac	1	(1) A design schematic; (2) at least 3 pollinator friendly native perennial species; (3) Seeding rate, planting method	(1) Width of strips: ≥15 feet wide if grass species consists of 50% or more OR ≥30 feet wide when legume/forbs are used alone, or legumes consist of 50% or more; (2) Seeding rate at 21-40 pure live seeds per sqft; (3) Inoculate legumes at planting time if legume species is used; and (4) Good maintenance.	(1) 3-5 Geotagged photographs of fields showing established strips (>60% plant cover); (2) Receipts of seeds purchased; (3) Plant species name and seeding rate; (4) Good plant growth in the project term.
Cropland	Cover Crop (NRCS CPS 340)	Add Non-Legume Seasonal Cover Crop to Irrigated or Non-Irrigated Cropland	One species	$102.98/Ac	3	(1) APN/field and acres; (2) cover crop species; (3) Seeding rates; (4) Planting date and method; (5) Termination date and method	(1) Single or multiple species cover crop is planted without fertilizer. (2) Cover crop is allowed to grow to produce as much biomass as possible. (3) Cover crop biomass/residue should not be removed to other places.	(1) 3-5 Geotagged photographs showing established cover crops in the field (≥60% coverage), (2) Receipts of cover crop seeds purchased, (3) Cover crop species name and seeding rate.
			Multiple species	$126.04/Ac				
Cropland	Field Border (NRCS CPS 386)	Convert Strips of Irrigated Cropland to Permanent Unfertilized Grass Cover or Permanent Unfertilized Grass/Legume Cover	Introduced species	$164.84/Ac	1	Introduced perennial species, seeding rate, planting method	(1) Seeding rate at 41-60 pure live seeds per sqft; (2) Maintain good plant growth during the project term.	(1) 3-5 Geotagged photographs of fields showing established field border; (2) Receipts of seeds purchased; (3) Plant species name and seeding rate; (4) Good plant growth during the project term.
			Native Species	$245.08/Ac	1	Native perennial species; seeding rate; planting method	(1) Seeding rate at 21-40 pure live seeds per sqft; (2) Maintain good plant growth during the project term.	
Cropland	Field Border (NRCS CPS 386)	Convert Strips of Irrigated Cropland to Permanent Unfertilized Grass Cover or Permanent Unfertilized Grass/Legume Cover	Pollinator Species	$766.26/Ac	1	Diverse mix of native perennial grasses, legumes and forbs that are pollinator friendly; seeding rate; planting method	(1) Species flower throughout the growing season with ≤50% grasses in the mix; (2) Seeding rate at 21-40 pure live seeds per sqft; (3) Maintain plant growth in the project term.	(1) 3-5 Geotagged photographs of fields showing established field border (>60% plant coverage); (2) Receipts of seeds purchased; (3) Plant species name and seeding rate; (4) Good plant growth during the project term.

Cropland	Filter Strip (NRCS CPS 393)	Convert Strips of Irrigated Cropland to Permanent Unfertilized Grass Cover or Grass/ Legume Cover	Native species	$363.56/Ac	1	(1) Filter strip design map; (2) Perennial plant species names; (3) Seeing rate and planting method	(1) Native perennial species; (2) Seeding rate at 41-60 pure live seeds per sqft; (3) Maintain good plant growth during project term.	3-5 Geotagged photographs of fields showing established filter strip (>60% plant coverage); (2) Receipts of seeds purchased; (3) Plant species name and seeding rate; (4) Good plant growth during the project term.
			Introduced species	$272.24/Ac	1		(1) Introduced cool season perennial species; (2) Seeding rate at ≥60 pure live seeds per sqft; (3) Maintain good plant growth during the project term.	
Cropland	Forage and Biomass Planting (NRCS CPS 512)	Conversion of Annual Cropland to Irrigated or Non-Irrigated Grass/Legume Forage/Biomass Crops	Nonnative, high seeding rate with lime	$475.02/Ac	1	Plant species, seeding rate, planting method, and irrigation availability	(1) Introduced perennial grasses, legumes, and/or forbs; (2) Seeding rate of 30 lb/acre pure live seed (PLS) or 41-60 pure live seeds per sqft; (3) Lime application if applicable.	(1) 3-5 Geotagged photographs of fields showing established plantings (>60% plant coverage); (2) Receipts of seeds purchased; (3) Plant species name and seeding rate; (4) Maintain plant growth during the project term.
			Nonnative, high seeding rate without lime	$334.28/Ac				
			Nonnative, standard seeding rate with fertilizer	$257.78/Ac			(1) Introduced perennial grasses, legumes, and/or forbs; (2) Seeding rate of 9 lb/acre pure live seed (PLS) or 21-40 pure live seeds per sqft; (3) Fertilizer application if applicable.	
			Nonnative, standard seeding rate without fertilizer	$131.28/Ac				
Cropland	Grassed Waterway (NRCS CPS 412)	Convert Strips of Irrigated or Non-Irrigated Cropland to Permanent Unfertilized Grass or Grass/Legume Cover	Base Waterway	$2,399.04 /Ac	1	For area where peak runoff is expected, and erosion control is needed. A design schematic, plant species and planting method.	(1) Planting area is from tops of the bank on both sides; (2) Perennial species at seeding rate ≥60 pure live seeds per sqft. (3) Maintain plant growth.	(1) 3-5 Geotagged photographs of fields showing established grassed waterway (>60% plant coverage); (2) Receipts of seeds purchased; (3) Plant species name and seeding rate; (4) Maintain plant growth during the project term.

Cropland	Grassed Waterway (NRCS CPS 412)	Convert Strips of Irrigated or Non-Irrigated Cropland to Permanent Unfertilized Grass or Grass/Legume Cover	Base waterway with checks	$3,717.92 /Ac	1	For area where peak runoff is expected, and erosion control is needed. A design schematic, plant species and planting method.	(1) Planting area is from tops of the bank on both sides; (2) Perennial species at seeding rate ≥60 pure live seeds per sqft. (3) Fabric or stone checks installed every 100 feet along the waterway perpendicular to waterflow and 2/3 the waterway top width to reduce maintenance and provide temporary protection until vegetation is established. Fabric Checks are installed 18" deep with 12" laid over on the surface.	(1) 3-5 Geotagged photographs of fields showing established grassed waterway (>60% plant coverage); (2) Receipts of seeds purchased; (3) Plant species name and seeding rate; (4) Maintain plant growth during the project term.
Cropland	Hedgerow Planting (NRCS CPS 422)	Replace a Strip of Cropland with 1 Row of Woody Plants	Single Row	$10.32/Ft	1	Length to plant, Plant species and number of each species	(1) Pollinator-friendly trees, shrubs and perennial wildflowers; (2) Plant density at ≥200 live plants/acre; (3) Average height at ≥3 feet and extend 15 feet wide at maturity; (4) Plant protection & irrigation.	(1) (1) 3-5 Geotagged photographs of fields showing established hedgerow plants. Photos are taken at both ends & middle of the hedgerow line. (2) Receipts of plants purchased; (3) Plant species name and number of live plants; (4) Maintain plant growth in the project term.
Cropland	Herbaceous Wind Barriers (NRCS CPS 603)	Convert Strips of Irrigated or Non-Irrigated Cropland to Permanent Unfertilized Grass or Grass/Legume Cover	Cool Season Perennial Species	$0.14/Ft	1	cool season perennial plant species, seeding rate and planting method	(1) Plant species must be tolerant to soil deposition and stiff; (2) Width of the Herbaceous Wind Barrier must be at least 2 feet.	(1) 3-5 geotagged photos taken at both ends & middle of the established barriers (>60% plant cover). (2) Receipts of seeds purchased; (3) Species name and seeding rate; (4) Maintain plant growth in the project term.

Cropland	Mulching (NRCS CPS 484)	Add Mulch to Croplands	Natural Materials	$358.32/Ac	3	Cropland condition where mulch to be implemented, mulch materials and source	(1) Materials produced off site; (2) ≥70% soil coverage by mulch materials at 1-3 inches thickness or 1-2 tons/acre if using straw.	(1) 3-5 Geotagged photographs of fields showing mulching is implemented including thickness and surface coverage, (2) Receipts of materials purchased, or donated with proof documents.
Cropland	Mulching (NRCS CPS 484)	Add Mulch to Croplands	Wood Chips	$2,518.86 /Ac	3	Cropland condition where mulch to be implemented, mulch materials and source	(1) Materials produced off site (2) Chip size 3/4-2 inch in diameter; (3) Mulch thickness at 2-4 inches; (4) Application rate at ≥40 cubic yards/acre or ≥10 tons/acre.	(1) 3-5 Geotagged photographs showing mulching is implemented including thickness and surface coverage, (2) Receipts of materials if purchased or donated with proof documents.
Cropland	Multistory Cropping (NRCS CPS 379)	Replace 20% of Annual Cropland with woody plants	Native Tree or shrub planting	$321.60/Ac	1	Plant species and number of each species	(1) Native seedlings with 50% medium size (1 quart to gallon pot or 10 cubic inches container); (2) Plant density at ≥40 live trees/acre; (3) Tree protection and irrigation.	(1) 3-5 Geotagged photographs showing planted trees, (2) Receipts of seedlings purchased; (3) Species and number of live plants; (4) Tree maintenance in the project term.
Cropland	Multistory Cropping (NRCS CPS 379)	Replace 20% of Annual Cropland with woody plants	Non-native tree or shrubs planting	$375.20/Ac	1	Plant species and number of each species	(1) Shrub seedlings: bare root at 36-60 inches tall or container ≥20 cubic inches; tree seedlings: bare root or container ≥20 cubic inches; (2) Plant density at ≥40 live trees/acre; (3) Tree protection and irrigation.	(1) 3-5 Geotagged photographs of fields showing planted trees, (2) Receipts of seedlings purchased; (3) Species and number of live plants; (4) Tree maintenance in the project term.

Cropland	Nutrient Management (NRCS CPS 590)	Improved N Fertilizer Management on Irrigated or Non-irrigated Cropland - Reduce Fertilizer Application Rate by 15%	Basic nutrient management	$15.06/Ac	3	For cropland where synthetic nutrient fertilizers have been applied annually. Nitrogen application rate and associated crop(s) in the past 3 years.	(1) A nutrient management plan for each field(s) based on soil test analysis and University of California or CDFA recommended rates. (2) A farming log records all fertilization activities (fertilizer name, nitrogen content, application rate & date) during each project year.	(1) 3-5 Geotagged photographs of fields showing the crop and fertilization event(s), (2) Receipts of nitrogen fertilizers purchased, (3) the farming log must demonstrate that nitrogen application rate is 15% less than what was used in the past 3 years or UC recommended rate, (4) Verification is at the end of the project year or crop year as applicable.
Cropland	Residue and Tillage Management, No-Till (NRCS CPS 329)	Convert Tillage to No Till in on Irrigated or Non-irrigated Cropland	No-Till or Strip-Till	$31.72/Ac	3	Tillage implemented prior to application deadline	(1) No tillage; (2) All plantings must no-till drill or broadcast if applicable. (3) Residues kept on soil surface, not burned or removed; (4) A farming log recording all field activities related to soil disturbance.	(1) 3-5 Geotagged photos for each field showing field operations (including equipment used), field floor and overview of the whole field at end of each project year. (2) A farming log to demonstrate implementation requirements are met; (3) Verification by the end of the project year.
Cropland	Residue and Tillage Management, Reduced Till (NRCS CPS 345)	Intensive Till to Reduced-Till on Irrigated or Non-irrigated Cropland	Reduced-Till	$28.18/Ac	3	Conventional tillage implemented prior to application deadline	(1) Tillage methods (Mulch/vertical tillage, chiseling or disking) that limit soil disturbance, or (2) Fewer tillage operations. (3) Plant residue covering soil surface during winter- spring period; (4) A farming log recording all field activities related to soil disturbance.	(1) 3-5 Geotagged photos for each field showing field operations (including equipment used), field floor and overview of the whole field at end of each project year. (2) A farming log to demonstrate implementation requirements are met; (3) Verification by the end of the project year.

Cropland Cropland	Riparian Forest Buffer (NRCS CPS 391)	Replace a Strip of Cropland Near Watercourses or Water Bodies with Woody Plants	Bare-root, hand planted	$2,999.08 /Ac	1	Area of practice implementation must be upgradient from and adjacent to a stream	(1) Seedling size: 18-36 inches tall or 10-20 cubic inches container for shrubs and hardwood; 1-year old seedlings or 4-6 cubic inches container for conifer; (2) Plant protection; (3) Plant density ≥35 live plants/acre.	(1) 3-5 Geotagged photographs of the field showing planted trees, (2) Receipts for number and sizes of seedlings/cuttings purchased; (3) Species and number of live trees/shrubs at verification; (4) Tree protection and maintenance.
			Cuttings, Small to Medium Size	$3,315.18 /Ac	1		(1) Cutting size: 0.25-1 inch in diameter and 2-4 feet long; (2) Plant protection; (3) Plant density ≥35 live plants/acre.	
			Cuttings, Medium to Large Size	$7,290.46 /Ac	1		(1) Cutting size: medium (0.25-1 inch in diameter and 2-4 feet long) to large (2-6 inch in diameter and 6 ft long); (2) Plant protection; (3) ≥35 live plants/acre.	
Cropland Cropland	Riparian Forest Buffer (NRCS CPS 391)	Replace a Strip of Cropland Near Watercourses or Water Bodies with Woody Plants	Small container, hand planted	$5,941.60 /Ac	1	Area of practice implementation must be upgradient from and adjacent to a stream	(1) Potted seedling size: 1 quart to 1 gallon; (2) Plant protection; (3) ≥35 live plants/acre.	(1) 3-5 Geotagged photographs of fields showing live plants, (2) Receipts for sizes of seedlings/cuttings purchased; (3) Species and number of live trees/shrubs; (4) Tree protection and maintenance.
			Large container, hand planted	$12,168.34 /Ac	1		(1) Potted seedling size: 2 gallons or larger; (2) Plant protection; (3) ≥35 live plants per acre.	
Cropland	Riparian Herbaceous Cover (NRCS CPS 390)	Convert Irrigated or Non-Irrigated Cropland to Permanent Unfertilized Grass or Grass/legume Cover Near Aquatic Habitats	Broadcast Seeding	$1,346.18 /Ac	1	Area of practice implementation must be upgradient from and adjacent to a stream	(1) Native perennial grasses, legumes and forbs with ≤50% grasses; (2) Plug planting or broadcast planting and/or no-till drill seeded at rate of 41-60 pure live seeds/sq ft; (3) Plant maintenance in the project term.	(1) 3-5 Geotagged photographs showing established riparian cover (>60% plant cover); (2) Receipts for materials purchased; (3) Planting method and seeding rate; (4) Maintenance of established riparian zone - an adapted, diverse vegetative plant community that is under close management to ensure long term survival & ecological succession.
			Broadcast Seeding with Foregone Income	$2,605.28 /Ac				
			Plug Planting	$30,544.36 /Ac	1.00		(1) Native aquatic plants plug-planted; (2) Plant maintenance in the project term.	

Cropland	Riparian Herbaceous Cover (NRCS CPS 390)	Convert Irrigated or Non-Irrigated Cropland to Permanent Unfertilized Grass or Grass/legume Cover Near Aquatic Habitats	Combination Broadcast Seeding and Plug Planting	$15,602.28 /Ac	1.00	Area of practice implementation must be upgradient from and adjacent to a stream	(1) Native aquatic plants plug-planted; (2) Native perennial grasses, legumes and forbs with ≥50% grasses broadcast and/or no-till drill seeded at 41-60 pure live seeds/sq ft; (3) Plant maintenance in the project term.	(1) 3-5 Geotagged photographs showing established riparian cover (>60% plant cover); (2) Receipts for materials purchased; (3) Planting method and seeding rate; (4) Maintenance of established riparian zone - an adapted, diverse vegetative plant community that is under close management to ensure long term survival & ecological succession.
			Pollinator Cover	$2,350.50 /Ac	1.00	Area of practice implementation must be upgradient from and adjacent to a stream	(1) Native perennial species with ≤50% grasses; (2) 2-12 species to ensure ≥2 species in bloom at any given time of the growing season; (3) Broadcast or no-till drill seeded at rate of 41-60 pure live seeds/sq ft; (4) Plant maintenance in the project term.	
Cropland	Strip Cropping (NRCS CPS 585)	Add Perennial Cover Grown in Strips with Irrigated or Non-Irrigated Annual Crops	Wind and water erosion control	$2.94/Ac	1	Strip design: diagram on the APN where strips are located, number of strips, width & length of each strip. Plant species, sending rate and method.	(1) Two or more strips are required; (2) ≥ 50% vegetation cover must be perennial and erosion resistant species. (3) Do not include erosion-susceptible crops in adjacent strips at the same time during the year.	(1) 3-5 Geotagged photographs of fields showing established strips (>60% plant coverage); (2) receipts of seeds purchased; (3) Number, width & length of strips; (4) Maintenance in project term.
Cropland	Tree/Shrub Establishment (NRCS CPS 612)	Conversion of Annual Cropland to a Farm Woodlot	Conservation, hand planted, browse protection	$1,024.42 /Ac	1	Plant species and number of each species	(1) Bareroot shrub seedings at 6-18 inches tall or hardwood seedlings at 18-36 inches tall. (2) Plant protection and growth maintenance. (3) Plant density: ≥150 live trees per acre	(1) 3-5 Geotagged photographs of fields showing planted trees/shrubs; (2) Receipts of seedlings purchased, species and number of live plants; (3) Tree protection, and irrigation as needed; (4) Tree growth maintenance during the project term.

Cropland	Vegetative Barrier (NRCS CPS 601)	Convert Strips of Irrigated or Non-Irrigated Cropland to Permanent Unfertilized Grass or Grass/Legume Cover	Vegetative Planting	$1.58/Ft	1	Location: where sheet or rill erosion is of concern. Plant species: must meet stiffness index and is tolerant to soil erosion, seeding rate and method	(1) Permanent strips of stiff, dense vegetation established along the general contour of slopes; with vegetation stiffness index (VSI) of 0.05-0.10; (2) Broadcast or drill seeds in a strip of 3 feet or wider; (3) plant maintenance.	(1) 3-5 Geotagged photographs taken at both ends & middle of established barrier (>60% plant cover); (2) Receipts of seeds purchased; (3) Established plants at verification; (4) Plant maintenance during project term.
Cropland	Windbreak/ Shelterbelt Establishment (NRCS CPS 380)	Replace a Strip of Cropland with 1 Row of Woody Plants	1-row, trees, containers, hand planted, with tree protected	$1.30/Ft	1	Length to plant, Plant species and number of each species	(1) Containered seedlings at 15-20 cubic inches or bare root seedlings at 2-3 years old before transplanting (2) Plant protection and irrigation are required; (3) Plant density ≥200 live plants/acre.	(1) 3-5 Geotagged photographs taken at both ends & middle of the tree line; (2) Receipts of seedlings purchased; (3) Species and number of live plants; (4) Tree protection and irrigation; (5) Plant maintenance in the project term.
Cropland	Windbreak/ Shelterbelt Establishment (NRCS CPS 380)	Replace a Strip of Cropland with 1 Row of Woody Plants	1-row, trees or shrub, with wind protection fence	$2.40/Ft	1	Length to plant, Plant species and number of each species	(1) Containered seedlings at 15-20 cubic inches or bare root seedlings at 2-3 years old before transplanting (2) A wind-protection fence and irrigation are required; (3) Plant density ≥200 live plants/acre.	
Orchard or Vineyard	Compost Application (CDFA)	Compost (C:N ≤ 11) application to orchards or vineyard	Purchased from a Certified Composting Facility	$50.00/ton	3	Compost C:N ratio, Application Rate, Acres to Be Implemented	Application rate must be between 2-4 tons/acres	(1) 3-5 Geotagged photographs showing compost piles, compost being spread and ground right after compost is applied, (2) A copy of receipt for compost purchased; (3) Compost analysis report on C:N ratio; (4) Verification when compost is spread.
		Compost (C:N > 11) application to application to orchards or vineyard					Application rate must be between 6-8 tons/acres	

Orchard or Vineyard	Compost Application (CDFA)	Compost (C:N ≤ 11) application to orchards or vineyard	On-farm produced compost	$50.00/ton	3	Compost C:N ratio, Application Rate, Acres to Be Implemented	(1) Application rate must be between 2-4 tons/acres; (2) Compost materials, method and Composting process must be documented.	(1) 3-5 Geotagged photographs showing compost piles, compost being spread and ground right after compost is applied, (2) A composting log including materials, method and temperatures during composting process; (3) Estimated total tonnage of compost applied; (4) Compost analysis report on C:N ratio; (5) Verification is when compost is spread.
		Compost (C:N > 11) application to application to orchards or vineyard					(1) Application rate must be between 6-8 tons/Acres;(2) Compost materials, method and Composting process must be documented.	
Orchard or Vineyard	Conservation Cover (NRCS CPS 327)	Convert Idle Land near Orchard/Vineyard to Permanent Unfertilized Grass Cover or Grass/Legume cover	Introduced species	$273.78/Ac	1	(1) Introduced perennial or selected using CalFlora, (2) seeding rate & planting method	(1) Seeding rate at 21-40 pure live seeds per sqft; (2) Plant protection from animal damage and growth maintenance.	(1) 3-5 Geotagged photographs of fields showing established plants (>60% plant cover); (2) Receipts of seeds purchased including species names; (3) Good plant growth during the project term.
			Introduced species with foregone income	$458.16/Ac			(1) Seeding rate at 41-60 pure live seeds per sqft; (2) Plant protection from animal damage and growth maintenance.	
Orchard or Vineyard	Conservation Cover (NRCS CPS 327)	Convert Idle Land near Orchard/Vineyard to Permanent Unfertilized Grass Cover or Grass/Legume cover	Native species	$305.60/Ac	1	(1) Mix of native perennial, (2) seeding rate & planting method	(1) Seeding rate at 21-40 pure live seeds per sqft; (2) Plant protection from animal damage and growth maintenance.	(1) 3-5 Geotagged photographs of fields showing established plants (>60% plant cover); (2) Receipts of seeds purchased including species names; (3) Good plant growth during the project term.
			Native species with foregone income	$567.56/Ac				
			Monarch species – mix species	$1,370.78 /Ac	1	(1Mix of native perennial grass and forbs for wildlife, pollinators or ecosystem restoration (2) seeding rate & planting method.	(1) At least 4% native milkweeds (*Asclepias* spp.) and less than 50% grasses; (2) Seeding rate at 21-40 pure live seeds per sqft; (3) Plant protection from animal damage and growth maintenance.	
			Monarch species – mix species with foregone income	$1,383.20 /Ac				

Orchard or Vineyard	Conservation Cover (NRCS CPS 327)	Convert Idle Land near Orchard/Vineyard to Permanent Unfertilized Grass Cover or Grass/Legume cover	Pollinator species	$1,095.52 /Ac	1	(1) Mix of native perennial grasses, legumes, and forbs to provide habitat for pollinators, (2) seeding rate & planting method	(1) Mixed species with less than 50% grasses; (2) Seeding rate at 21-40 pure live seeds per sqft; (2) Plant protection from animal damage and good maintenance.	(1) 3-5 Geotagged photographs of fields showing established plants (>60% plant cover); (2) Receipts of seeds purchased including species names; (3) Good plant growth during the project term.
			Pollinator species with foregone income	$1,088.74 /Ac				
Orchard or Vineyard	Conservation Cover (NRCS CPS 327)	Plant Permanent Grass Cover or Grass /Legume Cover in Orchard/Vineyard Alleys	Orchard or Vineyard Alleyways	$185.58/Ac	1	Perennial species, seeding rate and planting and maintenance methods	(1) Inoculate legumes at planting time if legume species is used, and (2) Maintain permanent vegetation	(1) 3-5 Geotagged photographs of fields showing established alley plants (>60% plant coverage), (2) Receipts of seeds purchased, species names and seeding rate; (3) method of alley plants maintenance.
Orchard or Vineyard	Cover Crop (NRCS CPS 340)	Add Legume /Legume Mix or Non-Legume Cover Crop to Orchard/Vineyard Alleys	One species	$102.98/Ac	3	(1) APN/field and acres; (2) cover crop species; (3) Seeding rates; (4) Planting date and method; (5) Termination date and method	(1) Single or multiple species cover crop is planted without fertilizer. (2) Cover crop is allowed to grow to produce as much biomass as possible. (3) Cover crop biomass/residue should not be removed to other places.	(1) 3-5 Geotagged photographs of fields showing established cover crops (≥60% coverage), (2) Receipts of cover crop seeds purchased, (3) Cover crop species name and seeding rate.
			Multiple species	$126.04/Ac				
Orchard or Vineyard	Filter Strip (NRCS CPS 393)	Convert Idle Land Near Orchard/Vineyard to Permanent Unfertilized Grass Cover or Grass /Legume Cover	Native species	$363.56/Ac	1	Filter strip design map, plant species, seeing rate, and planting method	(1) Native perennial species; (2) Seeding rate at 41-60 pure live seeds per sqft; (3) Maintain plant growth in project term.	(1) 3-5 Geotagged photographs of fields showing established filter strip (>60% plant coverage); (2) Receipts of seeds purchased; (3) Plant species name and seeding rate; (4) Good plant growth during the project term.
			Introduced species	$272.24/Ac	1		(1) Introduced perennial species; (2) Seeding rate at ≥60 pure live seeds per sqft; (3) Maintain plant growth in the project term.	

Orchard or Vineyard	Hedgerow Planting (NRCS CPS 422)	Plant 1 Row of Woody Plants on Border of Orchard/Vineyard	Single Row	$10.32/Ft	1	Length to plant, Plant species and number of each species	(1) Pollinator-friendly trees, shrubs and perennial wildflowers; (2) Plant density at ≥200 live plants/acre; (3) Average height at ≥3 feet and extend 15 feet wide at maturity; (4) Plant protection & irrigation.	(1) 3-5 Geotagged photographs taken at both ends & middle of the hedgerow line. (2) Receipts of plants purchased; (3) Plant species name and number of live plants; (4) Maintain plant growth in the project term.
Orchard or Vineyard	Mulching (NRCS CPS 484)	Add Mulch to Orchard or Vineyard	Natural Materials	$358.32/Ac	3	Orchard/Vineyards where mulch to be implemented, mulch materials and source	(1) Materials produced off site; (2) ≥70% soil coverage by mulch material at 1-3 inches thickness or 1-2 tons/acre if using straw.	(1) 3-5 Geotagged photographs of the field showing mulching is implemented including thickness and mulch coverage, (2) Receipts of materials if purchased, or estimated amount of materials if donated with proof documents.
		Add Mulch to Orchard or Vineyard	Wood Chips	$2,518.86 /Ac	3		(1) Materials produced off site; (2) Chip size 3/4-2 inch in diameter; (3) Mulch thickness at 2-4 inches; (4) Application at ≥40 cubic yards/acre or ≥10 tons/acre.	
Orchard or Vineyard	Nutrient Management (NRCS CPS 590)	Improved N Fertilizer Management on Orchard/Vineyard - Reduce Fertilizer Application Rate by 15%	Basic nutrient management	$15.06/Ac	3	Nitrogen application rate and associated crop(s) in the past 3 years.	(1) A nutrient management budget/plan will be developed for each field(s) based on soil test analysis and University of California recommendation rates. (2) A farming log records all fertilization activities (fertilizer name, nitrogen content, application rate and date) for each crop or project year.	(1) 3-5 Geotagged photographs showing the crop and fertilization event(s), (2) Receipts of nitrogen fertilizers purchased, (3) the farming log must demonstrate that nitrogen application rate is 15% less than what was used in the past 3 years or UC recommended rate; (4) Verification is at the end of the project year or crop year as applicable.
Orchard or Vineyard	Residue and Tillage Management, No-Till (NRCS CPS 329)	Convert Tillage to No Till in Orchard/Vineyard Alleys	No-Till or Strip-Till	$31.72/Ac	3	Tillage implemented prior to application deadline	(1) No tillage; (2) all planting methods are no-till drill or broadcast if applicable. (3) Residues are kept on soil surface and not burned or removed; (4) A farming log recording all field activities.	(1) 3-5 Geotagged photos showing field operations, field floor and overview of the whole field at end of project year; (2) A farming log; (3) verification at the end of project year.

Orchard or Vineyard	Residue and Tillage Management, Reduced Till (NRCS CPS 345)	Convert Tillage to Reduced Till in Orchard/Vineyard Alleys	Reduced-Till	$28.18/Ac	3	Conventional tillage implemented prior to application deadline	(1) Tillage methods (Mulch/vertical tillage, chiseling or disking) that limit soil disturbance, or (2) Fewer tillage operations. (3) Plant residue covering soil surface during winter- spring period; (4) A farming log recording all field activities related to soil disturbance.	(1) 3-5 Geotagged photos for each field showing field operations (including equipment used), field floor and overview of the whole field at end of each project year. (2) A farming log to demonstrate implementation requirements are met; (3) Verification by the end of the project year.
Orchard	Whole Orchard Recycling (CDFA)	Whole Orchard Recycling Followed by Orchard Replant within 3 years	Whole Orchard Recycling Followed by Orchard Replant within 3 years	$861.42/Ac	1	Age of recycled trees, time to be chipped and incorporated, time of new trees to be planted, acres to be implemented	(1) An operation log recording the whole process; (2) Chips must be incorporated into soil to at least 6 inches deep	(1) 3-5 Geotagged photographs of fields showing tree removal, chipping, spreading and incorporation of wood chips; (2) A farm log including chipping details (e.g. tons of chips, size); (3) Before and after pictures of orchard; (4) Verification is when chips are incorporated.
Orchard/ Vineyard	Windbreak/ Shelterbelt Establishment (NRCS CPS 380)	Plant 1 Row of Woody Plants on Border of Orchard/Vineyard	1-row trees, containers, hand planted, with tree protected	$ 1.30/Ft	1	Length to plant, Plant species and number of each species	(1) Containered seedlings at 15-20 cubic inches or bare root seedlings at 2-3 years old before transplanting (2) Plant protection and irrigation are required; (3) ≥200 live plants/acre.	(1) 3-5 Geotagged photographs taken at both ends & middle of the tree line. (2) Receipts of seedlings purchased; (3) Species and number of live plants; (4) Tree protection and irrigation; (5) Plant maintenance during the project term.
			1-row trees or shrubs, with wind protection fence	$2.40/Ft			(1) Containered seedlings at 15-20 cubic inches or bare root seedlings at 2-3 years old before transplanting (2) A wind-protection fence and irrigation are required; (3) ≥200 live plants/acre.	

Grazing Land	Compost Application to Grassland (CDFA)	Compost (C:N > 11)Application to Grazed Grassland, Grazed, Irrigated Pasture	Compost purchased from a certified composting facility	$50.00/ton	3	Compost C:N ratio, Application Rate, Acres to Be Implemented	Application rate must be between 6-8 tons/Acres	(1) 3-5 Geotagged photographs showing compost piles, compost being spread and compost on the field floor, (2) Receipts of compost purchased; (3) Compost analysis report on C:N ratio; (4) Verification when compost is spread.
			On-farm produced compost	$50.00/ton	3	Compost C:N ratio, Application Rate, Acres to Be Implemented	(1) Application rate must be between 6-8 tons/Acres; (2) Compost materials, method and Composting process must be documented.	(1) 3-5 Geotagged photographs showing compost piles, compost being spread and compost on the field floor, (2) A composting log including raw materials, method and temperatures during composting process; (3) Estimated total tonnage of compost applied (4) Compost analysis report on C:N ratio; (5) Verification when compost is spread.
Grazing Land	Hedgerow Planting (NRCS CPS 422)	Replace a Strip of Grassland with 1 Row of Woody Plants	Single Row	$10.32/Ft	1	Length to plant, Plant species and number of each species	(1) Pollinator-friendly trees, shrubs and perennial wildflowers; (2) Plant density at ≥200 live plants/acre; (3) Average height at ≥3 feet and extend 15 feet wide at maturity; (4) Plant protection & irrigation.	(1) 3-5 Geotagged photographs taken at both ends and middle of the hedgerow line. (2) Receipts of plants purchased; (3) Plant species name and number of live plants; (4) Maintain plant growth in the project term.
Grazing Land	Prescribed Grazing (NRCS CPS 528)	Grazing Management to Improve Irrigated Pasture Condition or Rangeland or Non-Irrigated Pasture Condition	Pasture, basic	$23.34/Ac	3	A grazing management plan by a certified range manager or equivalent professional to enhance pasture or rangeland health & ecosystem function	(1) Follow the grazing management plan, (2) A grazing log records of grazing dates and stubble height after grazing; (3) Monitoring - photos of forage before and after grazing; (4) Sensitive area protection as applicable.	(1) The grazing log; (2) 3-5 geotagged photos monitoring forage, and other documents as applicable; (3) verification at the end of each project year.
			Range, basic	$5.26/Ac				

Grazing Land	Range Planting (NRCS CPS 550)	Seeding forages to improve rangeland condition	Native species broadcast	$577.74/Ac	1	Plant species (must be mixture of native perennial grasses, legumes, and/or forbs), seeding/planting rate, planting method	(1) Native adapted perennial species; (2) Seeding rate at 18 lb/acre PLS or 40 pure live seeds/sqft.	(1) 3-5 Geotagged photographs of fields showing established range plants (>60% plant coverage), (2) Receipts of seeds purchased; (3) Species, seeding rate; (4) Documentation of planting method (farming log and photos); (5) Maintenance of range plants.
			Native species high forb drilled	$511.26/Ac			(1) Native perennial species; and (2) No-till or range drill seeding at 41-60 pure live seeds/sq ft.	
			Native species low forb drilled	$358.36/Ac			(1) Predominately native adapted perennial species; (2) no-till or range drill seeding at 18 lb/acre PLS or 40 pure live seeds/sqft.	
Grazing Land	Range Planting (NRCS CPS 550)	Seeding forages to improve rangeland condition	Nonnative species broadcast	$173.60/Ac	1.00	Plant species (must be mixture of Introduced perennial grasses, legumes, and/or forbs), seeding/planting rate, planting method	(1) mixture of non-native adapted perennial species; (2) Seedbed preparation; (3) Seeding rate at 18 lb/acre PLS or 40 pure live seeds/sqft.	(1) 3-5 Geotagged photographs of fields showing established range plants (>60% plant coverage); (2) Receipts of seeds purchased; (3) Species, seeding rate; (4) Documentation of planting method (farming log and photos); (5) Maintenance of range plants.
			Nonnative species drilled	$164.12/Ac			(1) Mixture of non-native adapted perennial species; (2) No-till or range drill seeding at 41-60 pure live seeds/sq ft.	
			Shrub plugs	$4,105.36 /Ac		Shrub species, planting density (at least 1000 plants/ac) and method	(1) Shrub species such as Sage Brush, Bitter Brush or other species; (2) seedling or transplant; bareroot shrubs at 3-5 feet tall or containerized seedlings ≥20 cubic inches; (3) Planting density at 1000 plants/acre.	

Grazing Land	Riparian Forest Buffer (NRCS CPS 391)	Replace a Strip of Grassland Near Watercourses or Water Bodies with Woody Plants	Cuttings, Small to Medium Size	$3,315.18 /Ac	1	Area of practice implementation must be upgradient from and adjacent to a stream	(1) Cutting size: 1/4 to 1 inch in diameter and 24-48 inches long; (2) Plant protection; (3) ≥35 live plants per acre.	(1) 3-5 Geotagged photographs of the field showing planted trees, (2) Receipts for number and sizes of seedlings/cuttings purchased; (3) Species and number of live trees/shrubs at verification; (4) proof of planting method; (5) Tree protection (fence or other protection, and irrigation as needed) and maintenance.
			Cuttings, Medium to Large Size	$7,290.46 /Ac			(1) Cutting size: medium (0.25-1 inch in diameter and 2-4 feet long) to large (2-6 inch in diameter and 6 ft long); (2) Plant protection; (3) ≥35 live plants/acre.	
			Large container, hand planted	$12,168.34 /Ac			(1) Potted seedling size: 2 gallons or larger; (2) Plant protection; (3) ≥35 live plants per acre.	
Grazing Land	Silvopasture (NRCS CPS 381)	Tree/Shrub Planting on Grazed Grasslands	Establish trees, existing grasses	$213.02/Ac	1	Plant species and number	(1) Seedling size: containerized conifer at 4-6 cubic inches; or bare root conifer at one year old; (2) Plant density at ≥20 live plants per acre; (2) Tree protection (fence and irrigation, etc.)	(1) 3-5 Geotagged photographs of fields showing planted trees/shrubs; (2) Receipts showing sizes & number of seedlings purchased; (3) Species and number of live trees/shrubs; (5) Tree protection (fence or other protection and irrigation as needed).

Grazing Land	Tree/Shrub Establishment (NRCS CPS 612)	Conversion of Grassland to a Farm Woodlot	Conservation, hand planted, browse protection	$ 1,024.42 /Ac	1	Plant species and number of each species	(1) Bareroot shrub seedings at 6-18 inches tall or hardwood seedlings at 18-36 inches tall. (2) Plant protection and growth maintenance. (3) Plant density: ≥150 live trees per acre	(1) 3-5 Geotagged photographs of fields showing planted trees/shrubs, (2) Receipts of seedlings purchased, species and number of live plants; (3) Tree protection, and irrigation as needed; (4) Tree growth maintenance during the project term.
Grazing Land	Windbreak/ Shelterbelt Establishment (NRCS CPS 380)	Plant 1 Row of Woody Plants on Border of Orchard/Vineyard	1-row, trees, containers, hand planted, with tree protected	$ 1.30/Ft	1	Length to plant, Plant species and number of each species	(1) Containered seedlings at 15-20 cubic inches or bare root seedlings at 2-3 years old before transplanting (2) Plant protection and irrigation are required; (3) Plant density ≥200 live plants/acre.	(1) 3-5 Geotagged photographs taken at both ends & middle of the tree line. (2) Receipts of seedlings purchased; (3) Species and number of live plants; (4) Tree protection and irrigation; (5) Plant maintenance during the project term.
			1-row, trees or shrub, with wind protection fence	$2.40/Ft			(1) Containered seedlings at 15-20 cubic inches or bare root seedlings at 2-3 years old before transplanting (2) A wind-protection fence and irrigation are required; (3) Plant density ≥200 live plants/acre.	

Definitions:
Cropland, Annual or Perennial: Land where the crop(s) grown is identified as annual or perennial crop according to the Annual and Perennial Crop List for the Purpose of Conservation Compliance under the Food and Security Act of 1985, as amended or is determined as annual or perennial by the local USDA NRCS if it is not included in the list. Perennial cropland includes orchards and vineyards.
Grazing land: Land used primarily for production of forage plants maintained or manipulated primarily through grazing management.
Grassland: Land where the vegetation is dominated by grasses and other herbaceous (non-woody) plants, such as forbs.
Rangeland: Land on which the potential plant cover is composed principally of native grasses, grass-like plants, forbs or shrubs suitable for grazing and browsing, and introduced forage species that are managed like rangeland.
Pasture is a land use type having vegetation cover comprised primarily of introduced or enhanced native forage species that is used for livestock grazing. Pasture receives periodic renovation and cultural treatments such as tillage, fertilization, mowing, weed control, and may be irrigated. Pasture vegetation can consist of grasses, legumes, other forbs, shrubs or a mixture. Pasture differs from range in that it primarily produces vegetation that has initially been planted to provide preferred forage for grazing livestock.
Foregone Income: Reduced revenue that is generated mainly from reduced production because the land area used for growing cash crop(s) will be converted to Permanent Unfertilized Grass Cover or Grass/ Legume Cover. A payment scenario name that includes Foregone Income has higher payment rate because it takes consideration of both the reduced revenue and the expense for implementing the conservation management practice.
Geotagged photograph: A geotagged photograph is a photograph which is associated with a geographic position by assigning a latitude and longitude to the image. For pictures taken with a mobile phone or digital camera, this can be achieved by enabling the GPS function of the device prior to capturing a picture. Geotagging helps CDFA confirm the correct location of practice implementation consistent with Project Design at the time of verification. Please check the link https://www.cdfa.ca.gov/oefi/healthysoils/docs/InstructionsOnHowToTakeGeotaggedPhotos.pdf for instructions on how to take and send geotagged photos.

APPENDIX B: CONFIDENTIAL INFORMATION

The California Public Records Act (Government Code sections 6250, et seq.) and related statutory definitions of "confidential or proprietary information" (also known as "trade secrets") determine what information provided by the applicant is exempt from public disclosure. The following describes how questions are resolved regarding what information is confidential, the legal protections for confidential information, and internal and program procedures to maintain confidentiality.

What is "confidential?"

The California Public Records Act prevents the disclosure of confidential or proprietary information including, but not limited to:

- Confidential Business and financial information, including volume of business, costs and prices, customers, financial condition, trade secrets, and similar information obtained under an express or implied pledge of confidence. (Ev. Code § 1060 and Gov. Code § 6254).
- Personal data including tax information prohibited from disclosure. (Gov. Code § 6254 and Rev. & Taxation Code § 19542.
- Information Practices Act of 1977 (Civ. Code section 1798 et seq.)

Applicants are directed to clearly marked, on each page, “confidential/proprietary information” those documents they feel contain confidential or proprietary information. However, the mere marking of documents as "confidential/proprietary information" will not result in their being treated as confidential if they are not exempt from disclosure under the California Public Records Act.

What if there is a question about what is confidential?

The CDFA Legal Office will review the records and make a determination as to whether or not the records are exempt from disclosure.

What program procedures will keep information confidential?

Financial information will be analyzed, on a need-to-know basis, by staff from the CDFA, kept confidential, and will be maintained with restricted access. Grantee businesses will agree to provide specific key financial information for three years to develop benchmarks to evaluate the program. The records will be kept for the amount of time set forth in CDFA’s Internal Record Retention Policy.

2021 HEALTHY SOILS PROGRAM
DEMONSTRATION PROJECTS

Request for Grant Applications
Draft for Public Comment

Release date: September 9, 2021

Comments due by: 5:00 p.m. PT on September 23, 2021

Comments must be sent via email to CDFA.HSP_tech@cdfa.ca.gov

Office of Environmental Farming and Innovation
California Department of Food and Agriculture
1220 N Street, Sacramento, CA 95814

CONTENTS

BACKGROUND AND PURPOSE

The California Department of Food and Agriculture (CDFA) is pleased to announce funding availability through a competitive grant process for 2021 Healthy Soils Program (HSP) Demonstration Projects.

The 2021 HSP Demonstration Projects is part of the HSP, which stems from the California Healthy Soils Initiative, a collaboration of state agencies and departments that promotes the development of healthy soils on California's farmlands and ranchlands. The 2021 HSP Demonstration Projects are funded by the California State Budget, authorized by the Budget Act of 2021 (SB 129, Chapter 69).

The objectives of the HSP are to increase statewide implementation of conservation management practices that improve soil health, sequester carbon and reduce atmospheric greenhouse gases (GHGs) by (1) providing financial incentives to California farmers and ranchers for agricultural management practices that sequester carbon, reduce atmospheric GHGs and improve soil health, (2) funding on-farm demonstration projects that collect data and/or showcase conservation management practices that mitigate GHG emissions and increase soil health, and (3) creating a platform promoting widespread adoption of conservation management practices throughout the state.

The 2021 HSP Demonstration Projects addresses Objectives 2 and 3. Objective 1 is addressed in the 2021 HSP Incentives Program. Request for Applications for both the HSP Incentives Program and HSP Demonstration Projects are available on the HSP website: https://www.cdfa.ca.gov/oefi/healthysoils/.

FUNDING AND DURATION

CDFA was appropriated $50 million from the California State Budget, authorized by the Budget Act of 2021 to fund HSP – Incentives Program and Demonstration Projects. Demonstration Projects grant amounts cannot exceed $250,000 for Type A projects and $100,000 for Type B projects. The maximum grant duration is three years and grant funds cannot be expended before TBD or after TBD. CDFA reserves the right to offer an award different than the amount requested.

Cost sharing (matching funds or in-kind contributions) during grant duration is not required but may receive additional consideration (See: Project Duration and Cost Sharing).

ELIGIBILITY AND EXCLUSIONS

The 2021 HSP Demonstration Projects will fund projects that implement eligible agricultural

management practice(s) and conduct outreach to other farmers and ranchers at on-farm demonstration sites. Projects must showcase conservation management practices that mitigate GHG emissions and increase soil health, helping to create a platform promoting widespread adoption of conservation management practices throughout the state.

The HSP Demonstration Projects funds may be combined with other funds from public and private sources as cost-share for the same project. HSP funds cannot cover activities or costs funded by other federal or state grant programs.

ELIGIBILITY

- Not-for-profit entities, University Cooperative Extensions, Federal and University Experiment Stations, city and community colleges, Resource Conservation Districts (RCDs), Federal and California Recognized Native American Indian Tribes, and, farmers and ranchers in partnership with one of the aforementioned entities are eligible to apply. Individuals are not eligible to apply. As part of not-for-profit entities, use of grant funds for service members through established service programs including AmeriCorps, California Conservation Corps, or a certified local community conservation corps to support the implementation of applicable projects is eligible.
- A project must include at least one farm (private agricultural operation, university/government owned farm or city community garden) to fulfill demonstration requirements. For the purpose of this program, an agricultural operation is defined as row, vineyard, field and tree crops, commercial nurseries, nursery stock production, and livestock and livestock product operations.
- CDFA will award a maximum of two applications submitted by the same applicant, but each application should be for a unique project. Entities receiving grant award funds must be located in California.
- There is no limit to the number of applications which a single organization can be a collaborator.
- More than one farm may be included in a single application; however, the same farms cannot be listed on multiple applications.
- Applicants must lease, own, or otherwise control the fields and Assessor's Parcel Number (APN) where project activities are proposed to occur for the entirety of the project duration. If leasing land, applicants must have documented landowner approval to implement proposed practices(s) from September 1, 2020] to March 31, 2023. If the applicants are leasing property on which practices will be implemented, the applicant is responsible for obtaining the consent of the lessor and ensuring that project implementation does not violate the lease agreement.
- If selected for an award, applicants must be able to execute a grant agreement within 30

days of receiving a notice of award.

EXCLUSIONS

- HSP Demonstration Projects funds cannot be used to implement management practices that are not listed under Eligible Agricultural Management Practices in this grant solicitation. All requirements for practice implementation must be followed wherever applicable.
- HSP funds cannot be used to fund fields with existing and ongoing implementation of any agricultural management practices listed under Eligible Agricultural Management Practices, including fields for which a HSP Demonstrations or Incentives project was previously awarded:
    - A previously implemented practice cannot be implemented on same field or APN.
    - A previously implemented practice can be implemented on a new, different field within the same APN.
    - Practices cannot be moved to different fields within an APN during the term of the grant agreement.
    - Practices must be implemented on the same total acreage throughout the term of the grant agreement as proposed in the application and memorialized in the grant agreement. Decrease in acreage of practice implementation and quantified GHG reductions in the project after signature by Recipient and execution of grant agreement may result in elimination of that practice from the project and subsequent reduction of project budget. Additionally, project may be considered incomplete and ten percent of total project budget may be withheld (see Project Verification).

- Awards made through the HSP Demonstrations Projects cannot be used as cost share for any other awards made through the HSP Demonstration Projects or the HSP Incentives Program.
- Compost Application and Whole Orchard Recycling Practices must not be implemented on APNs consisting of soils with soil organic matter content greater than 20 percent by dry weight (in top 20 cm or 8-inch depth).
- Practices may not be implemented on lands or crop types that are not suitable based on NRCS Conservation Practice Standards and NRCS California Practice Scenarios.
- HSP funds cannot be used for projects that use potted plants or other plant growth media.

PROJECT TYPES

CDFA has identified two types of Demonstration Projects to facilitate a diversity of applications and promote widespread adoption of the eligible agricultural management practices. Applicants

must indicate the type of project they are applying for on the application. The eligible project types are:

(i) *Type A*: Projects are required to (a) implement the selected eligible agricultural management practice(s), (b) collect data on field measurements of GHG emissions, and (c) collect co-benefit data including benefits to soil health and environmental water and air quality data to address knowledge gaps regarding implementation of practices identified as "Practices for Demonstration and Data Collection" (See Eligible Agricultural Management Practices). In addition, the project must conduct outreach and education to other farmers and ranchers on the benefits of these practices to agricultural and environmental sustainability. The maximum grant award for a Type A project is $250,000.

(ii) *Type B*: Projects are required to implement the selected eligible agricultural management practice(s) and conduct outreach to other farmers and ranchers at the on-farm demonstration sites on the benefits of these practices to agricultural and environmental sustainability. The maximum grant award for a Type B project is $100,000.

ELIGIBLE AGRICULTURAL MANAGEMENT PRACTICES

CDFA has identified eligible agricultural management practices that sequester carbon, reduce atmospheric GHGs, and improve soil health for the 2021 HSP projects. Applicants must implement one or more of the following management practices on APN(s) where it has not been implemented previously (See Eligibility). An applicant must include the APN(s) of the field(s) where the eligible management practice(s) will be implemented. Applicants may include multiple practices on the same APN or the same practice on multiple APNs. Some practices may not be implemented on the exact same field as part of the same project. Refer to Non-Overlapping Practices for details.

PRACTICES FOR DEMONSTRATION AND DATA COLLECTION FOR TYPE A DEMONSTRATION PROJECTS

Specified practices for which a CARB-approved GHG quantification methodology is not currently available are eligible for funding under Type A Demonstration Projects. Field GHG measurements must be included as part of the proposed projects. Projects proposing these practices will be required to collect scientific data to fulfill the following priorities and to inform development of implementation standards for these practices in the long-term:

(i) Demonstrate soil organic carbon sequestration and GHG reduction potential of the practice in diverse California climate types, soil types and crop types, through collection of data including but not limited to field measurement of GHG emissions and soil health indicators.

(ii) Address knowledge gaps regarding environmental and eco-system impacts and co-benefits resulting from implementation of these practices at field-scale.

(iii) Develop and/or standardize methodology for practice implementation, and, formulation and characterization of material(s) needed for implementation of practices including but not limited to vermicompost and microbial inoculation with compost tea.

The practices eligible under this category are:

I. Cropland, Orchard and/or Vineyard

1. Anaerobic Digestate Application: Cropland application of solids generated from anaerobic digestion of organic materials.
2. Microbial Inoculation with Compost Tea: Cropland application of diluted compost steeped or brewed in water with aeration/stirring (i.e. compost tea).
3. Mycorrhizal Application: Incorporating soil with fungi that form a symbiotic relationship with roots of crop plants.
4. Nutrient Management (CPS 590) (Replacing Synthetic N Fertilizer with Soil Amendments such as beef feedlot manure, chicken broiler manure, chicken layer manure, other manure, dairy manure, sheep manure and swine manure).
5. Nutrient Management (CPS 590) (Use of Nitrification Inhibitors).
6. Nutrient Management (CPS 590) (Use of Slow Release Fertilizers).
7. Vermicompost Application: Application of compost produced from organic materials using various species of worms.
8. Biochar Application: Application of biochar produced from organic materials to soil.
9. Food Waste Hydrolysate Application: Application of hydrolysate product produced from food waste treatment to soil.

II. Grazing Land

1. One-Time Compost Application with Higher Rates for Grazed Grasslands: Application of compost to grazed grasslands at rates higher than currently supported by Healthy Soils Program once every ten years.

CDFA HSP Demonstration Projects will not support the development of proprietary products. Information and data generated as a resulted of funded projects must be made available publicly. Publication in peer-reviewed and open-access scientific journals is strongly encouraged.

ELIGIBLE PRACTICES FOR TYPE B DEMONSTRATION PROJECTS

The following management practices were selected from the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Conservation Practice Standards (CPS) and CDFA specified Compost Application Practices. HSP-specific GHG Quantification Methodology is currently available for these practices.

All practices must be implemented in accordance with their respective NRCS CPS requirements for implementation in California, CDFA Compost Application White Paper and CDFA's Whole Orchard Recycling Report. HSP-specific requirements for implementation of eligible practices are based on NRCS CPS documentation and 2021 NRCS California Practice Scenarios (HSP-specific practices only). Refer to the Program Requirements and Appendix A for details.

Eligible practices are categorized based on agricultural systems where they can be implemented. They are divided into three categories below.

I. Cropland

1. Alley Cropping (USDA NRCS CPS 311)
2. Compost Application (CDFA Compost Application White Paper)
    a. Compost Purchased from a Certified Facility
    b. On-farm Produced Compost
3. Conservation Cover (USDA NRCS CPS 327)
4. Conservation Crop Rotation (USDA NRCS CPS 328)
5. Contour Buffer Strips (USDA NRCS CPS 332)
6. Cover Crop (USDA NRCS CPS 340)
7. Field Border (USDA NRCS CPS 386)
8. Filter Strip (USDA NRCS CPS 393)
9. Forage and Biomass Planting (USDA NRCS 512)
10. Grassed Waterway (USDA NRCS CPS 412)
11. Hedgerow Planting (USDA NRCS CPS 422)
12. Herbaceous Wind Barrier (USDA NRCS CPS 603)
13. Mulching
    a. Nature Materials (USDA NRCS CPS 484)
    b. Wood Chips (USDA NRCS CPS 484)
14. Multi-story Cropping (USDA NRCS CPS 379)
15. Nutrient Management (USDA NRCS CPS 590) (15% reduction in fertilizer application *only*)
16. Residue and Tillage Management – No-Till (USDA NRCS CPS 329)
17. Residue and Tillage Management − Reduced Till (USDA NRCS CPS 345)
18. Riparian Forest Buffer (USDA NRCS CPS 391)
19. Riparian Herbaceous Cover (USDA NRCS CPS 390)
20. Strip Cropping (USDA NRCS CPS 585)
21. Tree/Shrub Establishment (USDA NRCS CPS 612)
22. Vegetative Barriers (601) (USDA NRCS CPS 601)
23. Windbreak/Shelterbelt Establishment (USDA NRCS CPS 380)

II. Orchard or Vineyard

1. Compost Application (CDFA Compost Application White Paper)
    a. Compost Purchased from a Certified Facility
    b. On-farm Produced Compost
2. Conservation Cover (USDA NRCS CPS 327)
3. Cover Crop (USDA NRCS CPS 340)
4. Filter Strip (USDA NRCS CPS 393)
5. Hedgerow Planting (USDA NRCS CPS 422)
6. Mulching
    a. Nature Materials (USDA NRCS CPS 484)
    b. Wood Chips (USDA NRCS CPS 484)
7. Nutrient Management (USDA NRCS CPS 590) (15% reduction in fertilizer application *only*)
8. Residue and Tillage Management – No-Till (USDA NRCS CPS 329)
9. Residue and Tillage Management − Reduced Till (USDA NRCS CPS 345)
10. Whole Orchard Recycling (CDFA HSP WOR)
11. Windbreak/Shelterbelt Establishment (USDA NRCS CPS 380)

III. Grazing Land

1. Compost Application (CDFA Compost Application White Paper)
    a. Compost Purchased from a Certified Facility
    b. On-farm Produced Compost
2. Hedgerow Planting (USDA NRCS CPS 422)
3. Prescribed Grazing (USDA NRCS CPS 528)
4. Range Planting (USDA NRCS CPS 550)
5. Riparian Forest Buffer (USDA NRCS CPS 391)
6. Silvopasture (USDA NRCS CPS 381)
7. Tree/Shrub Establishment (USDA NRCS CPS 612)
8. Windbreak/Shelterbelt Establishment (USDA NRCS CPS 380)

TECHNICAL SPECIFICATIONS FOR ESTIMATION OF GHG BENEFITS

Expected Life of Practices:

To estimate the net GHG benefits due to a practice implementation, the expected life of the practice is as follows:

Eligible Agricultural Management Practice	Expected Life of Practice*
Practices that involve planting of woody cover (trees/shrubs)	10 Years
All other practices	3 Years

*Expected Life of Practice for the HSP is different from that required by USDA-NRCS, and distinct from the grant duration.

In addition to the NRCS CPS requirements, 2021 NRCS California Practice Scenarios and the table provided above, the following scientific documents were used to establish requirements for implementation of practices:

1. COMET-Planner Report: This report explains the scientific approaches that the quantification methodology has been utilized to estimate greenhouse gas reduction benefits for the CDFA HSP and is available at: http://bfuels.nrel.colostate.edu/health#.
2. White paper titled 'Compost Application Rates for California Croplands and Rangelands for a CDFA Healthy Soils Incentives Program', available at: https://www.cdfa.ca.gov/oefi/healthysoils/docs/CompostApplicationRate_WhitePaper.pdf
3. California Air Resources Board (CARB) Healthy Soils Quantification Methodology (QM) available at: https://ww2.arb.ca.gov/resources/documents/cci-quantification-benefits-and-reporting-materials.
4. CDFA's Report on Whole Orchard Recycling: https://www.cdfa.ca.gov/oefi/healthysoils/docs/CDFA_WOR_Report.pdf

Technical information from these documents was evaluated and synthesized to develop Program Requirements and Practice Implementation Requirements in Appendix A.

PROGRAM REQUIREMENTS

Submitted applications must meet all applicable requirements in this section to be considered for funding.

- Eligible agricultural management practices can be implemented alone or in combinations, except where specified, on one APN or several APNs. Specific fields within each APN where agricultural management practice(s) will be implemented should be named by Field or Plot (such as Field 1, Field 2, Field 3, etc.).
    - Each field/plot and corresponding APNs must be outlined clearly on a map.
    - All fields must have the selected agricultural management practices implemented each year for the duration of the project term. If practices under the Additional Practices for Demonstration and Data Collection category are proposed to be

implemented for less than 3 years, applicant must provide appropriate justification under the Project Merit section of the application. Data collection under this category must be conducted for three years.
    - Implementations must begin prior to the end of each project year.
    - Multiple management practices may be included within the same APN (except for Non-Overlapping Practices), and multiple APNs on the same or different farm(s) may be included in the project.
    - Once awarded, recipients may not change the APNs included in the grant application through the duration of the project.

- Projects proposing to implement Prescribed Grazing must be located on grazing lands (i.e. rangelands, grazed grasslands, and pasturelands). Applications for prescribed grazing must include a Grazing Management Plan prepared by a professional Certified Rangeland Manager.

- Fields where implementation of Riparian Forest Buffer and/or Riparian Herbaceous Cover practices is proposed must be adjacent to and upgradient from water courses or water bodies. Please refer to the USDA NRCS CPS 390 and 391 for more information.

- Projects proposing to implement Conservation Crop Rotation must provide a detailed plan for crop rotation, listing all cash crops and/or cover crops to be planted in the correct sequence as part of the Work Plan.

- Projects proposing to implement Cover Crop may not claim post-termination cover crop residue as mulching practice with natural materials to prevent overestimation of GHG reductions achieved.

- Projects proposing to implement practices that involve establishment of permanent woody cover must take into consideration wildlife and pollinator needs when selecting or siting tree or shrub species. Increasing species diversity, including use of native species, and avoiding species with invasive potential should be considered. Crop trees may not be planted exclusively.

- Implementation of Compost Application Practices must meet the requirements below**.**
    - Compost Application Rates to be demonstrated for funding are provided in the table below.

Crop Type	Compost Type	Dry Short Tons/Acre*
Annual Crops	Higher N (C:N ≤ 11)	2.2 – 3.6
	Lower N (C:N > 11)	4.0 – 5.3
Tree / Perennial	Higher N (C:N ≤ 11)	1.5 – 2.9
	Lower N (C:N > 11)	4.0 – 5.3
Rangeland	Lower N (C:N > 11)	4.0 – 5.3

*Compost application rates eligible for funding through this program were developed under the guidance of the Environmental Farming Act – Science Advisory Panel (EFA-SAP) and are published in a white paper report titled "Compost Application Rates for California Croplands and Rangelands for a CDFA Healthy Soils Incentives Program" (abbreviated as Compost Application White Paper) by CDFA.

- Sources of compost eligible for funding must meet the following requirements.
  - If compost is purchased:
    a. Compost must be produced by a facility permitted or otherwise authorized by state and local authorities that can demonstrate compliance with all state regulations. STA (US Composting Council's Seal of Testing Assurance Program) or CDFA-OIM (Organic Input Material) Program certified compost is recommended. Applicants may look up certified composting facilities at the CalRecycle SWIS/Site Search website: https://www2.calrecycle.ca.gov/SolidWaste/Site/Search
    b. A report of laboratory analysis on compost C:N ratio is required.
  - If compost is produced on-farm:
    a. Plant and animal materials must be composted through the processes outlined below and a farm log must be maintained to document the process.
       - ***In-vessel or Static Aerated Pile System*:** Maintain a temperature between 131°F and 170°F for 3 days.
       - ***Windrow Composting*:** Maintain a temperature between 131°F and 170°F for 15 days. The materials must be turned a minimum of five times.
    b. C:N ratio of the compost to be applied must be verified through laboratory testing before application. Type of material(s) used for composting must be documented.
    c. Compost used in this practice must be produced at the agricultural operation where the project is located. Externally sourced compost must be purchased from a certified facility.

d. Compost used in this practice cannot be vermicompost.

- Implementation of the Whole Orchard Recycling (WOR) practice must meet the following requirements below:
  - Only orchards with trees at least ten years of age are eligible.
  - Following woodchip incorporation, land must be fallowed or replanted with trees within 3 years.
  - Orchards should be chipped and incorporated in place on the field in which they were grown, without exporting chips off-site or to new fields.
  - The WOR practice must not be implemented in soils with Soil Organic Matter greater than 20%.
  - Chips must be evenly distributed throughout the orchard. If a service provider is contracted, their commitment to spread the wood chips must be in the contract/invoice for verification purposes.
  - Chips must be incorporated into the soil to at least 6 inches depth.

- *Non-Overlapping Practices*: For the purposes of the HSP, practices in the same group cannot be implemented on the exact same land area or field, i.e., cannot overlap or be on top of each other, as noted below. If proposed together, only one practice may be funded.
  - Group I:
    - Cover Crop (USDA NRCS CPS 340)
    - Conservation Crop Rotation (USDA NRCS CPS 328)
    - Strip Cropping (USDA NRCS CPS 585)
  - Group II:
    - Residue and Tillage Management – No-Till (USDA NRCS CPS 329)
    - Residue and Tillage Management − Reduced Till (USDA NRCS CPS 345)
  - Group III: Compost Application: Compost must either be
    - Purchased from a Certified Facility, or,
    - On-farm Produced Compost
  - Group IV:
    - Alley Cropping (USDA NRCS CPS 311)
    - Multi-story Cropping (USDA NRCS CPS 379)
  - Group V:
    - Mulching (USDA NRCS CPS 484)
    - Whole Orchard Recycling
  - Group VI
    - Conservation Cover (USDA NRCS CPS 327)
    - Contour Buffer Strips (USDA NRCS CPS 332)
    - Field Border (USDA NRCS CPS 386)

        - Filter Strip (USDA NRCS CPS 393)
        - Forage and Biomass Planting (USDA NRCS 512)
        - Grassed Waterway (USDA NRCS CPS 412)
        - Herbaceous Wind Barrier (USDA NRCS CPS 603)
        - Range Planting (USDA NRCS CPS 550)
        - Riparian Herbaceous Cover (USDA NRCS CPS 390)
        - Vegetative Barriers (601) (USDA NRCS CPS 601)
    - Group VII
        - Alley Cropping (USDA NRCS CPS 311)
        - Hedgerow Planting (USDA NRCS CPS 422)
        - Multi-story Cropping (USDA NRCS CPS 379)
        - Riparian Forest Buffer (USDA NRCS CPS 391)
        - Tree/Shrub Establishment (USDA NRCS CPS 612)
        - Windbreak/Shelterbelt Establishment (USDA NRCS CPS 380)

    - Group VIII
        - Any practice listed in Group VI and mulching
        - Any practice listed in Group VI and Group VII with reduced tillage or no-till.

    Note: There may be practices (individual or combination) in addition to those listed above that may not overlap for a specific project. These may be evaluated by CDFA on a case-by-case basis and addressed during pre-project consultation.

- Requirements noted in Appendix A must be followed for all HSP practices.

- Applicants must use the CDFA HSP Re-Plan Tool to develop their project site map, determine if they may be located in AB 1550 Priority Populations, eligibility for compost application and assistance in selecting species to be planted for specific practices based on the USDA NRCS California eVegGuide.

- CDFA strongly encourages applicants to enhance on-farm biodiversity through utilizing plant species (in applicable management practices) that support pollinator habitat and help meet the goals identified in the California Biodiversity Action Plan.

- *Practice Implementation Requirements*: For the purpose of this program, a Treatment field (T) is defined as a field where at least one of the Eligible Agricultural Management Practices, that has not been implemented previously, will be implemented; a Control field (C) is defined as a field which includes the current management practices being implemented on the project site, to serve as a comparison to T.

For both Type A and Type B projects:

- A Project must include at least one of the Eligible Agricultural Management Practices to be implemented on T where it has not been implemented previously.
- A Project must also include C to serve as a comparison to T.
- T and C should be located side-by-side and differ from each other with respect to the presence (or absence) of new management practice(s) implementation while keeping all other field activities the same as much as possible.
- When selecting locations in the APN to layout T and C, ensure field conditions such as soil properties, drainage, landscape, and cropping and management histories and size are as similar as possible.
- T and C must not be changed to a different location within the APN during the complete project term.

For all Type A projects:

- Each T must have a corresponding C.
- Plot size of T and C must be equal and large enough to allow meaningful data collection and farming operation based on practice(s) selected.
- A minimum of three replicates for each T and C is required.

- *Data Collection Requirements*: The following data collection will be required for both T and C in each APN identified in the project (and Project Reporting Requirements):

  - Required for both Type A and Type B projects:
    - Soil organic matter from each APN that is part of the project:
      - Prior to initial implementation of funded practices (2020, baseline data)
      - One year after implementation of funded practices (2021)
      - Two years after implementation of funded practices (2022)
      - Three years after implementation of funded practices (2023

  - Required for Type A projects:
    - Measurements of GHG (e.g. carbon dioxide, nitrous oxide, and methane) emissions on T and C treatment plots where Soil Management Practices are implemented during the entire project term. GHG measurements from other eligible management practices are optional, as applicable.
    - Sampling frequency for GHG emissions should be selected such that it allows collection of both baseline and peak GHG fluxes data associated with practice implementation, weather conditions, and field operations, so that data collected can be used to estimate annual GHG emissions for each treatment and control.

- Crop yield data per year.

- Optional for both Type A and Type B projects:
  - Additional data on soil health[1], co-benefits, and/or ecosystem services.
  - Detailed economic analyses on production profitability for selected practice(s).

- *Outreach Requirements*: Outreach requirements apply to both Type A and Type B projects. Grant recipients must conduct at least one field day per year at the project site to showcase HSP practices to other farmers and ranchers. All outreach events being conducted as part of awarded projects will be posted online on CDFA HSP Demonstration Projects website. Recipients must notify CDFA of the events being conducted at least 30 days prior to event date. In addition to providing event date, time and location, recipients will be required to designate a project representative whose contact information (name, email, and phone number) will be published on CDFA's HSP website. The designated project representative will be responsible for managing public inquiries about the demonstration site, including attendance of interested parties at outreach events, and ensuring sufficient availability of the demonstration site to meet the outreach and education requirements of the program. Site-specific field days may be conducted via virtual meeting or webinar platforms in situations where in-person field days are not possible, such as the COVID-19 pandemic.

  Outreach to demonstrate HSP practices and project benefits must include a minimum of 120 different individual California based farmers and/or ranchers for the duration of the grant agreement term (i.e., 40 per project year). Farmers and ranchers must attend the demonstration project site(s) so the Recipients can showcase the project benefits and co-benefits and share information on the implemented management practice(s).

  Grant recipients may meet this requirement through outreach and education efforts conducted in addition to the mandatory field days. Outreach events may include presentations at California-specific conferences or meetings where farmers and ranchers are present as participants. However, the additional efforts may not replace the mandatory field days. List of farmers and ranchers present at outreach events (for example, sign in-sheets or conference registration logs specifically showing attendance at the HSP project event) must be compiled by grant recipients and included in reports to CDFA.

  CDFA encourages creative approaches (e.g., holding outreach events multiple times in a year) to attract new individuals and support those already familiar with Eligible Agricultural

[1] To determine what kinds of data may be considered indicators of soil health, please see Table 2.02 in the Comprehensive Assessment of Soil Health: The Cornell Framework (2017) at https://soilhealth.cals.cornell.edu/training-manual/.

Management Practices to the sites in order to share knowledge and benefits of eligible agricultural management practices. Approaches such as using SMART (Specific, Measurable, Achievable, Relevant and Time-bound) goals are encouraged.

Recipients will be required to provide documentable outreach and attendance records as part of the project reporting to CDFA (See Project Reporting Requirements). Failure to meet outreach and education requirements may be considered grounds for termination of the CDFA HSP Demonstration Projects Grant Agreement. Projects that fail to meet outreach and education obligations will not be considered for future HSP Demonstration Project funding.

Project Duration and Cost Sharing: The HSP Demonstration Projects will provide funds for the grant duration beginning TBD to TBD. Though not required, applicants are encouraged to provide cost share to the project through the grant duration. Cost share can be in the form of matching funds or an in-kind contribution. Matching funds refers to a dollar amount committed to a project from a source other than the HSP Demonstrations Project. An in-kind contribution is the estimated dollar value of any time, property, or supplies donated to a project, including costs associated with labor for work involved in the implementation of the proposed project (see table below). Applicants are required to certify that cost-share, if provided, has been secured at the time of application submission.

Timeline for funding expenditures of awarded projects is provided in the table below.

Project Year	Duration of Project Year	Implementation Must Begin No Later Than
1	TBD	TBD
2	TBD	TBD
3	TBD	TBD

- *Allowable and Unallowable Costs*

  Allowable Costs

  Project costs must be itemized and clearly support implementation of eligible agricultural management practices including supplies, special purpose equipment, labor, and any other allowable costs necessary for project implementation. Project costs must be reasonable and consistent with costs paid for equivalent work on non-grant funded

activities or for comparable work in the labor market. Applicants should utilize equipment or tools they already have on-hand to implement the proposed project.

Examples of allowable costs include but are not limited to:

- Cost of implementation of proposed eligible agricultural management practices.
- Cost associated with on-farm GHG measurements for Type A projects.
- Cost of data analyses for soil organic matter content, other soil health data, ecosystem service and/or yield data.
- Costs of meals/snacks/refreshments may be allowed when reasonable and necessary for hosting an official demonstration of the project's eligible agricultural management practices (excluding travel meal costs). Expenses must be reasonable and appropriate for the purpose and nature of the meeting. Allowable costs should follow California State Human Resources (CalHR) policy except for awards to the Regents of the University of California (UC) which should follow the established UC policy.
- Cost of materials needed for outreach activities (e.g., printed handouts or brochures).

Indirect Costs

University of California (UC) and California State Universities (CSU) may claim their established indirect cost rate with CDFA. All other eligible organizations for HSP Demonstration Projects may claim an indirect cost rate of 20 percent of total direct costs.

Unallowable costs

Unallowable costs include, but are not limited to:

- Costs incurred outside of the grant duration (i.e., prior TBD or after TBD).
- Training costs to obtain professional certification and certification costs for project award recipients.
- Costs covered by another State or Federal grant program.
- Pre-development costs for project design, grant application preparation, and other activities that occur prior to TBD.
- General purpose equipment which is not specific for the proposed research, scientific or technical activities specific to project needs and not utilized for other purposes (e.g., office equipment and furnishings, or farm equipment used for non-project purposes).
- Farm equipment purchases may not be allowed for projects without reasonable justification demonstrating that the equipment is critical for widespread adoption of practice(s) by farmers and ranchers and is necessary for demonstration purposes.
- Purchasing project-specific tools and equipment with a useful life of less than two years.
- Expenditures for purchasing or leasing land or buildings.
- Cost of travel to international locations and states with discriminatory laws consistent

with AB 1887.

- *Baseline Data*: Applicants must submit the following baseline data at the time of application. Required baseline data include:
  - Cropping history in the past three years (January 2018 – January 2021) in all APN(s)/fields included in the application.
  - Management practice history in the past three years (January 2018 – January 2021) in all APN(s)/fields included in the application.

- *GHG Reductions Estimation*: An estimation of the reduction in GHG emissions from the selected Eligible Agricultural Management Practices must be calculated using the Quantification Methodology (QM) and calculator tools developed by the California Air Resources Board (CARB). The QM and calculator tool are adapted from the USDA-NRCS COMET-Planner methodology. The QM and calculator tool used for HSP are available at https://ww2.arb.ca.gov/resources/documents/cci-quantification-benefits-and-reporting-materials and http://comet-planner-cdfahsp.com/.

  COMET-Planner Report will be generated upon completion of the calculation, which must be included as part of the application.

  For practices that are listed under V. Additional Practices for Demonstration and Data Collection, a Quantification Methodology (QM) and Calculator Tool are not available. Recipients are required to report to CDFA annual GHG emissions based on on-farm measurements associated with the implementation of each proposed practice annually through the grant duration. In the application, applicants must provide justification and/or estimation on GHG reduction benefits per acre from implementing the proposed practice(s) based on available scientific literature up to date. Methodology and plan for GHG data collection must be described in detail.

TIMELINE

The application period begins TBD. The deadline to submit a grant application is TBD at 5:00 pm PT. No exceptions will be granted for late submissions.

Activity	Date
Release Request for Grant Applications (RGA)	TBD
CDFA Grant Application Workshop Webinars	TBD
Applications due	By 5:00 p.m. on TBD

Review Period	TBD
Announce and Award Funding	TBD

WORKSHOPS AND APPLICATION ASSISTANCE

CDFA will conduct three workshops on the 2021 HSP Demonstration Projects grant application process and program requirements. All workshops will be remotely accessible through live webinar.

CDFA cannot assist in the preparation of grant applications; however, general questions may be submitted to cdfa.HSP_Tech@cdfa.ca.gov. CDFA will conduct two rounds of Questions and Answers (Q&A) to address general questions about the application submission process and program requirements. Responses to all questions received during the workshops and webinars or by email will be posted to CDFA's HSP Demonstration Projects website according to the schedule below.

Questions Received by	Answers Provided by
TBD	TBD
TBD	TBD

For CDFA grant application workshop schedule and locations, visit the HSP Demonstration Projects website: https://www.cdfa.ca.gov/oefi/healthysoils/DemonstrationProjects.html.

GRANT APPLICATION PROCESS

HOW TO APPLY

The 2021 HSP Demonstration Projects is a web-based application available at [Link TBD]. The grant application is a series of questions regarding the proposed project. Questions are answered in one or more of the four following formats: a drop-down menu; a check box; a text box with predetermined character limitations; or as a document attachment. Responses to all questions must be submitted in the manner and format required by the application questionnaire electronically without exception. Please review the Preview of Application Questions [Link TBD] prior to beginning your application.

Applicants are encouraged to gather all required information using information provided under Required Application Documents to facilitate effective and timely submission of the grant application.

REVIEW AND EVALUATION PROCESS

REVIEW PROCESS

CDFA will conduct multiple levels of review during the grant application process. The first level review is an administrative review to determine whether application requirements were met and if applicable, assess an applicant's past CDFA grant performance. All required documentation must be submitted to avoid disqualification.

The second level is a technical review conducted by the HSP Technical Advisory Committee (TAC) to evaluate the merits of the application and overall expected success of the project, including sufficient data generated to demonstrate the expected benefits on GHG emission reductions, carbon sequestration, soil health improvement, and dissemination of the information to wide audience including but not limited to industry stakeholders and community members. The TAC comprises of subject matter experts affiliated with state and federal agencies.

CDFA will assess applicants' past grant performance in determining if a new project will receive funding. Prior performance will include timely completion of projects and submission of all required documentation and data during and after project completion.

EVALUATION CRITERIA

Applications are evaluated based on the following criteria. Detailed information is provided under Detailed Scoring Criteria. Applications will be scored and ranked in order of highest score to lowest score to be considered for funding.

Criteria	Score
Project Merit:	
1. Type A Projects:	
a. Demonstration Component	25
b. Outreach Component	15
2. Type B Projects:	
a. Demonstration Component	15
b. Outreach Component	25
Project Timeline and Implementation Plan	15
Project Team Qualifications	10
Project Budget and Justification	20
GHG Emission Reduction Benefits	15

Past Performance Evaluation (applicable for applicants funded in previous rounds)	Project not funded if minus 30 or greater
Total	**100**

FUNDING PRIORITY

The following applicants and/or projects will be prioritized for funding:

- **Benefits to Socially Disadvantaged Farmers or Ranchers**[2]
  CDFA will ensure the inclusion of Socially Disadvantaged Farmers and Ranchers in all programs, including HSP, consistent with the Farmer Equity Act of 2017. Farmers and ranchers who identify as belonging to a socially disadvantaged group will receive priority for funding after they have been scored and ranked by technical reviewers.

- **Benefits to Priority Populations**[3]
  SB 535 established statutory requirements that a minimum of 25 percent of California Climate Investments is allocated to projects that provide benefits to disadvantaged communities, and of that 25 percent, a minimum of 10 percentage points is allocated to projects that are also located within disadvantaged communities. Assembly Bill (AB) 1550 (Gomez, Chapter 369, Statutes of 2016), amended these requirements by increasing the percent of funds for projects located in disadvantaged communities from 10 to 25 percent and added a focus on investments in low-income communities and households. Collectively, these communities are referred to as 'priority populations. AB 1550 investment minimums apply to the overall appropriations of monies from the GGRF, not the individual agency programs. However, all California Climate Investments programs including the HSP are encouraged to maximize benefits to disadvantaged communities, low-income communities, and low-income households.

  Priority populations can be identified using the mapping tools provided by CARB at www.arb.ca.gov/cci-resources. Projects are not required to provide benefits to priority

[2] "Socially disadvantaged farmer or rancher" means a farmer or rancher who is a member of a socially disadvantaged group (SDAG). "Socially disadvantaged group" means a group whose members have been subjected to racial, ethnic, or gender prejudice because of their identity as members of a group without regard to their individual qualities. These groups include all of the following:
(1) African Americans.
(2) Native Indians.
(3) Alaskan Natives.
(4) Hispanics.
(5) Asian Americans.
(6) Native Hawaiians and Pacific Islanders.

[3] Priority populations include residents of: (1) census tracts identified as disadvantaged by California Environmental Protection Agency per SB 535; (2) census tracts identified as low-income per AB 1550; or (3) a low-income household per AB 1550. See Section VII.B for more information on the definitions of priority populations.

populations. However, the projects that are determined to be providing benefits based on their responses to the application questions will be prioritized for funding. To be considered as providing benefits to Priority Populations, applicants must provide answers to questions in the "Benefits to Severely Disadvantaged Communities, Socially Disadvantaged Groups and Priority Populations" Section of the electronic application and supporting documentation verifying that the projects meet the requisite criteria.

ADDITIONAL CONSIDERATION

Soil management practices may vary with climatic regions, soil conditions, and crop production systems. Therefore, projects with greater regional and crop production representation may be given additional consideration during the review and evaluation process to achieve widespread adoption of the management practices in the state.

NOTIFICATION AND FEEDBACK

All applicants will be notified by email regarding the status of their grant application. Applicants not selected for funding will receive feedback on their grant application within 90 days after receiving notification.

DISQUALIFICATIONS

The following will result in the disqualification of a grant application:

- Incomplete grant applications: applications with one or more unanswered questions necessary to administrative or technical review.
- Incomplete grant applications: applications with missing, blank, unreadable, corrupt, or otherwise unusable attachments.
- Applications requesting funding for more than the maximum award amount.
- Applications with unallowable costs or activities not necessary to complete the project objectives.
- Applications requesting grant funds to cover activities outside the grant duration.
- Applications that do not comply with Eligibility and Exclusions or do not meet Program Requirements.

APPEAL RIGHTS: Any discretionary action taken by the Office of Environmental Farming and Innovation (OEFI) may be appealed to CDFA's Office of Hearings and Appeals Office within ten (10) days of receiving a notice of disqualification from CDFA. The appeal must be in writing and signed by the responsible party named on the grant application or his/her authorized agent. It must state the grounds for the appeal and include any supporting documents and a copy of the OGA decision being challenged. The submissions must be emailed to CDFA.LegalOffice@cdfa.ca.gov (preferred) or sent to the California Department of Food and

Agriculture Office of Hearings and Appeals, 1220 N Street, Sacramento, CA 95814. If submissions are not received within the time frame provided above, the appeal will be denied.

AWARD PROCESS

PRE-PROJECT CONSULTATION

After receiving notification of award, each recipient will be contacted by CDFA via email to conduct a pre-project consultation. In some cases, a phone call with grant recipient may be necessary. A CDFA environmental scientist may discuss with the recipient about the project narrative, work plan, and budget if applicable. The purpose of the pre-project consultation is to ensure that practices and implementation methods in the funded project are compliant with 2021 HSP Demonstration Program requirements.

GRANT AGREEMENT

CDFA will initiate the Grant Agreement process with applicants selected to receive a 2021 HSP Demonstration Projects grant award. Applicants with projects selected for an award of funds will receive a Grant Agreement package with specific instructions regarding award requirements including information on project implementation, project reporting, verification, and payment process.

PROJECT IMPLEMENTATION

Once a Grant Agreement is executed, the grant recipient may begin implementation of the project. Recipients are responsible for the overall management of the awarded project to ensure all project activities are completed as identified in the grant agreement.

Implementation must begin on or after grant agreement is executed but no later than TBD. Failure to implement the project prior to TBD may result in all or any portion of the grant funding withheld or termination of the Grant Agreement. Implementation of soil management practices in project years 2 and 3: must begin prior to TBD, respectively.

PROJECT REPORTING REQUIREMENTS

Recipients are required to submit soil organic matter content data before implementing proposed practice(s) and semi-annual reports during the grant agreement term. A Final Performance Report must be submitted no later than 30 calendar days following the expiration date of the grant agreement or after the project is complete, whichever comes first. The progress and annual reports are used to identify milestones, results achieved, success stories, potential concerns, and other pertinent information. CDFA will provide report templates for these reports.

Information to be provided to CDFA may include:

- Annual soil organic matter content for each APN/ Field: once prior to project implementation, one year after, and two years following initial project implementation.
- Status of project implementation including all work completed and any reportable data.
- Plan for next six months.
- Management practice implementation activities and impacts (Type A and B Projects).
- Project data, including but not limited to soil organic matter data (Type A and B Projects), GHG fluxes/annual emissions, crop yield or economic analysis (Type A Projects only), co-benefits and ecosystem services (optional for both Type A and B Projects).
- Outreach activities and impacts (Type A and B Projects).
- Demonstration and outreach plan for next year (Type A and B Projects).
- Upon completion of project, barriers encountered and overcome, and recommendations for successful implementation (Type A and B Projects).

PAYMENT PROCESS

CDFA will provide the grant recipient with the necessary grant award and invoicing documents. Grant recipients will be required to submit a quarterly invoice for reimbursement of actual expenses incurred to support the approved project activities. Invoice must include documentation to support reimbursement requested. Salary and wage amounts charged to grant-supported projects or programs for personnel services must be based on an adequate payroll distribution system that documents such distribution in accordance with generally accepted practices of like organizations. Grant Recipients may be eligible to receive an advance payment up to 25 percent of the total grant award to begin project implementation (See Advance Payments). The remaining funds will be allocated on a reimbursement basis through quarterly invoicing.

ADVANCE PAYMENTS

If selected for funding, recipients may be eligible for advance payments of up to 25 percent of the grant award, subject to the provisions of section 316.1 “Advance Payments” of the California Code of Regulations, Division 1, Chapter 5.

PROJECT VERIFICATION

Recipients will be subjected to verification that the eligible agricultural management practices are implemented in a manner consistent with the USDA NRCS CPS guidelines and Appendix A. Verification will be conducted by CDFA environmental scientists who may conduct field evaluations by APN and/or remote evaluations through phone, video conferencing or emails to verify program compliance during the grant agreement term. CDFA may request any or all of the documentation listed in Appendix A in order to successfully complete project verification.

The purpose of project verification is to determine whether and when deliverables are being met

and evaluate project progress to ensure the implementation of eligible agricultural management practice(s) and project goals are completed within the grant agreement term. Recipients may be required to submit financial records and project related documentation (such as receipts for payment of services/goods) to ensure HSP Demonstration Projects funds are used in compliance with the Grant Agreement terms and conditions. Specific verification requirements for each practice will be provided in the Grant Awards Procedures manual. The verification must be completed by March 31, 2023.

CDFA will withhold up to 10 percent from the total grant award until the verification requirements are complete.

The State of California has the right to review project documents and conduct audits during project implementation and over the project life.

POST-PROJECT COMPLETION REQUIREMENTS

Execution of the Grant Agreement is conditional upon agreement to post-project completion requirements. Recipients are required to maintain implementation of practices funded through this program through the program term. However, benefits on soil health and its associated environmental co-benefits and ecosystem services from implementation of practices are expected to be achieved in the long term. Recipients are encouraged to continue and/or expand these practices on their operations to achieve long-term benefits. Additionally, grant recipients are required to maintain three years after completion of project, documentation related to the HSP funded project, including records documenting maintenance of the agricultural management practice(s) and any soil testing reports for the project APNs, to keep records of actual benefits achieved from the project.

Failure to work with CDFA to provide the necessary project-related documentation will be considered non-performance. In the event of non-performance, CDFA may take any action deemed necessary to recover all or any portion of the grant funding.

CDFA will contact a randomly selected subset of awarded projects to collect data including, but not limited to, eligible agricultural management practice implementation and GHG reduction estimates, for three years after project completion.

STATE AUDIT AND ACCOUNTING REQUIREMENTS

In addition to HSP program requirements, awarded projects may be subject to State Audit and Accounting Requirements listed below.

AUDIT REQUIREMENTS

Projects are subject to audit by the State annually and for three (3) years following the final payment of grant funds. If the project is selected for audit, Grantee will be contacted in advance. The audit shall include all books, papers, accounts, documents, or other records of Grantee, as they relate to the project. All project expenditure documentation should be available for an audit, whether paid with grant funds or other funds.

Grantee must have project records, including source documents and evidence of payment, readily available and must provide an employee with knowledge of the project to assist the auditor. Grantee must provide a copy of any document, paper, record, etc., requested by the auditor.

ACCOUNTING REQUIREMENTS

Grantee must maintain an accounting system that:

- Accurately reflects fiscal transactions, with the necessary controls and safeguards.
- Provides a good audit trail, including original source documents such as purchase orders, receipts, progress payments, invoices, employee paystubs and timecards, evidence of payment, etc.
- Provides accounting data so the total cost of each individual project can be readily determined.

RECORDS RETENTION

Records must be retained for a period of three (3) years after final payment is made by the State. Grantee must retain all project records at least one (1) year following an audit.

DETAILED SCORING CRITERIA

CRITERIA	MAX POINTS
1. PROJECT MERIT- PART I: Demonstration Component (Sections I and II)	
1.1 Project Justification • Are mechanisms of proposed practice(s) to achieve GHG reduction, soil C sequestration and other co-benefits clearly described? • Is the rationale of selected cash crop(s) and other plant species to be used described adequately? • Is anticipated adoption by participating growers discussed? • Are all relevant attachments/supporting documents provided?	Type A: **25** Type B: **15**

1.2 Project Logistics • Is there at least one practice new to the field to be implemented? • Are the Type A research and demonstration practices proposed in the project (if any) appropriately suited to the agricultural system on which project is located? • Are all relevant attachments/supporting documents provided?	
1.3 Project/Experimental Design • Is the control treatment designed to achieve statistically and scientifically sound comparisons to the treatment(s)? • Are treatments and controls clearly identified in the schematic? • Is the design randomized with at least three replicates (Type A only)? • Are proposed approaches, procedures, or methodologies for GHG sampling and data collection reasonable and feasible? • Will proposed management practice(s) be consistent with the requirements in the corresponding NRCS CPS documentation, the CDFA Compost Application White Paper and/or CDFA Whole Orchard Recycling Report? • Are all relevant attachments/supporting documents provided?	
2. PROJECT MERIT - PART II: Outreach Component (Section I and II) • Are outreach objectives clearly described, adequate, appropriate, and measurable? • Are proposed outreach activities reasonable, feasible and able to meet program requirements? These include (1) required on-farm Field Days and (2) Optional: workshops or other activities. • Are approach, procedures, or methodologies for outreach clearly described, suitable, and feasible? • Will outreach products sustain outreach functions beyond the life of the project? • Are all relevant attachments/supporting documents provided?	Type A: **15** Type B: **25**
3. PROJECT TIMELINE AND IMPLEMENTATION PLAN	
3.1 Project Work Plan (Section III) Are activities necessary to accomplish all project tasks included, suitable and feasible? These should include tasks in each year for the three years for the project, for: • Practice implementation • Data collection • Outreach tasks	**15**

3.2 Evaluation of project success (Section IV) • Are methods to assess progress and success of practice implementation provided and feasible? • Will cost/benefits for adoption of the proposed practice(s) and/or anticipated barriers be measured and discussed? • Will methods and indicators that measure outreach progress and success in short (<2 years) and long-term (≥3 years) provided and feasible? • Are all relevant attachments/supporting documents provided?	
4. PROJECT TEAM QUALIFICATION (Section V)	**10**
4.1 Project Oversight • Are roles of key personnel clearly identified? • Are cooperators/collaborators' roles, estimated time commitment, and statements of agreement to participate clearly identified? • Is a plan articulated for project management, including time allocated for attainment of objectives and delivery of products, maintenance of partnerships and collaborations? • Are all relevant attachments/supporting documents provided?	
4.2 Team Qualifications • Do key personnel have sufficient expertise to complete the project, for example, in case of Type A projects, the project investigators must be experienced in scientific training and research. • Are support personnel, facilities, and instrumentation sufficient? • Are all relevant attachments/supporting documents provided?	
5. PROJECT BUDGET JUSTIFICATION AND MATCHING FUNDS (Section VI) • Is the budget justification concise and clearly stated? • Do all budget items and activities solely support implementation of the project? • Does the budget clearly allocate sufficient resources to carry out project activities that will lead to desired outcomes? • Are the budgetary items realistic and costs justified? • Are costs for personnel and labor reasonable? • Are any of the line item costs, including labor and contractual costs, duplicative? • Is cost sharing (amount, source, and activities to cover) clearly identified and certified? • Are all relevant attachments/supporting documents provided?	**20**

6. GHG EMISSION REDUCTIONS AND CO-BENEFITS (Section VII) • GHG reductions Estimation from COMET-Planner or from literature review for Type A – Additional practices • Input data (county, practice, and acreage) is consistent with what is provided in the project design. • Acreage to calculate GHG reductions is only for each new practice or new acreage of expanded existing practice(s). • For cover crop practice implementation where legume and non-legume species are to be used in the same field, only acreage for legume species should be entered. • Are there any anticipated GHG emission reductions through adoption of demonstrated practices by growers/ranchers during the project term?	**15**
TOTAL	**100**
7. PAST PERFORMANCE This criterion is only applicable to applicants that have received HSP Demonstration Projects funding in previous rounds. Points indicated in this section will be deducted from the total points (out of 100) scored by the HSP Technical Advisory Committee.	
7.1 Past grant agreement completion • Project canceled after grant expenses incurred. • Project terminated by CDFA due to non-performance/unresponsive recipient.	**-5** **-10**
7.2 Practice Implementation • Practice(s) not implemented in one or more project year(s) consistent with the grant agreement. • Practice(s) implemented with delay, except for natural causes or CDFA's prior approval.	**-10** **-5**
7.3 Data collection • Project failed to collect any of the following required data in one or more project year(s): o Type A: GHG emissions o Type A: Yield o Type A and B: Soil organic matter or soil carbon • Project failed to collect any other data in the project Scope of Work.	 **-10** **-10** **-10** **-5**
7.4 Outreach • Project failed to conduct 3 field days during grant agreement term. • Project failed to meet 120 farmer/rancher outreach goal:	 **-10**

○ <60 ○ 61-119	**-10** **-5**
7.5 Reporting • Project failed to submit a required report during the grant agreement term. • Delay in submission of one or more required report(s).	**-10** **-5**
7.6 Communication with CDFA • Project made changes to project Scope of Work without prior approval by CDFA.	**-10**
7.7 Post project outcome data • Failure to respond to CDFA post-project data collection inquiry.	**-5**
7.8 Cumulative performance issues • Project receives negative 30 or more points using the above criteria.	**Project will not be funded.**

REQUIRED APPLICATION DOCUMENTS

All required application documents must be submitted by the deadline specified in this solicitation. In addition to the mandatory and optional attachments each applicant will provide, applicants must download, complete and upload the following templates from the HSP website, https://www.cdfa.ca.gov/oefi/healthysoils/DemonstrationProjects.html:

- Project Narrative Template
- Project Work Plan and Budget Template

The mandatory and applicable attachments include:

- Landowner Agreement*
- CDFA HSP Re-Plan Report – Project Site Map
- Project Design Schematic
- A Grazing Management Plan for Prescribed Grazing Practice*
- CDFA HSP COMET-Planner Report*
- Applicant organization's Indirect Rate Policy*
- Resumes/CVs
- Cooperator/Collaborator letters*
- Letters of Support*
  (* *If applicable*.)

Applicants are encouraged to review the following documents which help them prepare applications.

- Preview of Application Questions [Link TBD]

APPENDIX A
2021 HSP Demonstration Projects: Requirements and Implementation Guidelines

Application Phase					Implementation Phase	
Agricultural System	**HSP Practice**	**Practice Implementation**	**Payment Scenario**	**Required Document or Information at Submission of Application**	**Implementation Guidelines**	**Verification Requirements**
Cropland	Alley Cropping (NRCS CPS 311)	Replace 20% of Annual Cropland with Woody Plants	Tree-planting, single row	Species and number of trees	(1) Potted hardwood seedling size at ≥2 gal; (2) Plant density at ≥40 trees/acre; (3) Tree protection and irrigation.	(1) 3-5 Geotagged photographs showing established trees, (2) Receipts of seedlings purchased; (3) Species and number of live plants; (4) Maintenance of plant growth in the project term and beyond.
Cropland	Compost Application (CDFA)	Compost (C:N ≤ 11) application to annual crops	On-farm produced compost	Compost C:N ratio, Application Rate, Acres to Be Implemented	(1) Application rate must be between 3-5 tons/acre; (2) Compost materials, method and Composting process must be documented.	(1) 3-5 Geotagged photographs showing compost piles, compost being spread and ground right after compost is applied; (2) A composting log including raw materials, method and temperatures during composting process; (3) Estimated total tonnage of compost applied; (4) Compost analysis report on C:N ratio; (5) Verification when compost is spread.
		Compost (C:N > 11) application to annual crops			(1) Application rate must be between 6-8 tons/acre; (2) Compost materials, method and Composting process must be documented.	

Cropland	Compost Application (CDFA)	Compost (C:N ≤ 11) application to annual crops	Purchased from a Certified Composting Facility	Compost C:N ratio, Application Rate, Acres to Be Implemented	Application rate must be between 3-5 tons/acre	(1) 3-5 Geotagged photographs showing compost piles, compost being spread and compost on the field floor, (2) Receipts of compost purchased; (3) Compost analysis report on C:N ratio; (4) Verification when compost is spread.
		Compost (C:N > 11) application to annual crops			Application rate must be between 6-8 tons/acre	
Cropland	Conservation Cover (NRCS CPS 327)	Convert Irrigated or Non-Irrigated Cropland to Permanent Unfertilized Grass Cover or Grass/ Legume cover	Introduced species	(1) Introduced perennial or selected using CalFlora, (2) seeding rate & planting method	(1) Seeding rate at 21-40 pure live seeds per sqft; (2) Plant protection from animal damage and growth maintenance.	(1) 3-5 Geotagged photographs of fields showing established plants (>60% plant cover); (2) Receipts of seeds purchased including species names; (3) Good plant growth during the project term.
			Introduced species with foregone income		(1) Seeding rate at 41-60 pure live seeds per sqft; (2) Plant protection from animal damage and growth maintenance.	
			Native species	(1) Mix of native perennials, (2) seeding rate & planting method	(1) Seeding rate at 21-40 pure live seeds per sqft; (2) Plant protection from animal damage and growth maintenance.	
			Native species with foregone income			
			Monarch species – mix species	(1) Mix of native perennial grass & forbs for wildlife, pollinators, or ecosystem restoration; (2) Seeding rate & planting method	(1) At least 4% native milkweeds (*Asclepias* spp.) and less than 50% grasses; (2) Seeding rate at 21-40 pure live seeds per sqft; (3) Plant protection from animal damage and growth maintenance.	
			Monarch species – mix species with foregone income			
			Pollinator species	(1) Mix of native perennial grasses, legumes, and forbs to provide habitat for pollinators; (2) Seeding rate & planting method	(1) Mixed native species with less than 50% grasses; (2) Seeding rate at 21-40 pure live seeds per sqft; (2) Plant protection from animal damage and good maintenance.	
			Pollinator species with foregone income			

Cropland	Conservation Crop Rotation (NRCS CPS 328)	Decrease Fallow Frequency or Add Perennial Crop to Rotations	Basic rotation Specialty crops	A rotation plan including all crops in the sequence with at least one annual crop.	Effective implementation of the rotation plan to add higher residue and/or perennial crops to reduce erosion and increase other benefits.	(1) 3-5 Geotagged photographs of fields showing practice is implemented (2) A farming log recording rotation implementation.
Cropland	Contour Buffer Strips (NRCS CPS 332)	Convert Strips of Irrigated Cropland to Permanent Unfertilized Grass Cover or Unfertilized Grass/Legume Cover	Introduced species, foregone income	(1) A design schematic; (2) Perennial species; (3) seeding rate and planting method.	(1) Width of strips: ≥15 feet if ≥50% grass species OR ≥30 feet when legume/forbs are used alone, or ≥50% legumes; (2) Seeding rate at 41-60 pure live seeds per sqft; (3) Inoculate legumes at planting time; and (4) Good maintenance.	(1) 3-5 Geotagged photographs of fields showing established strips (>60% plant cover); (2) Receipts of seeds purchased; (3) Plant species name and seeding rate; (4) Good plant growth during the project term.
			Native species, foregone income	(1) A design schematic; (2) Native perennial species; (3) seeding rate, planting method	(1) Width of strips: ≥15 feet if grass species consists of 50% or more OR ≥30 feet when legume/forbs are used alone, or legumes consist of 50% or more; (2) Seeding rate at 21-40 pure live seeds per sqft; (3) Inoculate legumes at planting time; and (4) Good maintenance.	
			Wildlife Pollinator, foregone income	(1) A design schematic; (2) at least 3 pollinator friendly native perennial species; (3) Seeding rate, planting method	(1) Width of strips: ≥15 feet if grass species consists of 50% or more OR ≥30 feet when legume/forbs are used alone, or legumes consist of 50% or more; (2) Seeding rate at 21-40 pure live seeds per sqft; (3) Inoculate legumes at planting time; and (4) Good maintenance.	
Cropland	Cover Crop (NRCS CPS 340)	Add Non-Legume Seasonal Cover Crop to Irrigated or Non-Irrigated Cropland	One species Multiple species	(1) APN/field and acres; (2) cover crop species; (3) Seeding rates; (4) Planting date and method; (5) Termination date and method	(1) Single or multiple species cover crop is planted without fertilizer. (2) Cover crop is allowed to grow to produce as much biomass as possible. (3) Cover crop biomass/residue should not be removed to other places.	(1) 3-5 Geotagged photographs showing established cover crops in the field (≥60% plant cover), (2) Receipts of cover crop seeds purchased, (3) Cover crop species name and seeding rate.

Cropland	Field Border (NRCS CPS 386)	Convert Strips of Irrigated Cropland to Permanent Unfertilized Grass Cover or Permanent Unfertilized Grass/Legume Cover	Introduced species	Introduced perennial species, seeding rate, planting method	(1) Seeding rate at 41-60 pure live seeds per sqft; (2) Maintain plant growth during the project term.	(1) 3-5 Geotagged photographs of fields showing established field border (>60% plant cover); (2) Receipts of seeds purchased; (3) Plant species name and seeding rate; (4) Good plant growth during the project term.
			Native Species	Native perennial species; seeding rate; planting method	(1) Seeding rate at 21-40 pure live seeds per sqft; (2) Maintain plant growth during the project term.	
			Pollinator Species	Diverse mix of native perennial grasses, legumes and forbs that are pollinator friendly; seeding rate; planting method	(1) Species flower throughout the growing season with ≤50% grasses in the mix; (2) Seeding rate at 21-40 pure live seeds per sqft; (3) Maintain plant growth in the project term.	
Cropland	Filter Strip (NRCS CPS 393)	Convert Strips of Irrigated Cropland to Permanent Unfertilized Grass Cover or Grass/ Legume Cover	Native species	(1) Filter strip design map; (2) Perennial plant species names; (3) Seeing rate and planting method	(1) Native perennial species; (2) Seeding rate at 41-60 pure live seeds per sqft; (3) Maintain good plant growth during project term.	3-5 Geotagged photographs of fields showing established filter strip (>60% plant coverage); (2) Receipts of seeds purchased; (3) Plant species name and seeding rate; (4) Good plant growth during the project term.
			Introduced species		(1) Introduced cool season perennial species; (2) Seeding rate at ≥60 pure live seeds per sqft; (3) Maintain good plant growth during the project term.	
Cropland	Forage and Biomass Planting (NRCS CPS 512)	Conversion of Annual Cropland to Irrigated or Non-Irrigated Grass/Legume Forage/Biomass Crops	Nonnative, high seeding rate with lime	Plant species, seeding rate, planting method, and irrigation availability	(1) Introduced perennial grasses, legumes, and/or forbs; (2) Seeding rate of 30 lb/acre pure live seed (PLS) or 41-60 pure live seeds per sqft; (3) Lime application if applicable.	(1) 3-5 Geotagged photographs of fields showing established planting (>60% plant coverage); (2) Receipts of seeds purchased; (3) Plant species name and seeding rate; (4) Maintain plant growth during the project term.
			Nonnative, high seeding rate without lime			
			Nonnative, standard seeding rate with fertilizer		(1) Introduced perennial grasses, legumes, and/or forbs; (2) Seeding rate of 9 lb/acre pure live seed (PLS) or 21-40 pure live seeds per sqft; (3) Fertilizer application if applicable.	
			Nonnative, standard seeding rate without fertilizer			

Cropland	Grassed Waterway (NRCS CPS 412)	Convert Strips of Irrigated or Non-Irrigated Cropland to Permanent Unfertilized Grass or Grass/Legume Cover	Base Waterway	For area where peak runoff is expected, and erosion control is needed. A design schematic, plant species and planting method.	(1) Planting area is from tops of the bank on both sides; (2) Perennial species at seeding rate ≥60 pure live seeds per sqft. (3) For waterway with checks, fabric or stone checks installed every 100 feet along the waterway perpendicular to waterflow and 2/3 the waterway top width to reduce maintenance and provide temporary protection until vegetation is established. Fabric Checks are installed 18" deep with 12" laid over on the surface.	(1) 3-5 Geotagged photographs of fields showing established grassed waterway (>60% plant coverage); (2) Receipts of seeds purchased; (3) Plant species name and seeding rate; (4) Maintain plant growth during the project term.
			Base waterway with checks	For area where peak runoff is expected, and erosion control is needed. A design schematic, plant species and planting method.		
Cropland	Hedgerow Planting (NRCS CPS 422)	Replace a Strip of Cropland with 1 Row of Woody Plants	Single Row	Length to plant, Plant species and number of each species	(1) Pollinator-friendly trees, shrubs and perennial wildflowers; (2) Plant density at ≥200 live plants/acre; (3) Average height at ≥3 feet and extend 15 feet wide at maturity; (4) Plant protection & irrigation.	(1) 3-5 Geotagged photographs of fields showing established hedgerow plants (2) Receipts of plants purchased; (3) Plant species name and number of live plants; (4) Maintain plant growth in the project term.
Cropland	Herbaceous Wind Barriers (NRCS CPS 603)	Convert Strips of Irrigated or Non-Irrigated Cropland to Permanent Unfertilized Grass or Grass/Legume Cover	Cool Season Perennial Species	cool season perennial plant species, seeding rate and planting method	(1) Plant species must be tolerant to soil deposition and stiff; (2) Width of the Herbaceous Wind Barrier must be at least 2 feet.	(1) 3-5 Geotagged photographs of fields showing established barrier plants (>60% plant cover); (2) Receipts of seeds purchased; (3) Species name and seeding rate; (4) Maintain plant growth in the project term.
Cropland	Mulching (NRCS CPS 484)	Add Mulch to Croplands	Natural Materials	Cropland condition where mulch to be implemented, mulch materials and source	(1) Materials produced off site; (2) ≥70% soil coverage by mulch materials at 1-3 inches thickness or 1-2 tons/acre if using straw.	(1) 3-5 Geotagged photographs of fields showing mulching is implemented including thickness and surface coverage, (2) Receipts of materials purchased, or donated with proof documents.

Cropland	Mulching (NRCS CPS 484)	Add Mulch to Croplands	Wood Chips	Cropland condition where mulch to be implemented, mulch materials and source	(1) Materials produced off site (2) Chip size 3/4-2 inch in diameter; (3) Mulch thickness at 2-4 inches; (4) Application rate at ≥40 cubic yards/acre or ≥10 tons/acre.	(1) 3-5 Geotagged photographs showing mulching is implemented including thickness and surface coverage, (2) Receipts of materials if purchased or donated with proof documents.
Cropland	Multistory Cropping (NRCS CPS 379)	Replace 20% of Annual Cropland with woody plants	Native Tree or shrub planting	Plant species and number of each species	(1) Native seedlings with 50% medium size (1 quart to gallon pot or 10 cubic inches container); (2) Plant density at ≥40 live trees/acre; (3) Tree protection and irrigation.	(1) 3-5 Geotagged photographs showing planted trees, (2) Receipts of seedlings purchased; (3) Species and number of live plants; (4) Tree maintenance in the project term.
Cropland	Multistory Cropping (NRCS CPS 379)	Replace 20% of Annual Cropland with woody plants	Non-native tree or shrubs planting	Plant species and number of each species	(1) Shrub seedlings: bare root at 36-60 inches tall or container ≥20 cubic inches; tree seedlings: bare root or container ≥20 cubic inches; (2) Plant density at ≥40 live trees/acre; (3) Tree protection and irrigation.	(1) 3-5 Geotagged photographs of fields showing planted trees, (2) Receipts of seedlings purchased; (3) Species and number of live plants; (4) Tree maintenance in the project term.
Cropland	Nutrient Management (NRCS CPS 590)	Improved N Fertilizer Management on Irrigated or Non-irrigated Cropland - Reduce Fertilizer Application Rate by 15%	Basic nutrient management	For cropland where synthetic nutrient fertilizers have been applied annually. Nitrogen application rate and associated crop(s) in the past 3 years.	(1) A nutrient management plan for each field(s) based on soil test analysis and university of California recommendation. (2) A farming log records all fertilization activities (fertilizer name, nitrogen content, application rate & date) for each crop year.	(1) 3-5 Geotagged photographs of fields showing the crop and fertilization event(s), (2) Receipts of nitrogen fertilizers purchased, (3) farming log must demonstrate that nitrogen application rates is 15% less than what was used in the past 3 years or UC recommended rates, (3) Verification is at the end of the project year or crop year as applicable.

Cropland	Residue and Tillage Management, No-Till (NRCS CPS 329)	Convert Tillage to No Till in on Irrigated or Non-irrigated Cropland	No-Till or Strip-Till	Tillage implemented prior to application deadline	(1) No tillage; (2) all planting methods are no-till drill or broadcast if applicable. (3) Residues are kept on soil surface and not burned or removed; (4) A farming log recording all field activities.	(1) 3-5 Geotagged photos showing field operations, field floor and overview of the whole field at end of project year; (2) The farming log; (3) verification at the end of project year.
Cropland	Residue and Tillage Management, Reduced Till (NRCS CPS 345)	Intensive Till to Reduced-Till on Irrigated or Non-irrigated Cropland	Reduced-Till	Conventional tillage implemented prior to application deadline	(1) Tillage methods (Mulch/vertical tillage, chiseling or disking) that limit soil disturbance, or (2) Fewer tillage operations. (3) Plant residue covering soil surface during winter- spring period; (4) A farming log recording all field activities related to soil disturbance.	(1) 3-5 Geotagged photos for each field showing field operations (including equipment used), field floor and overview of the whole field at end of each project year. (2) A farming log to demonstrate implementation requirements are met; (3) Verification by the end of the project year.
Cropland Cropland	Riparian Forest Buffer (NRCS CPS 391)	Replace a Strip of Cropland Near Watercourses or Water Bodies with Woody Plants	Bare-root, hand planted	Area of practice implementation must be upgradient from and adjacent to a stream	(1) Seedling size: 18-36 inches tall or 10-20 cubic inches container for shrubs and hardwood; 1-year old seedlings or 4-6 cubic inches container for conifer; (2) Plant protection; (3) Plant density ≥35 live plants/acre.	(1) 3-5 Geotagged photographs of fields showing planted trees, (2) Receipts for number and sizes of seedlings/cuttings purchased; (3) Species and number of live trees/shrubs at verification; (4) Tree protection and maintenance.
			Cuttings, Small to Medium Size		(1) Cutting size: 0.25-1 inch in diameter and 2-4 feet long; (2) Plant protection; (3) Plant density ≥35 live plants/acre.	
			Cuttings, Medium to Large Size		(1) Cutting size: medium (0.25-1 inch in diameter and 2-4 feet long) to large (2-6 inch in diameter and 6 ft long); (2) Plant protection; (3) ≥35 live plants/acre.	

Cropland Cropland	Riparian Forest Buffer (NRCS CPS 391)	Replace a Strip of Cropland Near Watercourses or Water Bodies with Woody Plants	Small container, hand planted	Area of practice implementation must be upgradient from and adjacent to a stream	(1) Potted seedling size: 1 quart to 1 gallon; (2) Plant protection; (3) ≥35 live plants/acre.	(1) 3-5 Geotagged photographs of fields showing live plants, (2) Receipts for sizes of seedlings/cuttings purchased; (3) Species and number of live trees/shrubs; (4) Tree protection and maintenance.
			Large container, hand planted		(1) Potted seedling size: 2 gallons or larger; (2) Plant protection; (3) ≥35 live plants per acre.	
Cropland	Riparian Herbaceous Cover (NRCS CPS 390)	Convert Irrigated or Non-Irrigated Cropland to Permanent Unfertilized Grass or Grass/legume Cover Near Aquatic Habitats	Broadcast Seeding	Area of practice implementation must be upgradient from and adjacent to a stream	(1) Native perennial grasses, legumes and forbs with ≤50% grasses; (2) Plug planting or broadcast planting and/or no-till drill seeded at rate of 41-60 pure live seeds/sq ft; (3) Plant maintenance in the project term.	(1) 3-5 Geotagged photographs of fields showing established riparian herbaceous cover (>60% plant coverage); (2) Receipts for materials purchased; (3) Planting method and seeding rate; (4) Maintenance of established riparian zone - an adapted, diverse vegetative plant community that is under close management to ensure long term survival & ecological succession.
			Broadcast Seeding with Foregone Income			
			Plug Planting		(1) Native aquatic plants plug-planted; (2) Plant maintenance in the project term.	
			Combination Broadcast Seeding and Plug Planting	Area of practice implementation must be upgradient from and adjacent to a stream	(1) Native aquatic plants plug-planted; (2) Native perennial grasses, legumes and forbs with ≥50% grasses broadcast and/or no-till drill seeded at 41-60 pure live seeds/sq ft; (3) Plant maintenance in the project term.	
			Pollinator Cover	Area of practice implementation must be upgradient from and adjacent to a stream	(1) Native perennial species with ≤50% grasses; (2) 2-12 species to ensure ≥2 species in bloom at any given time of the growing season; (3) Broadcast or no-till drill seeded at rate of 41-60 pure live seeds/sq ft; (4) Plant maintenance in the project term.	

Cropland	Strip Cropping (NRCS CPS 585)	Add Perennial Cover Grown in Strips with Irrigated or Non-Irrigated Annual Crops	Wind and water erosion control	Strip design: diagram on the APN where strips are located, number of strips, width & length of each strip. Plant species, sending rate and method.	(1) Two or more strips are required; (2) ≥ 50% vegetation cover must be perennial and erosion resistant species. (3) Do not include erosion-susceptible crops in adjacent strips at the same time during the year.	(1) 3-5 Geotagged photographs of fields showing established strips (>60% plant coverage); (2) receipts of seeds purchased; (3) Number, width & length of strips; (4) Maintenance in project term.
Cropland	Tree/Shrub Establishment (NRCS CPS 612)	Conversion of Annual Cropland to a Farm Woodlot	Conservation, hand planted, browse protection	Plant species and number of each species	(1) Bareroot shrub seedings at 6-18 inches tall or hardwood seedlings at 18-36 inches tall. (2) Plant protection and growth maintenance. (3) Plant density: ≥150 live trees per acre	(1) 3-5 Geotagged photographs of fields showing planted trees/shrubs; (2) Receipts of seedlings purchased, species and number of live plants; (3) Tree protection, and irrigation; (4) Plant maintenance in the project term.
Cropland	Vegetative Barrier (NRCS CPS 601)	Convert Strips of Irrigated or Non-Irrigated Cropland to Permanent Unfertilized Grass or Grass/Legume Cover	Vegetative Planting	Location: where sheet or rill erosion is of concern. Plant species: must meet stiffness index and is tolerant to soil erosion, seeding rate and method	(1) Permanent strips of stiff, dense vegetation established along the general contour of slopes; with vegetation stiffness index (VSI) of 0.05-0.10; (2) Broadcast or drill seeds in a strip of 3 feet or wider; (3) plant maintenance.	(1) 3-5 Geotagged photographs taken at both ends & middle of established barrier (>60% plant cover); (2) Receipts of seeds purchased; (3) Plant maintenance in project term.
Cropland	Windbreak/ Shelterbelt Establishment (NRCS CPS 380)	Replace a Strip of Cropland with 1 Row of Woody Plants	1-row, trees, containers, hand planted, with tree protected	Length to plant, Plant species and number of each species	(1) Containered seedlings at 15-20 cubic inches or bare root seedlings at 2-3 years old before transplanting (2) Plant protection and irrigation are required; (3) Plant density ≥200 live plants/acre.	(1) 3-5 Geotagged photographs taken at both ends & middle of the tree line; (2) Receipts of seedlings purchased; (3) Species and number of live plants; (4) Tree protection and irrigation; (5) Plant maintenance in the project term.
			1-row, trees or shrub, with wind protection fence	Length to plant, Plant species and number of each species	(1) Containered seedlings at 15-20 cubic inches or bare root seedlings at 2-3 years old before transplanting (2) A wind-protection fence and irrigation are required; (3) Plant density ≥200 live plants/acre.	

Orchard or Vineyard	Compost Application (CDFA)	Compost (C:N ≤ 11) application to orchards or vineyard	Purchased from a Certified Composting Facility	Compost C:N ratio, Application Rate, Acres to Be Implemented	Application rate must be between 2-4 tons/acres	(1) 3-5 Geotagged photographs showing compost piles, compost being spread and ground right after compost is applied, (2) A copy of receipt for compost purchased; (3) Compost analysis report on C:N ratio; (4) Verification when compost is spread.
		Compost (C:N > 11) application to application to orchards or vineyard			Application rate must be between 6-8 tons/acres	
Orchard or Vineyard	Compost Application (CDFA)	Compost (C:N ≤ 11) application to orchards or vineyard	On-farm produced compost	Compost C:N ratio, Application Rate, Acres to Be Implemented	(1) Application rate must be between 2-4 tons/acres; (2) Compost materials, method and Composting process must be documented.	(1) 3-5 Geotagged photographs showing compost piles, compost being spread and ground right after compost is applied, (2) A composting log including materials, method and temperatures during composting process; (3) Estimated total tonnage of compost applied; (4) Compost analysis report on C:N ratio; (5) Verification is when compost is spread.
		Compost (C:N > 11) application to application to orchards or vineyard			(1) Application rate must be between 6-8 tons/Acres;(2) Compost materials, method and Composting process must be documented.	
Orchard or Vineyard	Conservation Cover (NRCS CPS 327)	Convert Idle Land near Orchard/Vineyard to Permanent Unfertilized Grass Cover or Grass/Legume cover	Introduced species	(1) Introduced perennial or selected using CalFlora, (2) seeding rate & planting method	(1) Seeding rate at 21-40 pure live seeds per sqft; (2) Plant protection from animal damage and growth maintenance.	(1) 3-5 Geotagged photographs of fields showing established plants (>60% plant cover); (2) Receipts of seeds purchased including species names; (3) Good plant growth in the project term.
			Introduced species with foregone income		(1) Seeding rate at 41-60 pure live seeds per sqft; (2) Plant protection from animal damage and growth maintenance.	
			Native species	(1) Mix of native perennial, (2) seeding rate & planting method	(1) Seeding rate at 21-40 pure live seeds per sqft; (2) Plant protection from animal damage and growth maintenance.	
			Native species with foregone income			

Orchard or Vineyard	Conservation Cover (NRCS CPS 327)	Convert Idle Land near Orchard/Vineyard to Permanent Unfertilized Grass Cover or Grass/Legume cover	Monarch species – mix species	(1) Mix of native perennial grass and forbs for wildlife, pollinators or ecosystem restoration (2) seeding rate & planting method.	(1) At least 4% native milkweeds (*Asclepias* spp.) and less than 50% grasses; (2) Seeding rate at 21-40 pure live seeds per sqft; (3) Plant protection from animal damage and growth maintenance.	(1) 3-5 Geotagged photographs of fields showing established plants (>60% plant cover); (2) Receipts of seeds purchased including species names; (3) Good plant growth in the project term
			Monarch species – mix species with foregone income			
			Pollinator species	(1) Mix of native perennial grasses, legumes, and forbs to provide habitat for pollinators, (2) seeding rate & planting method	(1) Mixed species with less than 50% grasses; (2) Seeding rate at 21-40 pure live seeds per sqft; (2) Plant protection from animal damage and good maintenance.	
			Pollinator species with foregone income			
Orchard or Vineyard	Conservation Cover (NRCS CPS 327)	Plant Permanent Grass Cover or Grass /Legume Cover in Orchard/Vineyard Alleys	Orchard or Vineyard Alleyways	Perennial species, seeding rate and planting and maintenance methods	(1) Inoculate legumes at planting time if legume species is used, and (2) Maintain permanent vegetation	(1) 3-5 Geotagged photographs of fields showing established alley plants, (2) Receipts of seeds purchased, species names and seeding rate; (3) method of alley plants maintenance.
Orchard or Vineyard	Cover Crop (NRCS CPS 340)	Add Legume /Legume Mix or Non-Legume Cover Crop to Orchard/Vineyard Alleys	One species	(1) APN/field and acres; (2) cover crop species; (3) Seeding rates; (4) Planting date and method; (5) Termination date and method	(1) Single or multiple species cover crop is planted without fertilizer. (2) Cover crop is allowed to grow to produce as much biomass as possible. (3) Cover crop biomass/residue should not be removed to other places.	(1) 3-5 Geotagged photographs of fields showing established cover crops (≥60% coverage), (2) Receipts of cover crop seeds purchased, (3) plant species name and seeding rate.
			Multiple species			
Orchard or Vineyard	Filter Strip (NRCS CPS 393)	Convert Idle Land Near Orchard/Vineyard to Permanent Unfertilized Grass Cover or Grass /Legume Cover	Native species	Filter strip design map, plant species, seeing rate, and planting method	(1) Native perennial species; (2) Seeding rate at 41-60 pure live seeds per sqft; (3) Maintain plant growth in project term.	(1) 3-5 Geotagged photographs of fields showing established filter strip; (2) Receipts of seeds purchased; (3) Plant species name and seeding rate; (4) Good plant growth during the project term.
			Introduced species		(1) Introduced perennial species; (2) Seeding rate at ≥60 pure live seeds per sqft; (3) Maintain plant growth in the project term.	

Orchard or Vineyard	Hedgerow Planting (NRCS CPS 422)	Plant 1 Row of Woody Plants on Border of Orchard/Vineyard	Single Row	Length to plant, Plant species and number of each species	(1) Pollinator-friendly trees, shrubs and perennial wildflowers; (2) Plant density at ≥200 live plants/acre; (3) Average height at ≥3 feet and extend 15 feet wide at maturity; (4) Plant protection & irrigation.	(1) 3-5 Geotagged photographs of fields showing established hedgerow plants (2) Receipts of plants purchased; (3) Plant species name and number of live plants; (4) Maintain plant growth in the project term.
Orchard or Vineyard	Mulching (NRCS CPS 484)	Add Mulch to Orchard or Vineyard	Natural Materials	Orchard/Vineyards where mulch to be implemented, mulch materials and source	(1) Materials produced off site; (2) ≥70% soil coverage by mulch material at 1-3 inches thickness or 1-2 tons/acre if using straw.	(1) 3-5 Geotagged photographs of fields showing mulching is implemented including thickness and surface coverage, (2) Natural materials: receipts of materials if purchased, or donated with proof documents, (3) Wood chips: receipts of materials if purchased or estimated amount of wood chips if produced on farm, or donated with proof documents.
		Add Mulch to Orchard or Vineyard	Wood Chips		(1) Materials produced off site (2) Chip size 3/4-2 inch in diameter; (3) Mulch thickness at 2-4 inches; (4) Application rate at ≥40 cubic yards/acre or ≥10 tons/acre	
Orchard or Vineyard	Nutrient Management (NRCS CPS 590)	Improved N Fertilizer Management on Orchard/Vineyard - Reduce Fertilizer Application Rate by 15%	Basic nutrient management	Nitrogen application rate and associated crop(s) in the past 3 years.	(1) A nutrient management budget/plan will be developed for each field(s) based on soil test analysis and University of California recommendation rates or crop removal rates by a professional agronomist, forester or biologist. (2) A farming log records all fertilization activities (fertilizer name, nitrogen content, application rate and date) for each crop or project year.	(1) 3-5 Geotagged photographs of fields where practice is implemented, (2) Receipts and farm log of nitrogen fertilizers showing application rates is 15% less than what was used in the past 3 years or UC recommended rates, (3) Verification is at the end of the project year or crop year as applicable.
Orchard or Vineyard	Residue and Tillage Management, No-Till (NRCS CPS 329)	Convert Tillage to No-Till in Orchard/Vineyard Alleys	No-Till or Strip-Till	Tillage implemented prior to application deadline	(1) No tillage; (2) all planting methods are no-till drill or broadcast if applicable. (3) Residues are kept on soil surface and not burned or removed; (4) A farming log recording all field activities.	(1) 3-5 Geotagged photos showing field operations, field floor and overview of the whole field at end of project year; (2) A farming log; (3) verification at the end of project year.

Orchard or Vineyard	Residue and Tillage Management, Reduced Till (NRCS CPS 345)	Convert Tillage to Reduced Till in Orchard/Vineyard Alleys	Reduced-Till	Conventional tillage implemented prior to application deadline	(1) Tillage methods (Mulch/vertical tillage, chiseling or disking) that limit soil disturbance, or (2) Fewer tillage operations. (3) Plant residue covering soil surface during winter- spring period; (4) A farming log recording all field activities.	(1) 3-5 Geotagged photographs of fields showing practice is implemented, (2) Must meet depth, frequency or percent area of soil disturbance as described/proposed in the project scope of work, (3) A field operation log for the entire project year, (4) Verification by the end of the project year.
Orchard	Whole Orchard Recycling (CDFA)	Whole Orchard Recycling Followed by Orchard Replant within 3 years	Whole Orchard Recycling Followed by Orchard Replant within 3 years	Age of recycled trees, time to be chipped and incorporated, time of new trees to be planted, acres to be implemented	(1) An operation log recording the whole process; (2) Chips must be incorporated into soil to at least 6 inches deep	(1) 3-5 Geotagged photographs of fields showing tree removal, chipping, spreading and incorporation of wood chips; (2) A farm log including chipping details (e.g. tons of chips, size); (3) Before and after pictures of orchard; (4) Verification is when chips are incorporated.
Orchard/ Vineyard	Windbreak/ Shelterbelt Establishment (NRCS CPS 380)	Plant 1 Row of Woody Plants on Border of Orchard/Vineyard	1-row, trees, containers, hand planted, with tree protected	Length to plant, Plant species and number of each species	(1) Containered seedlings at 15-20 cubic inches or bare root seedlings at 2-3 years old before transplanting (2) Plant protection and irrigation are required; (3) ≥200 live plants/acre.	(1) 3-5 Geotagged photographs taken at both ends & middle of the tree line. (2) Receipts of seedlings purchased; (3) Species and number of live plants; (4) Tree protection and irrigation; (5) Plant maintenance during the project term.
			1-row, tree or shrub, with wind protection fence		(1) Containered seedlings at 15-20 cubic inches or bare root seedlings at 2-3 years old before transplanting (2) A wind-protection fence and irrigation are required; (3) ≥200 live plants/acre.	

Grazing Land	Compost Application to Grassland (CDFA)	Compost (C:N > 11)Application to Grazed Grassland, Grazed, Irrigated Pasture	Compost purchased from a certified composting facility	Compost C:N ratio, Application Rate, Acres to Be Implemented	Application rate must be between 6-8 tons/Acres	(1) 3-5 Geotagged photographs showing compost piles, compost being spread and ground right after compost is applied, (2) Receipts of compost purchased; (3) Compost analysis report on C:N ratio; (4) Verification when compost is spread.
Grazing Land	Compost Application to Grassland (CDFA)	Compost (C:N > 11)Application to Grazed Grassland, Grazed, Irrigated Pasture	On-farm produced compost	Compost C:N ratio, Application Rate, Acres to Be Implemented	(1) Application rate must be between 6-8 tons/Acres; (2) A Composting log to record materials, method and temperate tracking during composting process.	(1) 3-5 Geotagged photos showing compost piles, compost being spread and ground right after compost is applied, (2) A composting log including raw materials, method and temperatures during composting process; (3) Estimated tons of compost applied (4) Compost analysis report on C:N ratio; (5) Verification at spread.
Grazing Land	Hedgerow Planting (NRCS CPS 422)	Replace a Strip of Grassland with 1 Row of Woody Plants	Single Row	Length to plant, Plant species and number of each species	(1) Pollinator-friendly trees, shrubs and perennial wildflowers; (2) Plant density at ≥200 live plants/acre; (3) Average height at ≥3 feet and extend 15 feet wide at maturity; (4) Plant protection & irrigation.	(1) 3-5 Geotagged photographs taken at both ends and middle of the hedgerow line. (2) Receipts of plants purchased; (3) Plant species name and number of live plants; (4) Maintain plant growth in the project term.
Grazing Land	Prescribed Grazing (NRCS CPS 528)	Grazing Management to Improve Irrigated Pasture Condition or Rangeland or Non-Irrigated Pasture Condition	Pasture, basic	A grazing management plan by a certified range manager or equivalent professional to enhance pasture or rangeland health & ecosystem function	(1) Follow the grazing management plan, (2) A grazing log records of grazing dates and stubble height after grazing; (3) Monitoring - photos of forage before and after grazing; (4) Sensitive area protection as applicable.	(1) The grazing log; (2) 3-5 geotagged photos monitoring forage, and other documents as applicable; (3) verification at the end of each project year.
			Range, basic			

Grazing Land	Range Planting (NRCS CPS 550)	Seeding forages to improve rangeland condition	Native species broadcast	Plant species (must be mixture of native perennial grasses, legumes, and/or forbs), seeding/planting rate, planting method	(1) Native adapted perennial species; (2) Seeding rate at 18 lb/acre PLS or 40 pure live seeds/sqft.	(1) 3-5 Geotagged photographs of fields showing established range plants (>60% plant coverage); (2) Receipts of seeds purchased; (3) Species, seeding rate; (4) Documentation of planting method (farming log and photos); (5) Maintenance of range plants.
			Native species high forb drilled		(1) Native perennial species; and (2) No-till or range drill seeding at 41-60 pure live seeds/sq ft.	
			Native species low forb drilled		(1) Predominately native adapted perennial species; (2) no-till or range drill seeding at 18 lb/acre PLS or 40 pure live seeds/sqft.	
			Nonnative species broadcast	Plant species (must be mixture of Introduced perennial grasses, legumes, and/or forbs), seeding/planting rate, planting method	(1) mixture of non-native adapted perennial species; (2) Seedbed preparation; (3) Seeding rate at 18 lb/acre PLS or 40 pure live seeds/sqft.	
			Nonnative species drilled		(1) Mixture of non-native adapted perennial species; (2) No-till or range drill seeding at 41-60 pure live seeds/sq ft.	
			Shrub plugs	Shrub species, planting density (at least 1000 plants/ac) and method	(1) Shrub species such as Sage Brush, Bitter Brush or other species; (2) seedling or transplant; bareroot shrubs at 3-5 feet tall or containerized seedlings ≥20 cubic inches; (3) Planting density at 1000 plants/acre.	
Grazing Land	Riparian Forest Buffer (NRCS CPS 391)	Replace a Strip of Grassland Near Watercourses or Water Bodies with Woody Plants	Cuttings, Small to Medium Size	Area of practice implementation must be upgradient from and adjacent to a stream	(1) Cutting size: 1/4 to 1 inch in diameter and 24-48 inches long; (2) Plant protection; (3) ≥35 live plants per acre.	(1) 3-5 Geotagged photographs of the field showing planted trees, (2) Receipts for number and sizes of seedlings/cuttings purchased; (3) Species and number of live trees/shrubs at verification; (4) proof of planting method; (5) Tree protection (fence or other protection, and irrigation as needed) and maintenance.

Grazing Land	Riparian Forest Buffer (NRCS CPS 391)	Replace a Strip of Grassland Near Watercourses or Water Bodies with Woody Plants	Cuttings, Medium to Large Size	Area of practice implementation must be upgradient from and adjacent to a stream	(1) Cutting size: medium (0.25-1 inch in diameter and 2-4 feet long) to large (2-6 inch in diameter and 6 ft long); (2) Plant protection; (3) ≥35 live plants/acre.	(1) 3-5 Geotagged photographs of the field showing planted trees, (2) Receipts for number and sizes of seedlings/cuttings purchased; (3) Species and number of live trees/shrubs at verification; (4) proof of planting method; (5) Tree protection (fence or other protection, and irrigation as needed) and maintenance.
			Large container, hand planted		(1) Potted seedling size: 2 gallons or larger; (2) Plant protection; (3) ≥35 live plants per acre.	
Grazing Land	Silvopasture (NRCS CPS 381)	Tree/Shrub Planting on Grazed Grasslands	Establish trees, existing grasses	Plant species and number	(1) Seedling size: containerized conifer at 4-6 cubic inches; or bare root conifer at one year old; (2) Plant density at ≥20 live plants per acre; (2) Tree protection (fence and irrigation, etc.)	(1) 3-5 Geotagged photographs of fields showing planted trees/shrubs; (2) Receipts showing sizes & number of seedlings purchased; (3) Species and number of live trees/shrubs; (5) Tree protection (fence or other protection and irrigation as needed).
Grazing Land	Tree/Shrub Establishment (NRCS CPS 612)	Conversion of Grassland to a Farm Woodlot	Conservation, hand planted, browse protection	Plant species and number of each species	(1) Bareroot shrub seedings at 6-18 inches tall or hardwood seedlings at 18-36 inches tall. (2) Plant protection and growth maintenance. (3) Plant density: ≥150 live trees per acre	(1) 3-5 Geotagged photographs of fields showing practice is implemented, (2) Receipts of seedlings purchased, species and number of live plants; (3) Tree protection, and irrigation as needed; (4) Tree growth maintenance during the project term.
Grazing Land	Windbreak/ Shelterbelt Establishment (NRCS CPS 380)	Plant 1 Row of Woody Plants on Border of Orchard/Vineyard	1-row, trees, containers, hand planted, with tree protected	Length to plant, Plant species and number of each species	(1) Containered seedlings at 15-20 cubic inches or bare root seedlings at 2-3 years old before transplanting (2) Plant protection and irrigation are required; (3) Plant density ≥200 live plants/acre.	(1) 3-5 Geotagged photographs taken at both ends & middle of the tree line. (2) Receipts of seedlings purchased; (3) Species and number of

			1-row, trees or shrub, with wind protection fence		(1) Containered seedlings at 15-20 cubic inches or bare root seedlings at 2-3 years old before transplanting (2) A wind-protection fence and irrigation are required; (3) Plant density ≥200 live plants/acre.	live plants; (4) Tree protection and irrigation; (5) Plant maintenance during the project term.

Definitions:
Cropland, Annual or Perennial: Land where the crop(s) grown is identified as annual or perennial crop according to the Annual and Perennial Crop List for the Purpose of Conservation Compliance under the Food and Security Act of 1985, as amended or is determined as annual or perennial by the local USDA NRCS if it is not included in the list. Perennial cropland includes orchards and vineyards.
Grazing land: Land used primarily for production of forage plants maintained or manipulated primarily through grazing management.
Grassland: Land where the vegetation is dominated by grasses and other herbaceous (non-woody) plants, such as forbs.
Rangeland: Land on which the potential plant cover is composed principally of native grasses, grass-like plants, forbs or shrubs suitable for grazing and browsing, and introduced forage species that are managed like rangeland.
Pasture is a land use type having vegetation cover comprised primarily of introduced or enhanced native forage species that is used for livestock grazing. Pasture receives periodic renovation and cultural treatments such as tillage, fertilization, mowing, weed control, and may be irrigated. Pasture vegetation can consist of grasses, legumes, other forbs, shrubs or a mixture. Pasture differs from range in that it primarily produces vegetation that has initially been planted to provide preferred forage for grazing livestock.
Foregone Income: Reduced revenue that is generated mainly from reduced production because the land area used for growing cash crop(s) will be converted to Permanent Unfertilized Grass Cover or Grass/ Legume Cover. A payment scenario name that includes Foregone Income has higher payment rate because it takes consideration of both the reduced revenue and the expense for implementing the conservation management practice.
Geotagged photograph: A geotagged photograph is a photograph which is associated with a geographic position by assigning a latitude and longitude to the image. For pictures taken with a mobile phone or digital camera, this can be achieved by enabling the GPS function of the device prior to capturing a picture. Geotagging helps CDFA confirm the correct location of practice implementation consistent with Project Design at the time of verification. Please check the link https://www.cdfa.ca.gov/oefi/healthysoils/docs/InstructionsOnHowToTakeGeotaggedPhotos.pdf for instructions on how to take and send geotagged photos.

APPENDIX B: CONFIDENTIAL INFORMATION

The California Public Records Act (Government Code sections 6250, et seq.) and related statutory definitions of "confidential or proprietary information" (also known as "trade secrets") determine what information provided by the applicant is exempt from public disclosure. The following describes how questions are resolved regarding what information is confidential, the legal protections for confidential information, and internal and program procedures to maintain confidentiality.

What is "confidential?"

The California Public Records Act prevents the disclosure of confidential or proprietary information including, but not limited to:

- Confidential Business and financial information, including volume of business, costs and prices, customers, financial condition, trade secrets, and similar information obtained under an express or implied pledge of confidence. (Ev. Code § 1060 and Gov. Code § 6254).
- Personal data including tax information prohibited from disclosure. (Gov. Code § 6254 and Rev. & Taxation Code § 19542.
- Information Practices Act of 1977 (Civ. Code section 1798 et seq.)

Applicants are directed to clearly marked, on each page, “confidential/proprietary information” those documents they feel contain confidential or proprietary information. However, the mere marking of documents as "confidential/proprietary information" will not result in their being treated as confidential if they are not exempt from disclosure under the California Public Records Act.

What if there is a question about what is confidential?

The CDFA Legal Office will review the records and make a determination as to whether or not the records are exempt from disclosure.

What program procedures will keep information confidential?

Financial information will be analyzed, on a need-to-know basis, by staff from the CDFA, kept confidential, and will be maintained with restricted access. Grantee businesses will agree to provide specific key financial information for three years to develop benchmarks to evaluate the program. The records will be kept for the amount of time set forth in CDFA’s Internal Record Retention Policy.