2018 HEALTHY SOILS PROGRAM INCENTIVES PROGRAM

Request for Grant Applications

Draft released for public comment: July 25, 2018

Comments due by: 5:00 p.m. PDT on September 12, 2018

The 2018 Healthy Soils Program Incentives Program is funded by the California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access for All Act of 2018.

California Department of Food and Agriculture
Office of Environmental Farming and Innovation
1220 N Street
Sacramento, CA 95814
cdfa.oefi@cdfa.ca.gov

Contents

BACKGROUND AND PURPOSE

The California Department of Agriculture (CDFA), in coordination with the California Natural Resources Agency (CNRA) and California Air Resources Board (CARB), is pleased to announce that funding is available through a competitive grant process for the 2018 Healthy Soils Program (HSP) Incentives Program.

The 2018 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 2018 HSP Incentives Program is funded by California Drought, Water, Parks, Climate, Coastal Protection and Outdoor Access for All Act of 2018 (Chapter 10, Section 80134(a and b)).

The objectives of the HSP are to build soil organic 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 which also lead to efficient use of water, (2) funding on-farm demonstration projects that conduct research 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 HSP Incentives Program addresses Objective 1. Objectives 2 and 3 are addressed in the 2018 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

The 2018 HSP will award up to $8.5 million through the HSP Incentives Program and HSP 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 $75,000.
- Grant funds cannot be expended before July 1, 2019 or after March 31, 2022.
- 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).
- CDFA reserves the right to offer an award different than the amount requested.

The HSP 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).

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.
- Awards are limited to one per agricultural operation using a unique tax identification number per round of funding.
- Any project, at a minimum, must implement at least one of the eligible agricultural management practices listed under Eligible Agricultural Management Practices, on fields/APNs where it was not implemented previously.
- 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 baseline data on cropping and management histories directly related to fields identified by Assessor's Parcel Numbers (APNs) where eligible agricultural management practices are proposed for implementation to be eligible for funding.

- Applicants must lease, own or otherwise control the Assessor's Parcel Numbers (APNs) 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 July 1, 2019 through March 31, 2022. 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 funding, applicants must be able to execute a grant agreement within 30 days of receiving a notice of award.
- The HSP Incentives Program funds may be combined with other funds from public and private sources as cost-share for the same project.

EXCLUSIONS

- APNs that have previously received HSP Incentives or Demonstration awards are not eligible.
- HSP Incentives Program funds cannot be used to implement management practices that are not listed as an Eligible Agricultural Management Practices in this grant solicitation.
- HSP Incentives Program funds cannot be used to fund fields or APNs with existing and ongoing implementation of any agricultural management practices listed under Eligible Agricultural Management Practices including APNs for which a HSP Demonstrations or Incentives project was previously awarded.
- Compost Application Practices 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.
- HSP Incentives program funds cannot be used for projects that use potted plants or other plant growth media.

TIMELINE

The application period begins [date will be inserted]. The deadline to submit a grant application is [date will be inserted; application period will be 8 weeks]. No exceptions will be granted for late submissions.

Activity	Tentative Date
Invitation to Submit Grant Applications	November 2018
CDFA Grant Application Workshops and Webinar	December 2018
Applications Due (in eight weeks)	January 2018
Review Period	January – March 2019
Award Announcement	March 2019

WORKSHOPS AND TECHNICAL ASSISTANCE

CDFA will conduct three workshops and two webinars on the 2018 HSP grant application process and program requirements.

CDFA cannot assist in the preparation of grant applications; however, general questions may be submitted to grants@cdfa.ca.gov. CDFA will conduct five 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 [schedule will be provided].

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 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, and/or project design. CDFA strongly encourages applicants to obtain technical assistance when developing a grant application.

Information about CDFA-conducted workshop, webinars and CDFA-funded Technical Assistance will be posted on the HSP Incentives Program website: https://www.cdfa.ca.gov/oefi/healthysoils/IncentivesProgram.html.

ELIGIBLE AGRICULTURAL MANAGEMENT PRACTICES

CDFA has identified eligible agricultural management practices that sequester carbon, reduce atmospheric GHGs and improve soil health for the 2018 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 Appendix II, Document 6 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 Practices. HSP-specific GHG Quantification Methodology is currently available for these practices.

Soil Management Practices

- Cropland Management Practices
    - Cover Crop (USDA NRCS CPS 340)
    - Conservation Crop Rotation (USDA NRCS CPS 328)*
    - Mulching (USDA NRCS CPS 484)
    - Nutrient Management (USDA NRCS CPS 590) (15% reduction in fertilizer application *only*)*
    - Residue and Tillage Management – No-Till (USDA NRCS CPS 329)
    - Residue and Tillage Management − Reduced Till (USDA NRCS CPS 345)
    - Strip Cropping (USDA NRCS CPS 585)*
- Compost Application Practices
    - Compost Purchased from a Certified Facility (CDFA Compost Application White Paper)
        - Compost Application to Annual Crops
        - Compost Application to Perennials, Orchards and Vineyards
    - On-farm Produced Compost* (application rates consistent with those specified in CDFA Compost Application White Paper)
        - Compost Application to Annual Crops
        - Compost Application to Perennials, Orchards and Vineyards

Herbaceous Cover Establishment on Cropland Practices

- 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)
- Riparian Herbaceous Cover (USDA NRCS CPS 390)
- Vegetative Barriers (601) (USDA NRCS CPS 601)

Woody Cover Establishment on Cropland Practices

- 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)

Grazing Lands Practices

- Compost Application to Grassland (application rates consistent with those specified in CDFA Compost Application White Paper)
    - Compost Purchased from a Certified Facility
    - On-farm Produced Compost*
- Nutrient Management (USDA NRCS CPS 590) (Reduce Fertilizer Application Rate by 15%)*
- Prescribed Grazing (USDA NRCS CPS 528)*
- Range Planting (USDA NRCS CPS 550)*
- Silvopasture (USDA NRCS CPS 381)

Note: The practices marked with an asterisk (*) above have been proposed by public and stakeholder groups for inclusion under the CDFA HSP during the public solicitation period for new practices from November 6, 2017 to December 18, 2017. Final inclusion of these practices is subject to CDFA evaluation and public comment.

TECHNICAL SPECIFICATIONS FOR ESTIMATION OF GHG BENEFITS

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

Eligible Agricultural Management Practice	Practice Lifespan*
Soil Management Practices	3 Years
Cropland to Herbaceous Cover Practices	3 Years
Grazing Lands Practices, except Silvopasture	3 Years
Woody Cover Establishment Practices and Silvopasture	10 Years

*Practice lifespan for the HSP is different from that required by USDA-NRCS.

Compost Application Rates Eligible for Funding:

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.

* If compost being applied is purchased: 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.

* If applying on-farm produced compost: Plant and animal materials must be composted through the processes outlined below and a farm log must be maintained to document the process:

1. *In-vessel or Static Aerated Pile System*: Maintained a temperature of between 131°F and 170°F for 3 days;
2. *Windrow Composting*: Maintained a temperature of between 131°F and 170°F for 15 days. The materials must be turned a minimum of five times.

C:N ratio and moisture content of the compost to be applied must be verified through laboratory testing before application. Type of material(s) used for composting must be documented.

Compost used in this practice must be produced at the agricultural operation that the project is located on. Externally sourced compost must be purchased from a certified facility.

Compost used in this practice cannot be vermicompost.

Assistance in selecting species to be planted when implementing cover crop, herbaceous, and woody cover establishment practices is available through the USDA NRCS California e Veg Guide, at https://www.calflora.org/nrcs/.

There may be additional requirements or guidelines for implementation of specific practices in addition to those provided in the respective USDA NRCS CPS documentation. Refer to Appendix II, Document 3 for guidance.

PROGRAM REQUIREMENTS

Eligible agricultural management practices can be implemented alone or in combinations, except where specified, on one APN or several APNs. For the purposes of the grant application, name specific fields within each APN that will have agricultural management practice(s) implemented on them as Field 1, Field 2, Field 3, etc.

- 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 of each project year.
- Multiple management practices may be included within the same APN except where specified, 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 II, Document 3.

Awarded projects must post signage on nearest cross-street informing the public that the project received funds from the California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access For All Act of 2018 for the duration of the project. Approved specifications for the signage will be provided by CDFA at the time of award. The cost of signage is considered an allowable cost under the HSP Incentives Program.

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., 000-00-1234) as their unique business 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 beginning July 1, 2019 to March 31, 2022. 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.

Those who provide cost sharing may receive additional consideration during the project review (See Additional Considerations). 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	July 1, 2019 – June 30, 2020	November 30, 2019
2	July 1, 2020 – June 30, 2021	November 30, 2020
3	July 1, 2021 – March 31, 2022	November 30, 2021

BASELINE DATA

Applicants must submit the following baseline data at the time of application.

- Cropping history in the past three years (October 2015 – October 2018) in all APN(s) included in the application.
- Management practice history in the past three years (October 2015 – October 2018) in all APN(s) included in the application.
- Applicants proposing to include Compost Application Practices in their projects must submit major soil type (soil series) name and soil organic matter content for each APN where Compost Application practices will be implemented. The UCD Web Soil Survey at https://casoilresource.lawr.ucdavis.edu/gmap/ must be used to identify major soil type and soil organic matter content. Instructions to use Web Soil Survey are provided in Appendix II, Document 4. Compost Application is not allowed on an APN 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 must be calculated using the Quantification Methodology (QM) and calculator tools developed by the California Air Resources Board (CARB). The QM and calculator tools used for this program will be available at the CARB Quantification Materials website: https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/quantification.htm. Once on the website, click on the QM for instructions on how to use the GHG reduction calculation tools for the selected type of management practices (as indicated below). The web links to the GHG calculator tools are provided in

the QM. The current version of the QM is available at https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/cdfahsfinalqm16-17.pdf.

There are two GHG reduction calculation tools as part of the QM:

- Compost-Planner QM and Tool (this will be used to estimate GHG reduction from Compost Application Practices), and
- COMET-Planner QM and Tool (this will be used to estimate GHG reduction from all other eligible agricultural management Practices).

A Carbon Sequestration and GHG Estimation Report will be generated upon completion of the calculation. One Compost-Planner Carbon Sequestration and GHG Estimation Report is required if Compost Application Practice(s) is/are selected. One COMET-Planner Carbon Sequestration and GHG Estimation Report is required if any of the other eligible NRCS practice(s) is/are selected. If both NRCS practice(s) and Compost Application Practices are selected in the project, then one COMET-Planner Carbon Sequestration and GHG Estimation Report and one Compost-Planner Carbon Sequestration and GHG Estimation Report are required.
Projects eligible for HSP funding must achieve net GHG reductions, i.e., GHG reductions estimated using the QM and calculator tools must be positive in consideration of all the practices selected.

GRANT APPLICATION PROCESS

HOW TO APPLY

The 2018 HSP Incentives Program will be a web based application process. 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. Preview of application questions is available in Appendix II, Document 2.

Applicants are encouraged to gather all required information using information provided in Appendix I 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 review is a technical review to evaluate the feasibility and overall expected success of the project, including selection of HSP practices associated with suitable crop/land type, a clear and proper project design, a reasonable implementation timeline (work plan), the correct estimation of GHG emission reductions and carbon sequestration, and the potential f for the project to reduce GHG emissions, sequester carbon, improve soil health, and provide other co-benefits (e.g., air and water quality improvement). The technical review committee is made up of academic researchers, extension specialists, and farm advisors affiliated with the University of California and California State University systems.

CDFA will select applications for funding based on the scores provided by the review committee (See Evaluation Criteria)

EVALUATION CRITERIA

Applications are evaluated based on the following criteria:

Criteria	Score
Project Feasibility	40
Project Sustainability	10
GHG Emission Reduction Benefits	20
Soil Health and Environmental Co-Benefits	10
Conservation Plan	10
Benefits to Severely Disadvantaged Communities[1]	10

[1] Per SB 5 (2018), at least 15 percent of the total funds available for 2018 HSP must be allocated for projects serving severely disadvantaged communities. For the purpose of 2018 HSP, 'severely disadvantaged community' means a community with median household income less than 60 percent of the statewide average.

Total	100

ADDITIONAL CONSIDERATIONS

During the review process, the following additional considerations will be evaluated when selecting projects for an award of funds based on the number of additional criteria met:

- Applicants that provide matching funds during grant duration (July 1, 2019 – March 31, 2022).

ASSISTANCE AND QUESTIONS

CDFA cannot assist in the preparation of grant applications; however, general questions may be submitted to grants@cdfa.ca.gov. CDFA will conduct 5 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: https://www.cdfa.ca.gov/oefi/healthysoils/IncentivesProgram.html according to the following schedule.

One-on-one technical assistance will be provided by third parties (California academic research institutions, California Resource Conservation Districts and non-profit organizations) during the application period.

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 60 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 for 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.

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 sent to the California Department of Food and Agriculture Office of Hearings and Appeals, 1220 N Street, Sacramento, CA 95814 or emailed to CDFA.LegalOffice@cdfa.ca.gov. If submissions are not received within the time frame provided above, the appeal will be denied.

AWARD PROCESS

GRANT AGREEMENT

CDFA will initiate the Grant Agreement process with applicants selected to receive a 2018 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 July 1, 2019, but no later than November 30, 2019. Failure to implement the project prior to November 30, 2019 may result in all or any portion of the grant funding withheld or termination of the Grant Agreement.

PROJECT REPORTING REQUIREMENTS

Recipients are required to report annually on a soil organic matter content for each APN/ Field. Once prior to project implementation, one year after, and two years following initial project implementation.

Each submission should contain a laboratory report of soil organic matter content for each APN from any of the accredited soil analytical laboratories recommended by CDFA[2]. The soil sampling protocol provided in Appendix II, Document 5 must be followed when collecting soil samples.

PAYMENT PROCESS

Grant payment for the 2018 HSP Incentives Program will be 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).

CDFA will withhold ten percent from the total grant award until the verification requirement is complete to ensure grant recipients complete the project as approved by CDFA. This ten percent withhold may not be appealed. Invoicing and closeout of all project expenditures must be completed no later than March 31, 2022.

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/or CDFA Compost Application White Paper requirements. Verification will be conducted by CDFA environmental scientists who will conduct field evaluations by APN to verify program compliance during the grant agreement term. CDFA will be responsible for the expense of verification.

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

[2] CDFA recommended soil analytical labs are listed at the following websites:
- Selected Plant and Soil Laboratories in Northern and Central California: http://cesonoma.ucanr.edu/files/27431.pdf.
- UC Cooperative Extension El Dorado County List of Laboratories for Tissue/Soil/Water – Agricultural Analysis: http://cecentralsierra.ucanr.org/files/115331.pdf.
- UC ANR Soils Testing Laboratories for Home Gardeners: http://ccmg.ucanr.edu/files/51308.pdf .

evaluate project progress to ensure the eligible agricultural management practice(s) 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 Incentives Program funds are used in compliance with the Grant Agreement terms and conditions. The verification must be completed by June 30, 2022.

Consistent with SB 5 (2018), 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 for a minimum of 3 years 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, 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 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.

APPENDIX I: 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 below.

- Cover Sheet and Application Checklist (Appendix II, Document 1 in this draft)
- Application Template (Appendix II, Document 2 in this draft)
- Budget Worksheet (must be submitted in the Excel Format)

The mandatory and applicable attachments include:

- Project Design Schematic
- Screenshot of Web Soil Survey
- Landowner Agreement (if applicable)
- Compost-Planner Report (if applicable)
- COMET-Planner Report (if applicable)

APPENDIX II: REFERENCE DOCUMENTS TO ASSIST PREPARATION OF APPLICATION

Document 1: Cover Sheet and Application Check List

Applicant Organization:
Name: Click here to enter the legal name of the organization that will serve as lead for the project and will receive grant funds.
Address: Click here to enter the applicant organization address
Federal Tax ID: Click here to enter the applicant's Federal Tax ID or last four digits of the applicant's social security number
Project Director: Click here to enter the name, telephone number and email address for the authorized representative for the project
Project Manager: Click here to enter the name, telephone number and email address for the authorized representative for the project (if different from the Project Director)

Project Title:
Click here to enter the project title as it appears on the Application Template.

Application Checklist:
Check the box below for each file included in the application to be submitted electronically:

☐ Coversheet and Application Checklist Click here to enter file name.
☐ Application Template Click here to enter file name.
☐ Project DesignClick here to enter file name.
☐ Budget Worksheet Click here to enter file name.
☐ Screenshot of Web Soil Survey Click here to enter file name.
☐ Landowner Agreement* Click here to enter file name.
☐ Compost Planner Report* Click here to enter document name.
☐ COMET Planner Report* Click here to enter document name.
(If applicable.)*

Submitted by:

Name: Click here to enter submitter name. **Title:** Click here to enter title.

Signature: _____ **Date:** Click here to enter date.

Once complete, print, sign and submit this document as a PDF along with the other applicable documents selected above.

Document 2: Preview of Application Questions

Applicant Organization:

Click here to enter the legal name of the organization that will serve as lead for the project and will receive grant funds.

Submitting Organization:

If applicable, click here to enter the legal name of the organization submitting on behalf of the applicant.

Cooperating Entities:

Click here to list the cooperating entities and identify the role or contribution each will make to the project.

Project Title:

Click here to provide a concise description of the project in 15 words or less.

Project Description (Abstract) (300 words or less)

Click here to Summarize the need for the project, describe the goals and outcomes, and present a plan for evaluating and measuring the success of the project*.

*The Project Description should minimize the use of technical terms and be appropriate for dissemination to the public as it may be included with information shared publicly for projects funded through SB 5, 2018.

Project Budget:

Funds Requested:	Click here to enter the total amount of grant funds requested.
Cost Share:	Click here to enter the total amount of cost share committed to the project.*
Total Budget:	Click or here to enter the sum of funds requested and cost share.**

* Cost share is not a requirement, but is encouraged and may serve as evidence to demonstrate commitment to, or support for, the project.

**The total budget will not calculate automatically.

Did you receive a CDFA HSP Incentives Program or Demonstration Projects grant in the past?

Yes/No

If Yes, provide grant agreement number:

Are you planning to submit an application for the CDFA HSP Demonstration Projects in 2018 or in the future?

Yes/No

Did you receive another State or Federal Grant for this project?

Yes/No

If yes, provide name, year and amount of grant award:

Agricultural Operation Data:

Total size of the applicant's farm/agricultural organization: Click here to enter the total farm/agricultural organization size (in acres).

Assessor's Parcel Number (APN) that will be impacted by the proposed Healthy Soils project: Click here to enter APN(s).

Be sure to use the APN format that is used by your county Assessor's Office. Visit your county's Assessor's Office in person or the Assessor's Office webpage to look up or verify the APN(s).

Address or Nearest Cross Streets: Click here to enter address.

City, Zip Code: Click here to enter city and zip code.

County: Click here to enter the county.

I. Project Feasibility

1) Project Site Information:

Accessor's Parcel Number (APN)	Address (or nearest cross street) City, Zip Code	Latitude	Longitude	Leased Land?

Does the Applicant own the land to be impacted by the Healthy Soils Project?: Yes or No

If leasing land, applicants must include a letter of agreement from the land owner stating their consent to the project implementation for the duration of the project term. Include the letter as an attachment and name it "Incentives_[ApplicantName]_[taxIDlast4digits]_LandownerAgreement".

Are there multiple fields on which agricultural management practices will be implemented within a single APN?: Yes or No

2) Project Logistics:

Enter data regarding the proposed project logistics. This will include a list of APNs, the eligible agricultural management practices to be implemented, and the acreage involved for each practice. A practice that was implemented previously (between November 2017 – present) is not eligible for grant funds.

APN #	Field #	Name of HSP Practice	Acres to Be Implemented	Was the Practice Implemented Previously?

3) Baseline Data:

Provide the cropping history for the past three years (October 2015 – October 2018) for all APNs included in the project.

Click here to enter the cropping history.

Provide the management practice history for the past three years (October 2015 – October 2018) for all APNs included in the project.

Click here to enter the management practice history.

Does the project include Compost Application Practices?: Yes or No

If yes, applicant must enter in the table below the major soil type (i.e., soil series name) and soil organic matter content data sourced from the UCD Web Soil Survey for the specific APNs where project implementation will occur. Instructions for using the Web Soil Survey are provided in Appendix II, Document 4. Include the screenshot(s) of Web Soil Survey results as an attachment (single file) and name it "Incentives_[ApplicantName]_[taxIDlast4digits]_WebSoilSurvey".

APN	Field No.	SOM (%)	Major Soil Type	APN	Field No.	SOM (%)	Major Soil Type

4) Project Design:

Provide a project design schematic with a map that includes:

- The specific APNs where eligible management practices will be implemented.
- A layout of where all eligible management practices will be implemented.
- The total acreage for each eligible management practice to be implemented.
- Indicate the plant species to be planted on each field, if applicable.

5) Work Plan:

In the table below, describe all activities that will support implementation of each eligible management practice(s) for listed APNs that are part of the project. Each sub-table must be specific to each (one) practice. Add additional sub-tables as necessary.

1	Practice Name			APN/Field No.			Acres /Feet			Performed by		
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2019												
2020												
2021												
2022												

2	Practice Name			APN/Field No.			Acres /Feet			Performed by		
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2019												
2020												
2021												
2022												

3	Practice Name			APN/Field No.			Acres /Feet			Performed by		
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2019												
2020												
2021												
2022												

6) Budget Worksheet

Download the Budget Worksheet and save it on your computer. On the Budget Worksheet, fill in the information only in the yellow highlighted areas. Please note that (1) for practices with payment units in

acres, enter only acreage, (2) for practices with payment units in feet, enter only feet to be implemented, (3) for Compost Application, enter both acreage and application rate, (4) for soil organic matter analysis, enter number of soil samples to be taken each year, (5) for the optional Matching Funds to be provided enter the total amount you plan to contribute for each practice. Once you finish entering all necessary information for practices to be implemented in the project, the document will automatically calculate the total grant funding amount and the total matching funds amount.

For information about determining the number of soil samples to be taken for soil organic matter analysis, refer to Appendix II, Document 5.

Attachment: Project Budget Worksheet

II. Project Sustainability:

Explain why this project is important to the agricultural operation. (500 words or less)
Click here to provide an explanation of the project importance.

2) Describe how the project will be sustained beyond the project term. Include anticipated learning or successes from the implemented management practices and how this will affect future adoption (e.g., continuing the practice(s) in the long-term (>3 years) and/or adding the practice(s) to new fields). (500 words or less)
Click here to enter project sustainability

3) Describe how you plan to assess and measure possible changes and impacts after project implementation. (500 words or less)

Click here to describe the assessment plan.

III. GHG Emissions Reduction Benefits

Indicate the estimated greenhouse gas emission reductions from the project (Tonnes of CO_2 equivalent/acre) located in the CARB Calculator Tool(s). For each practice, please calculate total acreage to be implemented in order to calculate GHG reduction estimation.
Before proceeding with this application, applicant must follow guidance of CARB Greenhouse Gas (GHG)

Quantification Methodology for CDFA Healthy Soils Program and use CARB Greenhouse Gas (GHG) calculator Tools: COMET-Planner and/or Compost-Planner to estimate project GHG benefits.

When using the model tools, please ensure:

(1) Selection of correct county where your project site is located,

(2) Selection of correct practice implementation (refer to column C in your budget worksheet), and

(3) Entry of correct acres for each practice (refer to the column titled acres in your budget worksheet).

Enter the estimated greenhouse gas emission reductions from the project as indicated below.

Enter the total CO_2 equivalent obtained from the Compost-Planner Carbon Sequestration and GHG Estimation Report.: Click here to enter the total CO_2 equivalent.

And/or:

Enter the total CO_2 equivalent obtained from the COMET-Planner Carbon Sequestration and GHG Estimation Report.: Click here to enter the total CO_2 equivalent.

Enter the total CO_2 equivalent obtained from both the Compost-Planner and COMET-Planner Carbon Sequestration and GHG Estimation Report (i.e., provide the total sum of CO_2 from both reports). Click here to enter the total sum.

Required Attachment(s): COMET-Planner Report AND/OR Compost-Planner Report

IV. Soil Health and Environmental Co-benefits

Describe environmental benefits achieved through implementing the proposed project in the short (within three years) and long term (beyond three years). Describe how the proposed project will improve soil health. Provide a qualitative description of the environmental co-benefits of the proposed project such as water and air quality improvements, and ecosystem services. (500 words or less)

Click here to describe the environmental benefits.

V. Conservation Plan

Although optional, applications that include a qualified conservation plan will receive up to 10 points during technical review. The Conservation Plan must be detailed and include all of the following:

- An aerial photo or diagram of project fields.
- A list of current management decisions.
- The location of and schedule for applying new conservation practices.
- A Resource Assessment. This includes an 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 specific management decisions will be implemented.
- A plan for operation and maintenance of selected management practices.

Click here to enter the conservation plan.

VI. Benefits to Severely Disadvantaged Communities

Applications that include a consideration for Severely Disadvantaged Communities will receive up to 10 points during technical review.

To qualify as serving severely disadvantaged communities, projects must be located in a severely disadvantaged community as identified using the Community FactFinder (2018) Tool available at: http://www.parksforcalifornia.org/communities.

Document 3: Standard Payment Rates and Implementation Guidelines for Eligible Management Practices

(next page)

Current HSP Practices

HSP Agricultural Management Practice Name	Practice Implementation Name* (COMET –Planner)	Scenario Name*	Implementation Guidelines	Payment Unit	Payment Rate ($)
Residue and Tillage Management, No-Till (USDA NRCS CPS 329)	Intensive Till to No Till or Strip Till on Irrigated Cropland	No-Till or Strip-Till	(1) No tillage; (2) Planting method is no-till drilling or hand planting.	Ac	30.18
	Intensive Till to No Till or Strip Till on Non-Irrigated Cropland				
Cover Crop (USDA NRCS CPS 340)	Add Non-Legume Seasonal Cover Crop to Irrigated Cropland	Cover Crop	Cover crop should be allowed to grow to produce as much biomass as possible without delaying planting of the following crop.	Ac	126.44
	Add Legume Seasonal Cover Crop to Irrigated Cropland				
	Add Legume Seasonal Cover Crop to Non-Irrigated Cropland				
	Add Non-Legume Seasonal Cover Crop to Non-Irrigated Cropland				
Residue and Tillage Management, Reduced Till (USDA NRCS CPS 345)	Intensive Till to Reduced-Till on Irrigated Cropland	Residue and Tillage Management, Reduced Till	(1) Tillage methods may be mulch tillage, vertical tillage, chiseling or disking that limit soil disturbance; and/or (2) Tillage/planting systems with few tillage operations.	Ac	32.06
	Intensive Till to Reduced-Till on Non-Irrigated Cropland				
Mulching (USDA NRCS CPS 484)	Add High Carbon Mulch to Croplands	Natural Materials	Straw or other natural material that provides 60-70% soil coverage (1-2 tons/Ac or 1-3" thickness)	Ac	385.70
		Wood Chips	(1) 60-70% soil coverage is required; and (2) 2-3 inches thickness of wood chips or similar materials that are hardy enough to last for several years.	Ac	1712.14
Contour Buffer Strips (USDA NRCS CPS 332)	Convert Strips of Irrigated Cropland to Permanent Unfertilized Grass Cover **Or** Convert Strips of Irrigated Cropland to Permanent Unfertilized Grass/Legume Cover	Introduced Species, Forgone Income	(1) Introduced cool season perennial grass; (2) Area of strips is taken put out of production.	Ac	620.10
		Native Species, Foregone Income	(1) Native warm season perennial grass; (2) Area of strips is taken put out of production.	Ac	615.08
		Wildlife/Pollinator, Foregone Income	(1) Three or more native warm season perennial grasses that are pollinator friendly species; (2) Area of strips is taken put out of production.	Ac	832.26

HSP Agricultural Management Practice Name	Practice Implementation Name* (COMET –Planner)	Scenario Name*	Implementation Guidelines	Payment Unit	Payment Rate ($)
Field Border (USDA NRCS CPS 386)	Convert Strips of Irrigated Cropland to Permanent Unfertilized Grass Cover **Or** Convert Strips of Irrigated Cropland to Permanent Unfertilized Grass/Legume Cover	Field Border, Introduced Species	(1) Introduced, cool season perennial grass; (2) at the edge of or around the perimeter of an agricultural land.	Ac	136.64
		Field Border, Native Species	(1) Untreated, warm season, native perennial grass; (2) at the edge of or around the perimeter of an agricultural land.	Ac	184.88
		Field Border, Pollinator	(1) Mixed species, native Forb; (2) at the edge of or around the perimeter of an agricultural land.	Ac	1510.22
Riparian Herbaceous Cover (USDA NRCS CPS 390)	Convert Irrigated Cropland to Permanent Unfertilized Grass Cover Near Aquatic Habitats; **Or** Convert Irrigated Cropland to Permanent Unfertilized Grass/Legume Cover Near Aquatic Habitats	Broadcast Seeding with Foregone Income	(1) Area is removed from crop production; (2) Six species mix, native Forb; (3) existing plant community is disturbed /destroyed.	Ac	3481.40
		Plug Planting with Foregone income	(1) Area is removed from crop production; (2) Native aquatic plants, emergent or submerged; (3) A narrow strip with total area less than 0.5 Acre.	Ac	40689.76
		Combination Broadcast Seeding and Plug Planting with Foregone Income	(1) Area is removed from crop production; (2) One species native forb and native aquatic plants, emergent or submerged; (3) A narrow strip with total area less than 0.5 Acre.	Ac	21662.22
		Pollinator Cover with Foregone Income	(1) Area is removed from crop production; (2) 2-12 species (native forb) that bloom sequentially during the growing season and at least 2 species in bloom at any given time during the growing season; (3) A narrow strip with total area less than 0.5 Acre.	Ac	4764.60
Filter Strip (USDA NRCS CPS 393)	Convert Strips of Irrigated Cropland to Permanent Unfertilized Grass Cover **Or** Convert Strips of Irrigated Cropland to Permanent Unfertilized Grass/Legume Cover	Filter Strip, Native species	Native, warm season perennial grass	Ac	248.54
		Filter Strip, Introduced species	Introduced, cool season perennial grass and/or legume mix	Ac	268.16

HSP Agricultural Management Practice Name	Practice Implementation Name* (COMET –Planner)	Scenario Name*	Implementation Guidelines	Payment Unit	Payment Rate ($)
Vegetative Barrier (USDA NRCS CPS 601)	Convert Strips of Irrigated Cropland to Permanent Unfertilized Grass Cover **Or** Convert Strips of Irrigated Cropland to Permanent Unfertilized Grass/Legume Cover	Seeded Barrier	A strip or strips of stiff, dense vegetation is established by seeding with width being 3 feet or more.	Ft	0.02
		Vegetative Planting	Permanent strips of stiff, dense vegetation established along the general contour of slopes with width being 3 feet or more.	Ft	11.34
Herbaceous Wind Barriers (USDA NRCS CPS 603)	Convert Strips of Irrigated Cropland to Permanent Unfertilized Grass Cover	Cool Season Annual/Perennial Species	Width of the Herbaceous Wind Barrier must be at least 2 feet.	LnFt	0.14
	Convert Strips of Irrigated Cropland to Permanent Unfertilized Grass/Legume Cover				
Windbreak/ Shelterbelt Establishment (USDA NRCS CPS 380)	Replace a Strip of Cropland with 1 Row of Woody Plants **Or** Replace a Strip of Grassland with 1 Row of Woody Plants	1-row, trees, containers, hand planted, protected	(1) Tree row must have a minimum of 8 feet width; (2) Plant protection is required; (3) Plant density of 200 plantings or more per Acre is required.	Ft	1.22
		1-row, Tree and/or Shrub, with Wind-protection Fence	(1) The minimum width is 8 feet for a row of trees and 4 feet for a row of shrubs; (2) Plant protection is required; (3) Plant density of 200 plantings or more per Acre is required.	Ft	1.78
Silvopasture Establishment (USDA NRCS CPS 381)	Tree/Shrub Planting on Grazed Grasslands	Establish Trees, Existing Grasses	At least 20 plantings per Acre.	Ac	193.90
Hedgerow Planting (USDA NRCS CPS 422)	Replace a Strip of Cropland with 1 Row of Woody Plants	Single Row	(1) ≥ 200 tree and shrub plantings per acre (2) Width of each Hedgerow must be at least 8 feet. (3) Average height of hedgerow will be at least 3 feet and extend 15 feet wide at maturity. (4) Combination of cool and warm season perennial species will be used. (5) Planting protection is needed.	Ft	8.58
	Replace a Strip of Grassland with 1 Row of Woody Plants				

HSP Agricultural Management Practice Name	Practice Implementation Name* (COMET –Planner)	Scenario Name*	Implementation Guidelines	Payment Unit	Payment Rate ($)
Riparian Forest Buffer (USDA NRCS CPS 391)	Replace a Strip of Cropland Near Watercourses or Water Bodies with Woody Plants **Or** Replace a Strip of Grassland Near Watercourses or Water Bodies with Woody Plants	Bare-root, hand planted	**General:** (1) The planting will consist of hand planted bare-root shrubs and trees; (2) 35 or more tree/shrub plantings per acre; and (3) Tree protection is required. **Materials:** (1) Bare root hardwood trees: 18-36" tall; (2) Bare root conifer trees: 1-1(2 years old).	Ac	2367.00
		Bare-root, machine planted	**General:** (1) The plantings will consist of machine planted bare-root shrubs and trees; (2) 35 or more tree/shrub plantings per acre; and (3) Tree protection is required. **Materials:** (1) Bare root hardwood trees: 18-36" tall; (2) Bare root conifer trees: 1-1(2 years old).	Ac	2223.16
		Cuttings, Small to Medium	**General:**(1) hand planting in a mosaic pattern; and (2) 35 or more tree/shrub plantings per acre. **Materials:** Woody cuttings and live stakes or whips typically 1/4" to 1" diameter and 24-48"long.	Ac	2784.48
		Cuttings, Medium to Large	**General**: (1) The planting consists of tree, shrub and live stakes (whips) planted by hand; (2) 35 or more tree/shrub plantings per acre; and (3) Planting protection is required. **Materials**: (1) Woody cuttings - medium size: 1/4" to 1" diameter and 24" to 48" long; (2) woody cuttings - large size: 2" to 6" in diameter and 6' long.	Ac	7183.68
		Small container, hand planted	**General**: (1) The planting will consist of hand planted shrubs and trees; (2) 35 or more tree/shrub plantings per acre; and (3) Planting protection is required **Materials**: Potted shrub or tree size is 1 quart.	Ac	3749.36
		Small container, machine planted	**General**: (1) The planting will consist of machine planted shrubs and trees; (2) 35 or more tree/shrub plantings per acre; and (3) Tree shelters will be provided. Materials: Potted shrub or hardwood/conifer tree: 1 quart.	Ac	3238.12
		Large container, hand planted	**General**: (1) The planting will consist of hand planted l shrubs and trees; (2) 35 or more tree/shrub plantings per acre; and (3) Tree shelters will be provided. **Materials**: Potted or balled shrub or tree size: 2-3 gal.	Ac	9427.38

HSP Agricultural Management Practice Name	Practice Implementation Name* (Compost–Planner)	Scenario Name*	Implementation Guidelines	Payment Unit	Payment Rate ($)
Compost Application to Annual Crop (CDFA)	Compost (C:N ≤ 11) application to annual crops	Compost from Certified Composting Facility	Application rate must be between 2.2-3.6 Dry tons/Acres	Dry ton	35.00
	Compost (C:N > 11) application to annual crops		Application rate must be between 4.0-5.3 Dry tons/Acres	Dry ton	35.00
Compost Application to Perennials, Orchards and Vineyards (CDFA)	Compost (C:N ≤ 11) application to annual crops	Compost from Certified Composting Facility	Application rate must be between 1.5-2.9 Dry tons/Acres	Dry ton	35.00
	Compost (C:N > 11) application to annual crops		Application rate must be between 4.0-5.3 Dry tons/Acres	Dry ton	35.00
Compost Application to Grassland (CDFA)	Compost (C:N > 11) application to grazed, irrigated pasture	Compost from Certified Composting Facility	Application rate must be between 4.0-5.3 Dry tons/Acres	Dry ton	35.00
	Compost (C:N > 11) application to grazed rangeland		Application rate must be between 4.0-5.3 Dry tons/Acres	Dry ton	35.00

Proposed New Practices

HSP Agricultural Management Practice Name	Practice Implementation Name* (COMET –Planner)	Scenario Name*	Implementation Guidelines	Payment Unit	Payment Rate ($)
Nutrient Management (USDA NRCS CPS 590)	Improved N Fertilizer Management on Irrigated Cropland – Reduce Fertilizer Application Rate by 15% Improved N Fertilizer Management on Non-Irrigated Cropland – Reduce Fertilizer Application Rate by 15%	Basic NM	A nutrient management budget will be developed for each field(s) based on soil test analysis and land grant university recommendations or crop removal rates.	Ac	14.26
Conservation Crop Rotation (USDA NRCS CPS 328)	Decrease Fallow Frequency or Add Perennial Crop to Rotations	Basic rotation	Effective implementation of a conservation crop rotation to provide high residue and/or perennial crops.	Ac	19.62
		Specialty crops	Effective implementation of a rotation of organic or non-organic specialty crops (fruits and vegetables).	Ac	52.34
Alley Cropping (USDA NRCS CPS 311)		Tree-planting, single row	(1) Potted or balled and burlapped hardwood tree size: 2-3 gal; and (2) Plant density is 200 or more trees/acre.	Ac	33.26
Multistory Cropping (USDA NRCS CPS 379)		Free trees or shrubs	For enhancement of multi-story agroforests or improvement of overstory conditions on existing cropland.	Ea	5.20
		Native shrub planting	(1) Plant Density is 200 or more plantings/acre; and (2) Shrub seedling size is no less than 1 qt.	Ea	9.86
		Native tree planting	(1) Plant Density is 200 or more plantings/acre; and (2) Tree seedling size is no less than 1 qt.	Ea	9.86
		Non-native shrubs	(1) Plant density is 200 or more plantings/acre; (2) Bare root tree size is 6-18" tall, band pots of common species trees or shrubs, and/or (3) tree or shrub seedling containerized size is no less than 10 cu. in..	Ea	7.74
		Non-native tree planting	(1) Plant density is 200 or more plantings/acre; (2) Bare root tree size is 6-18" tall, band pots of common species trees or shrubs, and/or (3) Tree or shrub seedling containerized size is no less than 10 cu. in..	Ea	7.74

HSP Agricultural Management Practice Name	Practice Implementation Name* (COMET –Planner)	Scenario Name*	Implementation Guidelines	Payment Unit	Payment Rate ($)
Strip Cropping (USDA NRCS CPS 585)	Add Perennial Cover Grown in Strips with Irrigated Annual Crops Add Perennial Cover Grown in Strips with Non-Irrigated Annual Crops	Wind and water erosion	(1) Two or more strips are required; (2) 50% or more vegetation cover must be perennial and erosion resistant crops.	Ac	2.64
Forage and Biomass Planting (USDA NRCS CPS 512)	Conversion of Annual Cropland to Irrigated Grass/Legume Forage/Biomass Crops **Or** Conversion of Annual Cropland to Non-Irrigated Grass/Legume Forage/Biomass Crops	Nonnative high seeding rate, no lime	(1) Seeding rate is no less than 30 lb/acre PLS (pure live seed); and (2) No-Till/grass drill is used to seed.	Ac	313.28
		Nonnative standard seeding rate, no fertilizer	(1) Seeding rate is no less than 9 lb/acre PLS (pure live seed); and (2) No-Till/grass drill is used to seed.	Ac	152.00
		Nonnative standard seeding rate with fertilizer	(1) Seeding rate is no less than 9 lb/acre PLS (pure live seed); and (2) No-Till/grass drill is used to seed.	Ac	218.50
		Non-native high seeding rate with lime or similar amendment	(1) Fields where moisture is not limited; (2) Seeding rate is no less than 30 lb/acre PLS (pure live seed); (3) No-Till/grass drill is used to seed.	Ac	428.20
Conservation Cover ((USDA NRCS CPS 327)	Convert Irrigated Cropland to Permanent Unfertilized Grass Cover Or Convert Irrigated Cropland to Permanent Unfertilized Grass/Legume Cover Or Convert Non-Irrigated Cropland to Permanent Unfertilized Grass Cover Or Convert Non-Irrigated Cropland to Permanent Unfertilized Grass/Legume Cover	Introduced species	Introduced cool season perennial grass to reduce soil erosion, water/sediment runoff and dust emissions.	Ac	203.16
		Introduced species with foregone income	Introduced, cool season perennial grass for organically managed lands.	Ac	607.74
		Monarch species - mix	A mix of native grass and forbs for specialized purposes (wildlife, pollinators or ecosystem restoration); Species not readily available and/or difficult to produce and harvest.	Ac	2222.26
		Monarch species - mix with foregone income	A mix of native grass and forbs for specialized purposes; Species not readily available and/or difficult to produce and harvest.	Ac	2465.00

HSP Agricultural Management Practice Name	Practice Implementation Name* (COMET –Planner)	Scenario Name*	Implementation Guidelines	Payment Unit	Payment Rate ($)
Conservation Cover (USDA NRCS CPS 327) *(Continued)*	Convert Irrigated Cropland to Permanent Unfertilized Grass Cover Or Convert Irrigated Cropland to Permanent Unfertilized Grass/Legume Cover Or Convert Non-Irrigated Cropland to Permanent Unfertilized Grass Cover Or Convert Non-Irrigated Cropland to Permanent Unfertilized Grass/Legume Cover	Native species	Mixture of native and warm season perennial grass to reduce soil erosion, water/sediment runoff and dust emissions.	Ac	280.74
		Native species with foregone income	Mixture of native and warm season perennial grass. Forgone income is for dryland wheat or oats.	Ac	701.98
		Pollinator species	Permanent vegetation, including a mix of native grasses, legumes, and forbs to provide habitat for pollinators.	Ac	1571.88
		Pollinator species with foregone income	Permanent vegetation, including a mix of native grasses, legumes, and forbs to provide habitat for pollinators.	Ac	1993.12
Range Planting (USDA NRCS CPS 550)	Seeding forages to improve rangeland condition	Native species broadcast	(1) Predominately native adapted perennial species (native forb, cool season and native perennial grass); (2) Preparing the seedbed may be required prior to broadcast seeding; (3) Seeding rate is 18 lb/acre PLS.	Ac	575.56
		Native species high forb drilled	(1) Predominately native adapted perennial species (native forb, cool season and native perennial grass); and (2) No-till drill or range drill is used to seed.	Ac	526.38
		Native species low forb drilled	(1) Predominately native adapted perennial species (native forb, cool season and native perennial grass); and (2) no-till drill or range drill is used to seed.	Ac	351.22
		Nonnative species broadcast	(1) Three Species Mix - cool season and introduced perennial grass; (2) Preparing the seedbed may be required prior to broadcast seeding; and (3) Seeding rate is 18 lb/acre PLS.	Ac	212.90
		Nonnative species drilled	(1) Three Species Mix - cool season and introduced perennial grass; and (2) No-till drill or range drill is used to seed.	Ac	169.90
		Shrub plugs	(1) Shrub seedling or transplant, bare root shrubs 3 to 5 feet tall; (2) Typical planting density ay 1000 plants/acre.	Ac	2578.46

HSP Agricultural Management Practice Name	Practice Implementation Name* (COMET –Planner)	Scenario Name*	Implementation Guidelines	Payment Unit	Payment Rate ($)
Grassed Waterway (USDA NRCS CPS 412)	Convert Strips of Irrigated Cropland to Permanent Unfertilized Grass/Legume Cover **Or** Convert Strips of Non-Irrigated Cropland to Permanent Unfertilized Grass /Legume Cover	Base Waterway	Waterways area measured from top of bank to top of bank. Typical practice is 1200' long, 12' bottom, 8:1 side slopes, and 1.5' depth.	Ac	2164.42
		Base waterway with checks	Waterways area measured from top of bank to top of bank. Typical practice is 1200' long, 12' bottom, 8:1 side slopes, 1.5' depth. Fabric or stone checks are installed every 100 feet along the length of the waterway perpendicular to waterflow and are 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.	Ac	3372.00
Prescribed Grazing (USDA NRCS CPS 528)	Grazing Management to Improve Irrigated Pasture Condition **Or** Grazing Management to Improve Rangeland or Non-Irrigated Pasture Condition	Pasture, basic	Design and implement a grazing system to enhance pasture condition and ecosystem function and optimize efficiency and economic return through monitoring & record keeping.	Ac	22.06
		Range, basic	Design and implementation of a grazing system that will enhance rangeland health and ecosystem function and optimize efficiency and economic return through monitoring & record keeping.	Ac	5.00
Tree/Shrub Establishment (USDA NRCS CPS 612)	Conversion of Annual Cropland to a Farm Woodlot	Conservation, hand planting, browse protection	To improving a forestry or agroforestry setting, planting density is 150 trees/acre. Bare root hardwood seedling or transplant: shrubs 6-18" tall and trees 18-36" tall. Seedlings are protected from deer browsing.	Ac	915.3
	Conversion of Grassland to a Farm Woodlot				
Compost Application to Annual Crop (CDFA)	Compost (C:N ≤ 11) application to annual crops	On-farm produced compost	Application rate must be between 2.2-3.6 Dry tons/Acres	Dry ton	35.00
	Compost (C:N > 11) application to annual crops		Application rate must be between 4.0-5.3 Dry tons/Acres	Dry ton	35.00
Compost Application to Perennials, Orchards and Vineyards (CDFA)	Compost (C:N ≤ 11) application to annual crops	On-farm produced compost	Application rate must be between 1.5-2.9 Dry tons/Acres	Dry ton	35.00
	Compost (C:N > 11) application to annual crops		Application rate must be between 4.0-5.3 Dry tons/Acres	Dry ton	35.00
Compost Application to Grassland (CDFA)	Compost (C:N > 11) application to grazed, irrigated pasture	On-farm produced compost	Application rate must be between 4.0-5.3 Dry tons/Acres	Dry ton	35.00
	Compost (C:N > 11) application to grazed rangeland		Application rate must be between 4.0-5.3 Dry tons/Acres	Dry ton	35.00

*Legend:

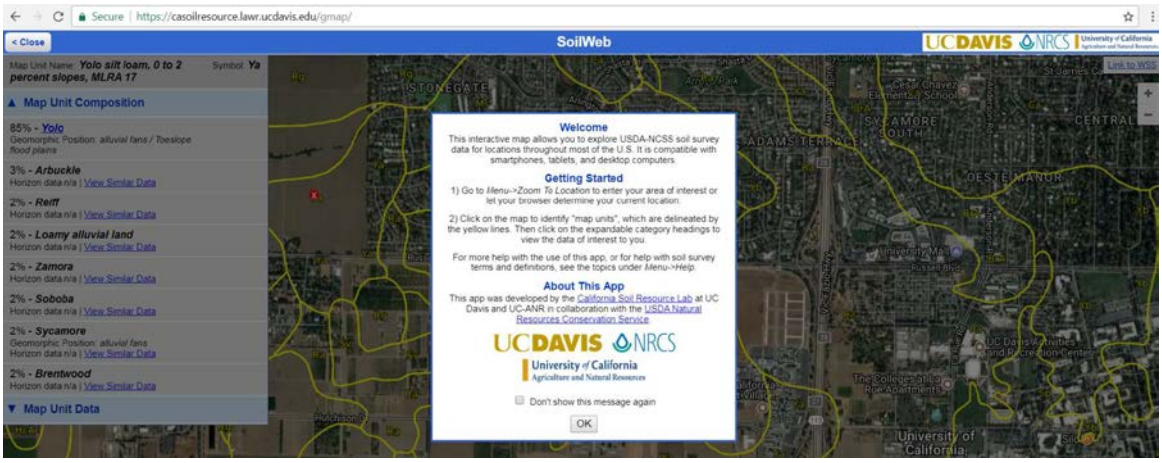
Practice Implementation Name: These agricultural management practices are available for selection in the COMET-Planner and Compost-Planner quantification tools, as specified. Access the quantification tools at: https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/quantification.htm .

Implementation Guidelines: Some agricultural management practices have additional requirements that may not be listed by the USDA-NRCS as a requirement in the Conservation Practice Standard (e.g., compost application rates, minimum widths for establishing some herbaceous and woody practices, or minimum tree densities for woody practices). These requirements ensure alignment with the GHG estimation methods. For more detail, see: https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/quantification.htm and https://efotg.sc.egov.usda.gov/treemenuFS.aspx .

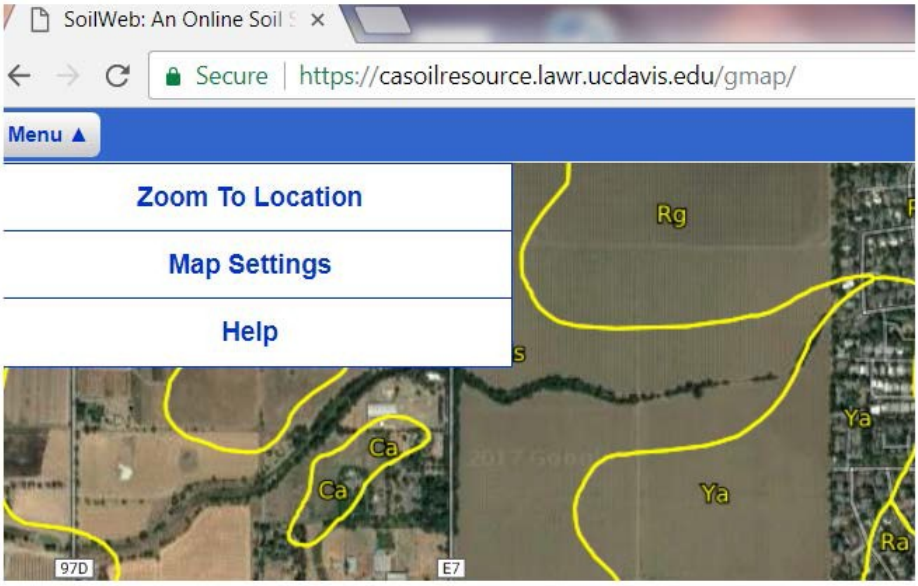
Scenario Name: This is the corresponding agricultural management practice scenario under which a particular practice may be funded, as determined by CDFA in collaboration with USDA-NRCS.

Document 4: Step-by-Step Instructions to Determine Soil Organic Matter Content Using Web Soil Survey

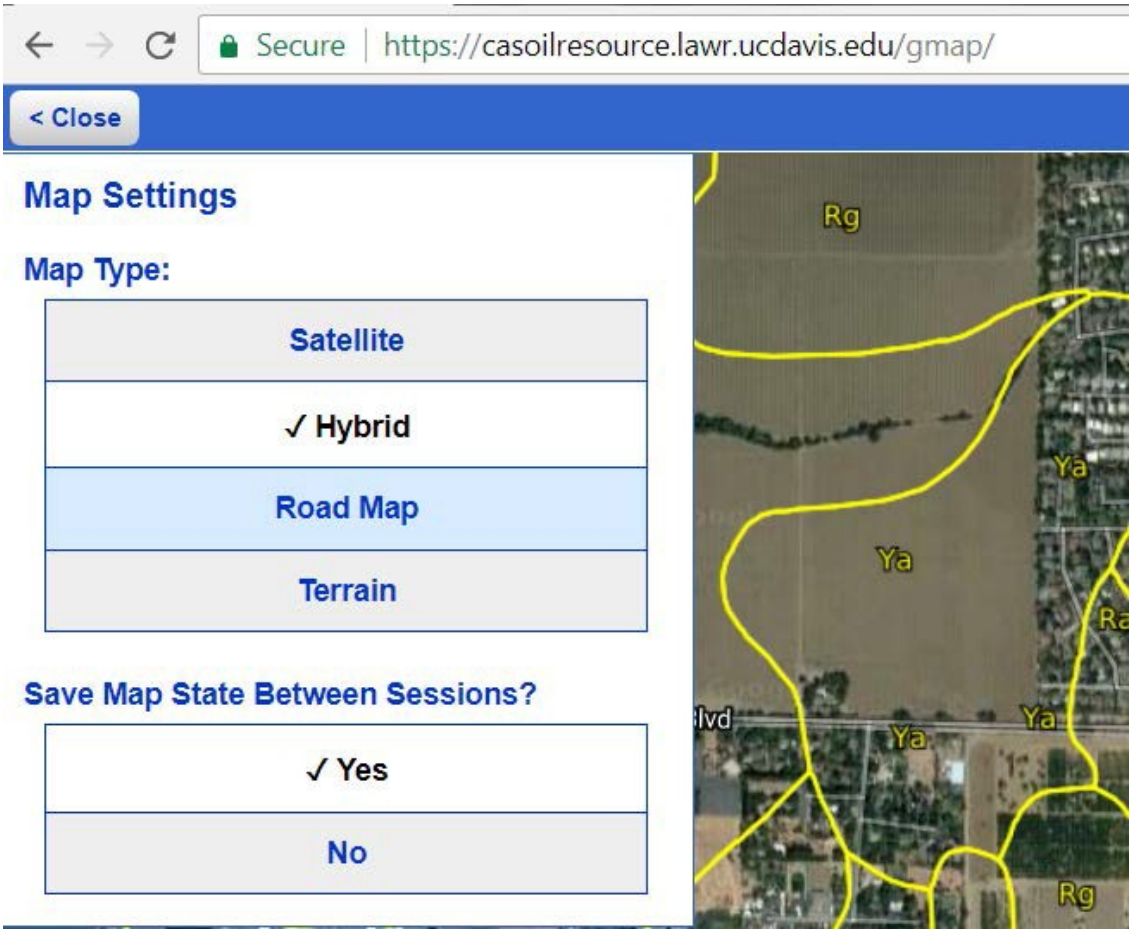
Step 1: Go to the UCD web soil survey site at https://casoilresource.lawr.ucdavis.edu/gmap/ as shown below. Click “OK” at the bottom of box.



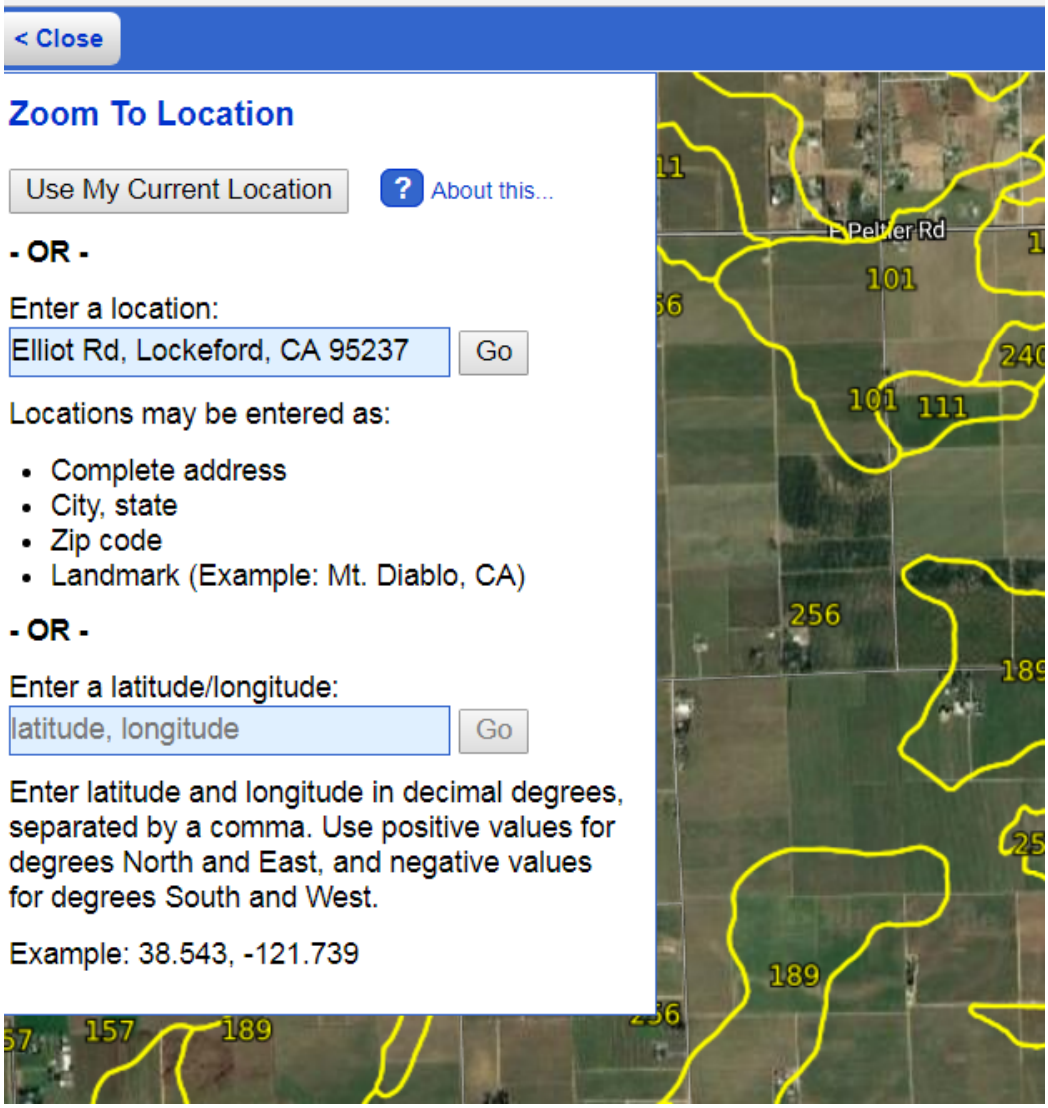
Step 2: Locate “Menu” on the up left side corner of the screen. A menu of three contents will pop up when clicked.



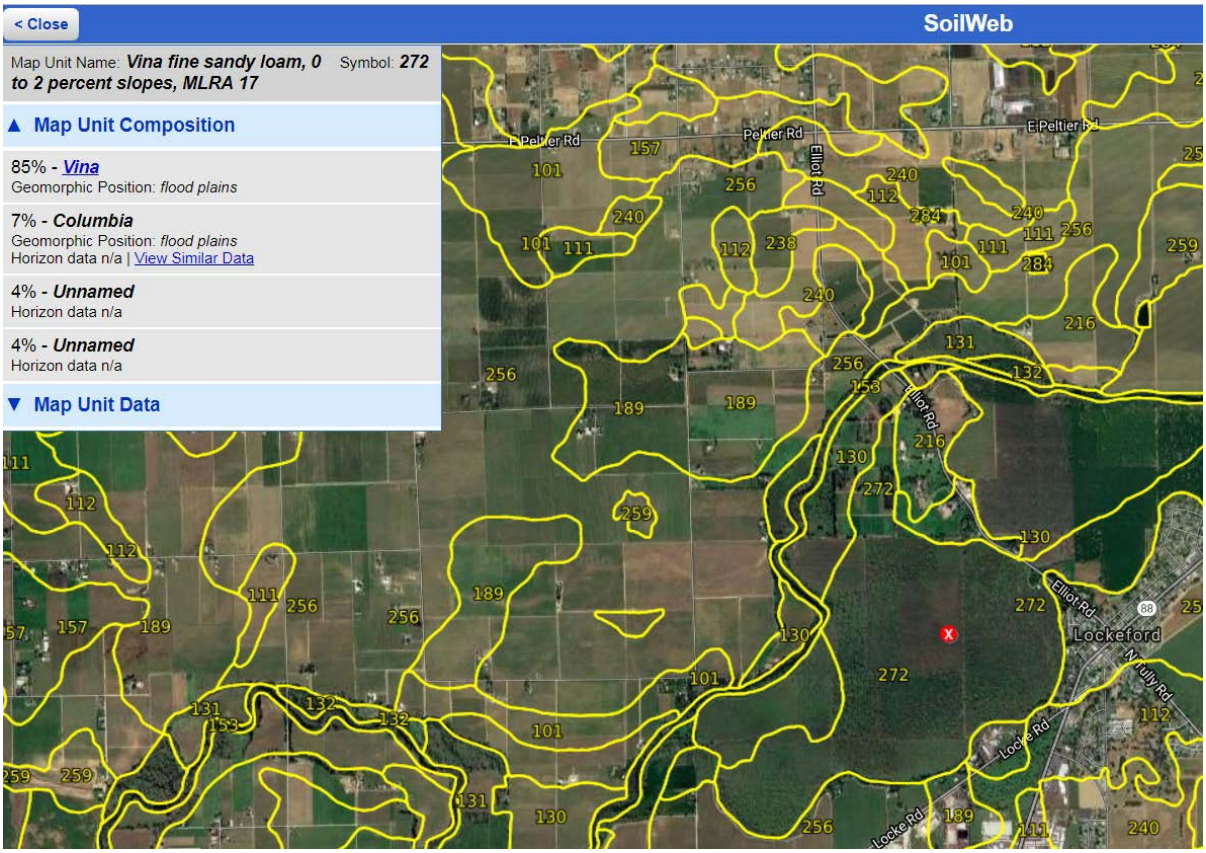
Step 3: Click “Map Settings”. Under “Map Type”, select “Hybrid”. This selection is recommended as it allows one to easily identify the location of their fields. Once map type is selected, click “Close”. This will bring you back to the “Menu”.



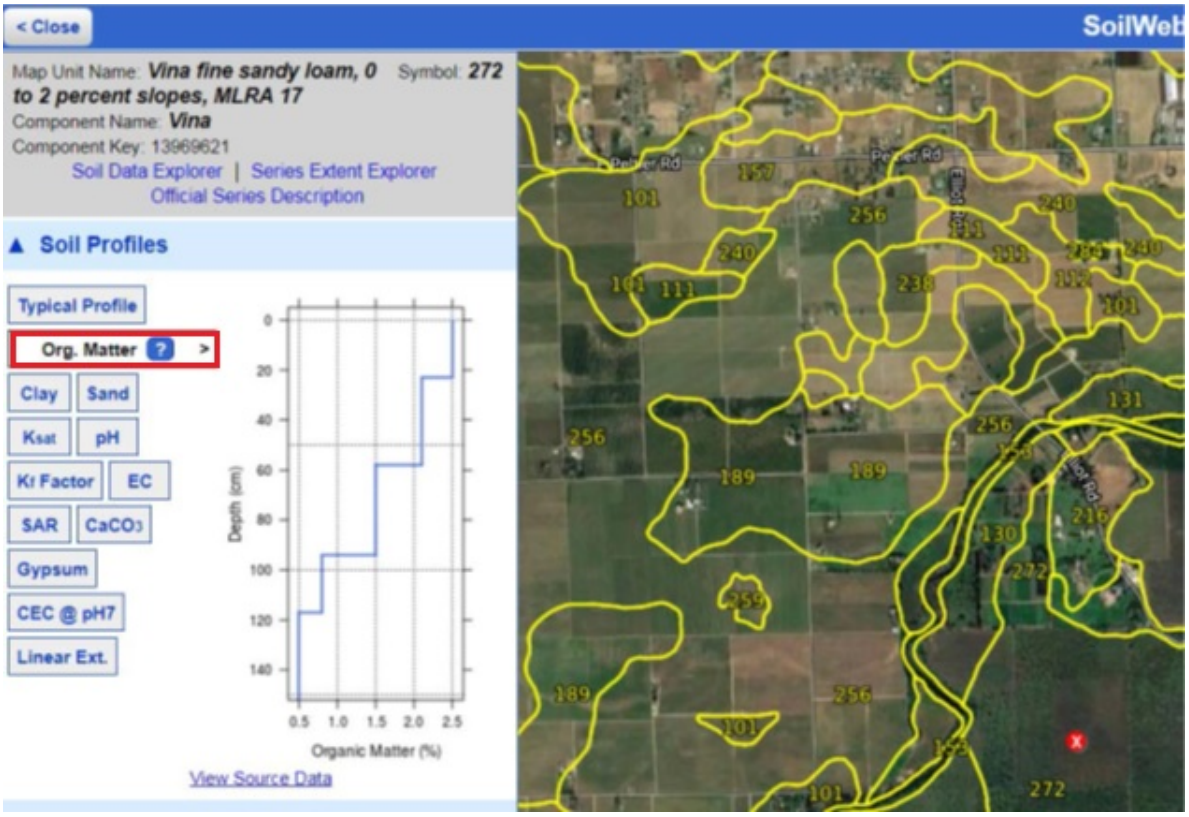
Step 4: Click “Menu” again. Click “Zoom to Location”. This allows you enter your field address. Type your field address and click “Go”.



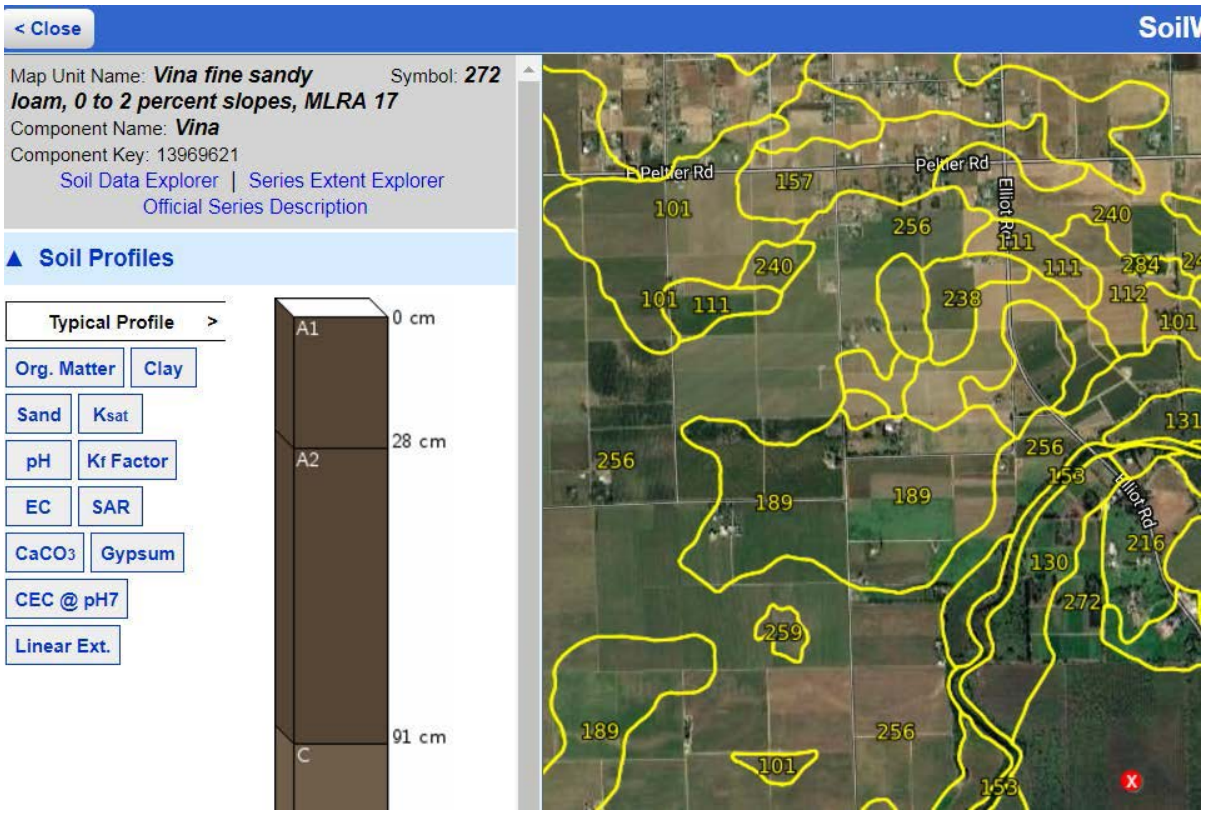
Step 5: Identify the field location as best possible. Move your mouse pointer to the location and click. Soil type of the field appears on the left side corner, with your selected location marked as red check box. For example, the major soil type on this field is “Vina”. Record the name of the major soil type for your location. Click the soil type name (“Vina” in this example).



Step 6: Detailed information for a typical “Vina” soil series appears. Click “Org. Matter” as highlighted in the red box.



Step 7: The diagram shows percent organic matter content (SOM) in the soil profile. Read % soil organic matter (the bottom of the diagram) for surface soil layer (0-20 cm or 0-8 inch in this diagram). In this example, it is approximately 2.5% for Vina soil series.



Step 8: Write down the organic matter content and name of soil series for each field/APN as it is needed for your application. *Note*: If an APN's soil organic matter is greater than 20 percent, all Compost Application practices are not eligible.

Step 9: Include screenshot(s) of Web Soil Survey results as a single file as an attachment with the application. The file should be named as "Incentives_[ApplicantName]_[taxIDlast4digits]_WebSoilSurvey"

Document 5: Soil Sampling Protocol for Soil Organic Matter Analysis

WHAT DO I NEED?

Please ensure bringing all materials to the field for soil sampling.

As shown in Figure 1, these materials include:

- Two buckets (one for sample and one for supplies)
- Soil sample bags: one-gallon freezer storage bags (or soil sample bags); one bag per sample
- One clipboard and papers for recording
- Permanent marker and/or pen
- A soil probe or straight shovel (sharpshooter or drain spade style).
- Ice pack(s) (optional, needed for hot days when samples for nitrogen content or biological properties.)

Figure 1. Materials needed for soil sampling

WHERE TO SAMPLE?

A. Determine the number of samples to be taken from each field (or APN).

Decide whether one sample will adequately represent the field (or APN), or whether an APN should be split to into multiple sampling units. A field is not the same and may vary in soil type, fertility, or cropping and management histories. Divide the field into different sampling units and make sure conditions inside

the same sampling unit are as uniform as possible. If a uniform field is very large, you may need to divide it into several sampling units so as each sampling unit is no larger than 20 acres. One soil sample is needed from each unit.

B. Inside a sampling unit, a composite soil sample is taken.

1. Identify locations within the unit where soil samples are representative.
2. Borders and irregular areas should be avoided, unless a sample is specifically being collected from those areas to identify constraints.
3. As shown in Figure 2, one soil core from each location. Total 14 cores will be taken mixed in the bucket to make a composite soil sample to represent the sampling unit.
4. For a sampling unit, about 10 -20 locations should be selected to make a composite sample.

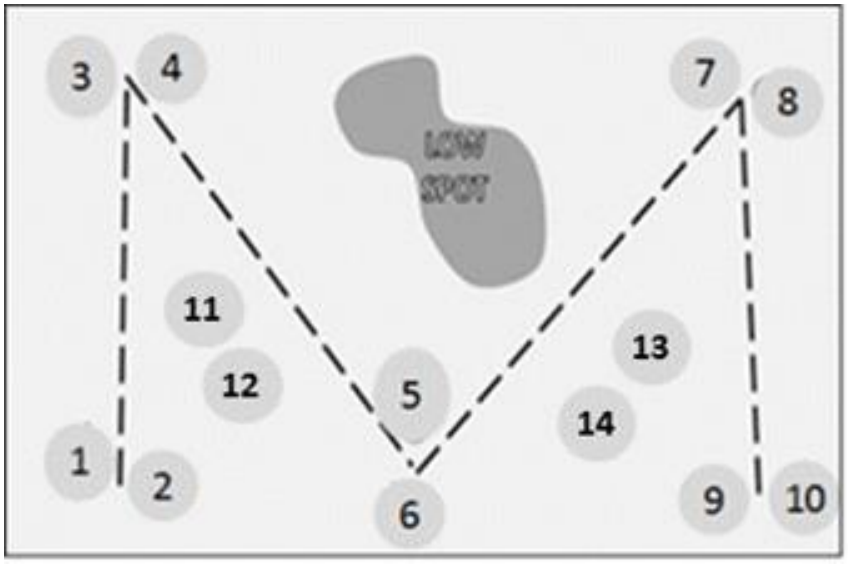


Figure 2. Locations where samples should be taken within a sampling unit

HOW TO TAKE A COMPOSITE SOIL SAMPLE?

A. Two important requirements must be met when taking soil samples:

1. A uniform slice of soil from the soil surface to a desired depth must be taken.
2. The same volume of soil must be collected from each sample location.

B. Depth to sample:

Depth to take soil samples is usually determined by the crop, what you are interested to know, and your knowledge about the soil profile. For soil organic matter content for the purpose of the CDFA Healthy

Soils Program, sampling depth should be from surface to 8” deep.

C. How to take sample with a soil probe (Figure 3)

1. Remove surface debris (A).
2. Push probe steady and straight to the desired depth (e.g., 8” in a tomato field) (B).
3. Remove the core and place it in the clean bucket.
4. Go to the next location and repeat steps 1-3.
5. Finish sampling from all (ten or more) locations.
6. Gently mix soils in the bucket and collect them in the sample bag labeled with the APN, sampling date, and farm name (C).

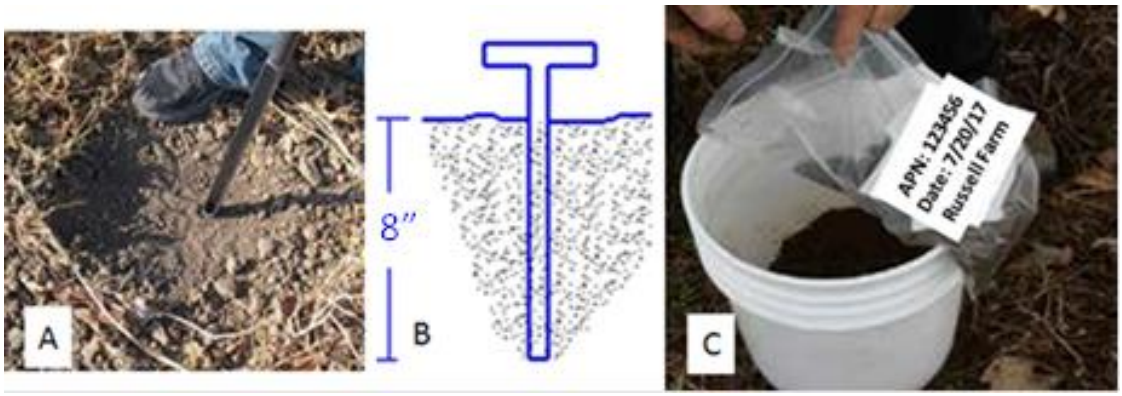


Figure 3. Taking samples with a soil probe.

D. How to take samples with a shovel or spade (Figure 4)

1. Remove surface debris (A).
2. Use the spade to dig a small hole about 8’’ deep. From the side of the hole, take a vertical, rectangular slice of soil 8” deep and about 2” thick (B).
3. Remove any extra soil to ensure that the sample is the same width at the top and bottom of the slice. It is important to collect the same amount of soil through the 6” sample profile so that it is not biased with more soil from the surface compared to the subsurface (C).
4. Place sample into a clean bucket.
5. Go to the next location and repeat the steps 1-4 for all locations.
6. Gently mix soils in the bucket and collect 6 cups of well-mixed soils (or no less than 1 lb.) into the sample bag labeled with the APN, sampling date, and farm name (D).

Figure 4. Taking samples with a shovel.

SAMPLE STORAGE AND SHIPPING TO A SOIL TESTING LABORATORY

Before you send your soil samples for analysis, ensure that the laboratory uses University of California testing methods, which are proven on California farms by the University. Contact the soil testing laboratory where you plan to send your samples.

CDFA recommends the laboratories listed at the following websites for tests conducted for the Healthy Soils Program:

- Selected Plant and Soil Laboratories in Northern and Central California: http://cesonoma.ucanr.edu/files/27431.pdf.
- UC Cooperative Extension el Dorado County List of Laboratories for Tissue/Soil/Water – Agricultural Analysis: http://cecentralsierra.ucanr.org/files/115331.pdf.
- UC ANR Soils Testing Laboratories for Home Gardeners: http://ccmg.ucanr.edu/files/51308.pdf.
- Selected Plant and Soil Testing Laboratories in Central and Southern California: http://ceventura.ucanr.edu/Com_Ag/Subtropical/Avocado_Handbook/Resources/Plant_Disease_Diagnostics_and_Soil_Testing_Labs_in_California-1999_/

Please check with the laboratory where you intend to send samples to ensure if there are specific requirements regarding sample storage, packing and shipping. Requirements may be different depending

on what soil properties are to be tested.

Provided below are general guidelines regarding handling of soil samples:

- Ship your soil samples to a soil test laboratory as soon as possible.
- Ensure all sample bags are correctly labeled and sealed.
- Provide a soil sampling form together with samples in the shipping box.
- For tests on soil texture, organic matter content, pH, cation exchange capacity or mineral contents other than nitrogen, samples can be handled at room temperature.
- For tests on nitrogen content and/or biological properties (e.g. microorganisms), keep samples out of direct sunlight and store as cool as possible (ice packs recommended) during sampling and storage. Store samples in a refrigerator or cold room after returning from the field. Pack soil samples with ice packs when shipping.
- Contact the soil testing laboratory a few days after samples are shipped to confirm they were received and are being handled properly.

Important: If you know your soils are calcareous soils (i.e., soils with a significant amount of calcium carbonate), please ensure that your chosen laboratory is aware of your soil type and able to conduct the analysis specific for calcareous soils.

SOIL HEALTH DATA

1. Required by CDFA

   The cost of the following test are covered by the 2018 CDFA HSP Incentives Program:

   - Soil organic matter content.

2. Optional data, encouraged but not required by CDFA

   The costs of the following tests are to be covered by cost share provided by recipients:

   - Physical properties:
     - Bulk density
     - Surface hardness
     - Subsurface hardness)
     - Water infiltration
     - Water holding capacity

    - Aggregate stability
    - Saturated hydraulic conductivity
- Chemical Properties
    - pH
    - Soil chemical composition
- Biological Properties
    - Active or labile carbon
    - Soil protein
    - Soil respiration
    - Earthworms

REFERENCES

- Moebois-Clune B.N., D.J. Moebois-Clune, B.K. Gugino, O.J. Idowu, R.R. Schindelbeck, A.J. Ristow, H.M. van Es, J.E. Thies, H.A. Shayler, M.B. McBride, D.W. Wolfe, and G.S. Abawi. 2016. Soil sampling protocol. In Comprehensive Assessment of Soil Health. Soil and Crop Science Section, Cornell University. Ithaca, NY. P. 27-30.
- USDA NRCS. 2007. Soil sampling for nutrient management. https://www.nrcs.usda.gov/wps/PA_NRCSConsumption/download?cid=nrcs144p2_051273&ext=pdf
- UCCE UC Small Farm Program, 2017. Soil sampling. http://sfp.ucdavis.edu/pubs/Family_Farm_Series/Veg/Fertilizing/soil/

Document 6: Non-Overlapping Practices

The practices listed below cannot be implemented on the exact same land area or field, i.e., cannot overlap:

- Cover Crop (USDA NRCS CPS 340)
- Conservation Crop Rotation (USDA NRCS CPS 328)
- Residue and Tillage Management – No-Till (USDA NRCS CPS 329)
- Residue and Tillage Management − Reduced Till (USDA NRCS CPS 345)
- Strip Cropping (USDA NRCS CPS 585)
- Compost Application: Compost is either
    - Purchased from a Certified Facility

      or
    - On-farm Produced Compost
- Alley Cropping (USDA NRCS CPS 311)
- Multi-story Cropping (USDA NRCS CPS 379)