

2021 Healthy Soils Program Incentives Program

*The Healthy Soils Program is funded by the California State Budget and
California Climate Investments*



Grant Award Procedures Manual



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

Contents

Overview	4
Authority and Program Purpose	4
Purpose of the Grant Awards Procedures Manual	4
General Responsibilities	4
Office of Environmental Farming and Innovation	4
Grant Recipients	4
Recipient Resources.....	5
Prior Approval Required	5
Project Management	6
Project Updates	6
Cost Share	6
Allowable Costs.....	7
Unallowable Costs.....	7
Scope of Work Revisions.....	7
Notification of Problems and Delays.....	7
Invoicing	8
Invoicing for Payment	8
When to Submit Invoices.....	8
Completing an Invoice	8
Advance Payments.....	9
Advance Payment Requests Procedures.....	9
Advance Payment Offset Invoice.....	9
Final Invoices	9
Withholds	10
Withhold Pending Closeout	10
Soil Testing Requirements	10
Reporting Requirements.....	10
Compliance	11
Project Verification	11
Termination of Grant Agreement	12

Appeal Process	12
Closeout.....	13
Record Retention.....	13
Post-Project Requirements	13
Critical Project Review	13
State Audit and Accounting Requirements.....	14
Appendix A: CDFA Invoice Template and Advance Request Form.....	15
CDFA Invoice Template Instructions and Definitions.....	16
CDFA Advance Payment Request Template Instructions and Definitions	19
Appendix B: Soil Sampling Protocol for Soil Organic Matter Analysis	20
Appendix C: Instructions for Taking and Sending Photos with Geotagging	
Information Available	24
How to allow photos taken with geotagging information	24
How to send photos with geotagging information:	24
Appendix D: Payment Rates, Implementation Guidelines and Verification	
Requirements for 2021 HSP Incentives Program	26

Overview

Authority and Program Purpose

The Healthy Soils Program (HSP) 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 provides financial incentives to California growers and ranchers for agricultural management practices that sequester carbon, reduce atmospheric greenhouse gases (GHG), and improve soil health. The program is funded by the California State Budget and the Greenhouse Gas Reduction Fund (GGRF) authorized by the Budget Act of 2021 (SB 170). All projects that receive GGRF monies are required by [Government Code Section 16428.9](#) to achieve GHG emission reductions and further the purposes of the Global Warming Solutions Act of 2006 ([AB 32](#)).

Purpose of the Grant Awards Procedures Manual

The HSP Incentives Program Grant Award Procedures (GAP) Manual provides direction to Grant Recipients (Recipients) for the successful management of HSP Incentives Program funded projects. The GAP Manual identifies the roles and responsibilities of the parties to the agreement and describes the processes and procedures required by the terms and conditions in the Grant Agreement.

General Responsibilities

Office of Environmental Farming and Innovation

CDFA's Office of Environmental Farming and Innovation (OEFI) will manage the HSP Grant Agreements and ensure Recipients are compliant with program requirements and grant terms and conditions. This will include providing Recipients with assistance and consultation throughout the Grant Agreement term, and consultation on technical aspects of project implementation as necessary. OEFI is also responsible for conducting practice verifications for the projects.

Grant Recipients

Recipients are responsible for project implementation as outlined in the Grant Agreement scope of work (SOW) which includes ensuring that all project activities comply with grant terms and conditions. Recipients are responsible for the timely submission of invoices upon completion of [Project Verification](#).

All management practices must be maintained for a minimum of three years. Implementation of the practice(s) must be according to United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Conservation Practice Standards (CPS), 2021 HSP Incentives Program Request for Grant Applications (RGA), guidelines in the [CDFA Compost Application White Paper](#) and the [CDFA Whole Orchard Recycling Report](#). For practices that involve establishment of woody cover (i.e. tree plantings), the expected practice life span is ten years.

Reference the [Post-Project Requirements](#) section for details regarding expectations and responsibilities for continuing the implementation of management practices after the Grant Agreement term. Recipients should contact their assigned Grant Specialist with questions.

Recipient Resources

Forms and templates referenced in this manual, as well as other resources, will be provided by the assigned Grant Specialist and can be requested from through email or telephone. This document (the GAP Manual) and the Request for Grant Applications are available on the HSP website at <https://www.cdfa.ca.gov/oefi/healthsoils/Resources-HSPIncentives.html>.

Prior Approval Required

Prior approval is required from OEFI for the following:

- Revision of the scope of work, eligible agricultural management practices including change in species selected for planting, work plan, activities, milestones dates, or deliverables.
- Budget changes.
- Issue of advance payments.
- Change in recipient organization or key personnel.

Recipients should contact their assigned Grant Specialist in writing whenever a change requiring prior approval is necessary or if they are uncertain whether a project activity or cost requires prior approval. Failure to obtain prior approval may result in costs being deemed unallowable and request for grant funds being denied.

Project Management

Recipients are responsible for the overall management of the project, ensuring all project activities are completed as identified in the Work Plan and follow program requirements and the Grant Agreement terms and conditions.

Eligible agricultural management practice implementations must occur on the fields located on Assessor Parcel Number(s) (APNs identified in the approved SOW. Additionally, implementation must begin no later than December 31, 2022. Failure to implement management practice(s) on the fields identified in the approved SOW prior to December 31, 2022, may result in all or any portion of the grant funding being withheld and/or termination of the Grant Agreement.

Project Updates

Recipients are required to maintain clear and consistent communication with OEFI regarding project progress during the Grant Agreement term. This includes but is not limited to:

- Notification of changes in cost share agreements (reference [Cost Share](#)).
- Notification of changes to implementation dates (reference [Scope of Work Revisions](#)).
- Notification of issues affecting the project progress (reference [Notification of Problems and Delays](#)).

Cost Share

Cost share can be in the form of matching funds or in-kind contributions. Matching funds refers to a dollar amount committed to the project from a source other than the HSP. An in-kind contribution is the estimated dollar value of any time, property, or supplies donated to a project. Cost share must be reasonable and consistent with costs paid for equivalent work on non-grant funded activities for comparable work in the labor market.

The Grant Agreement term is from the date of execution of the grant agreement to March 31, 2025.

For Recipients providing matching funds, OEFI may request for submission of documentation reflecting all expenses incurred to support the project with the invoices.

The Recipient is to notify the assigned Grant Specialist if the amount or activities covered by cost share have changed.

Allowable Costs

A cost is allowable if it is approved in the project budget. For the HSP Incentives Program, the project budget would only be approved if it is based on the HSP Standard Payment Rates for eligible practices and soil organic matter tests. Any other itemized costs are not allowable.

Unallowable Costs

A cost is unallowable if it does not comply with program requirements or other terms and conditions of the Grant Agreement. A cost is also unallowable if it is not contained in the approved scope of work and is not necessary and reasonable to implement the approved eligible agricultural management practices. Unallowable costs will not be counted toward a Recipient's required [Cost Share](#). If a Recipient is uncertain whether a cost is allowable, they must contact their assigned Grant Specialist before the cost is incurred.

Scope of Work Revisions

SOW revisions are required when implementation dates or eligible agricultural management practices must be altered, especially if such changes affect the Recipient's ability to implement practices within each designated Project Year or complete implementation of the approved practices.

Requests for revisions must be made in writing to the assigned Grant Specialist and provide a detailed justification explaining the need for the change and how the proposed change benefits or enhances the project.

Notification of Problems and Delays

Recipients must immediately notify OEFI of any delays, problems, and/or adverse conditions that may materially affect the project. Examples include but are not limited to: inability to collect soil samples; inability to implement the approved eligible agricultural management practices according to specifications; and inability to implement the approved management practice(s) according to the work plan or work plan schedule.

In such cases, Recipients must contact their assigned Grant Specialist immediately for purposes of resolving such delays and/or problems.

Invoicing

Invoicing for Payment

Payment is based on the Standard Payment Rates for Eligible Agricultural Management Practices for 2021 HSP Incentives Program and reimbursed upon verification of the eligible agricultural management practices implemented in the approved SOW, consistent with requirements noted in [Appendix D](#). It may take up to 45-90 days from the date the invoice is approved for a check to be issued by the State Controller's Office on behalf of CDFA.

Recipients can email (preferred) a scanned, legible copy of the signed invoice to their assigned Grant Specialist at cdfa.HSP_Tech@cdfa.ca.gov, or a hard copy can be mailed to:

California Department of Food and Agriculture
Office of Environmental Farming and Innovation (Healthy Soils Program)
1220 N Street
Sacramento, CA 95814

Note: Invoices mailed as hard copy may experience delays in processing.

To receive payment, Recipients must notify their assigned Grant Specialist upon complete implementation of all management practices, to begin [Project Verification](#) for that Project Year. Invoices will be processed after project implementation has been verified.

When to Submit Invoices

OEFI initiates each invoice cycle by generating an electronic invoice template. Upon notification of practice implementation by Recipient, OEFI conducts a verification of the implemented practice. Once verification is completed, OEFI emails Recipients an invoice template with the Grant Agreement Number, Project Title, Invoice Number, Project Budget per practice, Amount Requested, and Invoiced to Date entered. The invoice template provided by OEFI must be used; invoices generated or altered by the Recipient will not be accepted. Invoices are due no later than 30 calendar days following completion of the verification.

Completing an Invoice

Recipient verifies the Amount Requested column on the invoice for each eligible agricultural management practice implemented, then completes, signs, dates, and returns the invoice to OEFI.

For detailed instructions on completing the CDFA invoice template, refer to [Appendix A](#).

Advance Payments

Recipients may be eligible to receive a one-time advance payment to cover anticipated project expenditures at the start of the project implementation during the first year. The advance payment may not exceed 25 percent of the total award and must be expended within a three-month period. The remaining funds will be allocated on a reimbursement basis. Requests must be submitted using the Advance Payment Request form provided by CDFA. For detailed instructions, refer to [Appendix A](#).

Advance Payment Requests Procedures

To ensure timely processing of an Advance Payment Request, Recipients must do the following:

- Estimate the advance amount needed for up to a three-month period;
- Complete an Advance Payment Request and justification (e.g., low cash flow); and
- Submit the Advance Payment Request and justification to their assigned Grant Specialist no fewer than 45 days before the cost will be incurred.

Advance Payment Offset Invoice

Recipient follows the instructions for an Invoice. The invoice template automatically calculates the amount to be paid less the advance payment amount. The Grant Specialist adjusts the 'Less Advance' amount each billing period until the advance is offset 100 percent by expenditures.

Final Invoices

Recipient follows the instructions for [Completing an Invoice](#), and ensures the invoice is marked "Final" indicating all payment obligations have been met and no further payments are due.

Final Invoices are due no later than 30 calendar days following the completion of the Project Year 3 implementation. Note, as with Project Year 1, payment will not be made until [Project Verification](#) has occurred.

Withholds

OEFI will issue a Withhold Payment Notification to delay payment of an invoice if there is an invoice discrepancy or error, unallowable costs claimed, or outstanding reports. The Withhold Payment Notification describes the reason for withholding payment and what actions, if any, are required to resolve the issues for withholding payment. Invoices are processed once all issues are resolved. A Withhold Payment Notification will not be sent for funds withheld pending closeout, see Withhold Pending Closeout below.

See [Appeal Process](#) for information regarding appealing a Withhold Payment Notification.

Withhold Pending Closeout

OEFI will withhold up to ten percent of the Grant Agreement award until approval of the Final Invoice (required at the end of Project Year 3) and/or resolution of any performance issues through Project Year 3. A Withhold Payment Notification will not be sent, and the ten percent withheld may not be appealed. The ten percent withholding will be released contingent upon approval of the Final Verification.

Soil Testing Requirements

Reporting Requirements

Recipients are required to submit reports on soil organic matter content for each Field to CDFA at the following times:

- Prior to initial implementation of any funded practices. This sampling should take place in Project Year 1, that is, 2022.
- One year after initial implementation of the practice(s). This sampling should take place in Project Year 2, that is, in 2023. Soil samples must be collected prior to implementation of practices in Project Year 2.
- Two years after initial implementation of the practice(s). This sampling shall take place in Project Year 3, that is, 2024. Soil samples must be collected prior to implementation of practices in Project Year 3.
- Three years after initial implementation. This sampling shall take place after project closeout, that is, in 2025. Soil samples must be collected prior to implementation of practices in 2025, if applicable.

A laboratory report of soil organic matter content for each APN/Field can come from any of the accredited soil laboratories recommended by CDFA¹.

Note: In case of practices with one-time implementation, if practices are not implemented in Project Year 1, the schedule for soil organic matter testing may be impacted. In such a case, any required soil sampling and testing that occurs outside of the grant agreement term must be covered through matching funds provided by Recipient.

Compliance

Project Verification

HSP Incentives Program projects are subject to a minimum of one Project Verification for each Project Year. Verification will be conducted by CDFA environmental scientists who may conduct field evaluations by APN and/or remote evaluations through phone or emails to verify program compliance during the grant agreement term.

Verification will ensure that the eligible agricultural management practices have been implemented according to the SOW and in a manner consistent with program requirements, USDA NRCS CPS guidelines, CDFA [Compost Application White Paper](#) and [CDFA Whole Orchard Recycling Report](#). Additionally, it will determine whether and when deliverables are being met and evaluate project progress to ensure the management practice(s) are completed within the Grant Agreement term. Recipients will be required to provide project related documentation (such as geo-tagged photos, receipts for payment of services/goods) to ensure HSP Incentives Program funds are used in compliance with the Grant Agreement terms and conditions.

¹ CDFA recommends the laboratories listed at the following websites for tests conducted for the 2021 Healthy Soils Program:

- Selected Plant and Soil Laboratories in Northern and Central California:
<https://cesonoma.ucanr.edu/files/27431.pdf>
UC Cooperative Extension Merced County List of Laboratories for Soil Testing in Fresno, Madera, Merced, and Stanislaus:
https://cemerced.ucanr.edu/ClimateSmartAg/HSP/SoilTest/Soil_Testing_Laboratories_in_Fresno_Madera_Merced_and_Stanislaus_Counties/.
- UC Cooperative Extension El Dorado County List of Laboratories for Tissue/Soil/Water – Agricultural Analysis: <https://cecentralsierra.ucanr.edu/files/115331.pdf>.
- Selected Plant and Soil Testing Laboratories in Central and Southern California:
https://ceventura.ucanr.edu/Com_Ag/Subtropical/Avocado_Handbook/Resources/Plant_Disease_Diagnostics_and_Soil_Testing_Labs_in_California-1999/

Recipients must notify CDFA when implementation has been completed for each practice to initiate the Project Verification process. The Final Verification must be completed by March 31, 2025.

Consistent with the [CCI Funding Guidelines for Administering Agencies \(2018\)](#), the State of California has the right to review project documents and conduct audits during project implementation and over the project life.

Termination of Grant Agreement

CDFA may terminate a Grant Agreement for noncompliance. The Recipient will be notified in writing of the reasons for termination, the date the termination is effective, and the method for appealing the termination.

Appeal Process

Actions that may be appealed include but are not limited to:

- Withhold Payment Notification
- Termination of Grant Agreement

Appeals must be in writing either emailed (preferred) to:
CDFA.LegalOffice@cdfa.ca.gov

Or via mail to:

California Department of Food and Agriculture
Legal Hearing and Appeals Office
1220 N Street
Sacramento, CA 95814

The appeal must include a copy of the notification or the name of the Recipient organization, the project number, the title of the project, the reasons the action should not be imposed, including any documentation to support the appeal, and the signature of the authorized representative. Appeals must be postmarked (date stamped if via email) within 10 business days of the notice of action from OEFI.

Appeals not received within this timeframe will be denied.

The action specified in the notification remains in effect while the appeal is under review.

Closeout

Before the Grant Agreement is closed, OEFI will review the Final Verification Report and verify resolution of any project performance concerns. A closeout letter will be issued when closeout review is completed.

Note: Close-out does not cancel record retention, financial accountability, or post-project requirements.

Record Retention

Recipients must retain invoices, project records, and any other relevant supporting documents for a period of three years from the date of the close-out letter.

Post-Project Requirements

Recipients are expected to maintain implementation of practices incentivized through the HSP Incentives Program for a minimum of three years from the date of the close out letter. Benefits from implementation of practices are expected to be achieved in the long term. Recipients have a continued expectation to expand these practices on their operations to achieve long-term benefits. Additionally, Recipients are required to maintain 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 report actual benefits achieved for three years after the project close out.

Critical Project Review

Grant recipients must agree to a Critical Project Review during the project term to verify project progress. If it is determined by CDFA from the Critical Project Review that at that time the grant project is not meeting and is unlikely to meet certain milestones, CDFA has the right to terminate the Grant. Termination may result in forfeiture by the grantee of any funds retained pursuant to 10 percent retention policy. Critical Project Review may be completed through an auditing process.

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 time cards, evidence of payment, etc.
- Provides accounting data so the total cost of each individual project can be readily determined.

Appendix A: CDFA Invoice Template and Advance Request Form

Recipient must complete all yellow shaded sections below.

Bill to:
 STATE OF CALIFORNIA
 CA DEPARTMENT FOOD & AGRICULTURE
 OFFICE OF ENVIRONMENTAL FARMING
 AND INNOVATION
 1220 N STREET, ROOM 344
 SACRAMENTO, CA 95814
 HSP, GRANTS INVOICE
 Rev. 03/2021

INVOICE

Healthy Soils Incentives Program Standard Payment Rates

Make Check Payable to:
 ABC FARM
 Address
 City, State Zip
 Attn:

EXAMPLE

Grant Agreement Number: 21-XXXX-000-SO Billing Period: 07/01/2022-06/30/2023 Invoice Date: 7/10/2023 Invoice Number: 21-XXXX-000-SO-1

Recipients Name: ABC Farm

Grant Budget		Invoiced to Date	Amount Requested	Remaining Balance
1. Compost (Purchased)	\$348.00	\$0.00	\$116.00	\$232.00
2. Conservation Cover (327)	\$170.36	\$0.00	\$0.00	\$170.36
3. Hedgerow Planting (422)	\$10,279.00	\$0.00	\$0.00	\$10,279.00
4. Mulching (484)	\$1,642.17	\$0.00	\$547.39	\$1,094.78
5. Cover Crop (340)	\$92.83	\$0.00	\$30.94	\$61.89
6. Soil Sampling	\$450.00	\$0.00	\$150.00	\$300.00
Totals:	\$12,982.36	\$0.00	\$844.33	\$12,138.03
	10% - \$1,298.24*			93.50%
		Less Remaining Advance:		
		Amount to be Paid:	\$844.33	

I certify the amount requested is for actual and allowable expenditures incurred for HSP Incentives Program activities performed in accordance with CDFA Grant Agreement provisions.

 AUTHORIZED NAME & SIGNATURE PHONE NUMBER E-MAIL ADDRESS DATE

FOR STATE USE ONLY

AMOUNT	STATE FISCAL YEAR	GRANT SPECIALIST INITIALS AND DATE	ACCOUNT CODE	PROGRAM CODE	SUPPLIER ID
CDFA AUTHORIZED APPROVER	CDFA AUTHORIZED SIGNATURE	DATE	OBJECT CODE	PRGM COST ACCT (PCA)	VENDOR ID

Liquidate against Advance payment.
 Withhold 10% of Grant Award until Project is verified.
 Project verified. Final payment.

* - CDFA withholds 10% of the total grant amount and it will not be released until all tasks noted in project Scope of Work are completed by Recipient and verified by CDFA. A Withhold Payment Notification will not be sent, and the 10 percent withheld may not be appealed.

OEFI-013

CDFA Invoice Template Instructions and Definitions

Recipients must complete all yellow shaded sections identified on the CDFA invoice template. The following provides definitions and instructions on completing specific sections of the CDFA invoice template to request reimbursement payments for costs incurred to implement the project. For questions regarding and assistance with completing this template, Recipients should contact their assigned Grant Specialist.

- 1. Grant Budget:** The total grant award amount for each budget category as identified in the approved Budget. Reimbursement for project expenditures is based on these categories and amounts.
- 2. Billing Period:** The yearly period in which project costs were incurred. For example, if project costs were incurred during the first billing year, the billing period is from the date of execution of grant agreement until June 30, 2021.
- 3. Invoice date:** The date after the Billing Period when Recipient completes and signs the CDFA Invoice template.
- 4. Amount Requested:** Review the dollar amounts in each budget category to request reimbursement for project costs that were incurred during the billing period. The amount requested in each budget category cannot exceed the total amounts listed under the "Grant Budget" or the yearly amount detailed in the Scope of Work section of the Grant Agreement under the Attachment 1a - Budget Details.
- 5. Less Remaining Advance:** If Advance Payment was requested, OEFI will adjust the "Less Remaining Advance" amount based on approved advance payment. The invoice template will automatically calculate the "Amount to be Paid" less the "Advance Payment."
- 6. Amount to be Paid:** The total payment amount requested for project costs that were incurred during a billing period. The invoice template will automatically calculate this total. Once OEFI approves the invoice, the "Amount to be Paid" will be the amount issued for reimbursement.
- 7. Remaining Balance:** The amount of grant funding remaining that has not been paid. OEFI will not approve an invoice with negative balances in this column. Contact your assigned Grant Specialist if a budget revision is needed.
- 8. 10% withhold:** CDFA withholds 10% of the total grant amount and it will not be released until all tasks noted in project Work Plan are completed by Recipient and verified by CDFA. A Withhold Payment Notification will not be sent, and the 10 percent withhold may not be appealed.

9. **Invoiced to Date:** The total project cost amount reimbursed for each budget category based on previously approved invoices. OEFI will adjust the “Invoiced to Date” amount each billing period.
10. **Authorized Signature:** An authorized representative of the agriculture operation (Recipient) must print their name and sign on the “Authorized signature” line to certify the amount requested for each billing period. OEFI will not approve invoices without the Recipient signing as the “Authorized signature.” Forms are created to allow for electronic signatures. This method is preferred when submitting forms for processing.

CDFA Advance Payment Request Template Instructions and Definitions

Recipients must complete sections 1-10 identified on the CDFA Advance Payment Request template. The following provides definitions and instructions on completing specific sections of the CDFA Advance Payment Request template to receive a one-time advance payment to cover anticipated project expenditures at the start of the project implementation during the first year. The advance payment may not exceed 25 percent of the total award and must be expended within a three-month period. For questions regarding and assistance with completing this template, Recipients should contact their assigned Grant Specialist.

- 1. Project End Date:** The end date of the current project term
- 2. Advance Period:** The three-month period, during which the advance payment is to be expended. The projected time frame must account for the 45 days processing period.
- 3. Amount Requested:** The advance payment may not exceed 25 percent of the total award.
- 4. Justification for Request:** Examples of advance payment request reasons: Low cash flow, major equipment purchase, etc.
- 5. Authorized Signature:** An authorized representative of the agriculture operation (Recipient) must print their name and sign on the "Authorized signature" line to certify the amount requested for advance period. OEFI will not approve Advance Payment Request without the Recipient signing as the "Authorized signature." Forms are created to allow for electronic signatures. This method is preferred when submitting forms for processing.

Appendix B: Soil Sampling Protocol for Soil Organic Matter Analysis

WHAT DO I NEED?

Be sure to bring materials with you when heading to the field for soil sampling. As shown in Figure 1, these materials include:

1. Two plastic buckets (one for soil sample and one for supplies)
2. Soil sample bags: one-gallon freezer storage bags (or soil sample bags); one bag per sample
3. One clipboard and papers for recording
4. Permanent marker and/or pen
5. A straight shovel (sharpshooter or drain spade style) OR a soil probe.



Figure 1. Materials needed for soil sampling.

WHEN TO TAKE SAMPLES?

Take initial baseline samples before implementing any HSP management practices. Then, take samples near the same time of year for each subsequent sampling event. This will help ensure the most accurate estimates of soil carbon gains over time. Do not take samples immediately after heavy rainfall or irrigation events, or after applications of manure or compost, etc.

WHERE TO SAMPLE?

It is up to each producer to determine the size of the land area they would like to monitor. To the producer's best knowledge, all soil samples should come from the same uniform soil, as well as uniform management history and yields as determined by the producer.

Example: Mark an area of size 30 by 30 feet in the field as your sampling unit. Take composite soil samples from 9-10 locations. Sampling locations may be selected by:

- Walking in a zig-zag pattern; or,
- Divide the field into 9 grids of 10 feet by 10 feet each and collect one sample from each grid.

Additionally, if sampling from a row-cropping or orchard system, consider which area(s) are of most interest (i.e. row vs. inter-row areas).

Do not take samples from feedlots, compost piles, fences, roads, depressions, areas with high salinity or consistently high moisture content.

HOW TO TAKE A SOIL SAMPLE?

Refer to Figure 2 and follow the steps noted below.

1. Expose the bare mineral soil by removing live vegetation, litter, duff or crop residue. If the site is covered with vegetation, trim it close to the soil surface (A)
2. Use the shovel to dig a small hole to 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 so that it is not biased with more soil from the surface compared to the subsurface (C)
4. Place sample into clean bucket.
5. Go to the next location and repeat the steps 1-4.
6. Finish all 9 sampling locations.
7. Gently mix soils in the bucket and collect 6 cups of well-mixed soils (or no less than 1 lb.) in the sample bag labeled with the APN, sampling date, and farm name (D).



Figure 4. Taking samples with a shovel.

SEND SOIL SAMPLES TO A SOIL TESTING LABORATORY

Before you send your soil samples for analysis, ensure that the laboratory uses University of California test methods which are proven on California farms by the University. Contact the soil analytical laboratory that you need testing results on soil organic matter content.

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

- Selected Plant and Soil Laboratories in Northern and Central California:
<https://cesonoma.ucanr.edu/files/27431.pdf>
- UC Cooperative Extension Merced County List of Laboratories for Soil Testing in Fresno, Madera, Merced, and Stanislaus:

https://cemerced.ucanr.edu/ClimateSmartAg/HSP/SoilTest/Soil_Testing_Laboratories_in_Fresno_Madera_Merced_and_Stanislaus_Counties/

- UC Cooperative Extension El Dorado County List of Laboratories for Tissue/Soil/Water – Agricultural Analysis:
<https://cecentralsierra.ucanr.edu/files/115331.pdf>.
- Selected Plant and Soil Testing Laboratories in Central and Southern California:
https://ceventura.ucanr.edu/Com_Ag/Subtropical/Avocado_Handbook/Resources/Plant_Disease_Diagnostics_and_Soil_Testing_Labs_in_California-1999_/

If you know your soils are **calcareous soils** (soils with a significant amount of calcium carbonate), please ensure that the laboratory you are using to test your California Department of Food and Agriculture

soil samples are aware of your soil type and able to accommodate for the analysis.

Appendix C: Instructions for Taking and Sending Photos with Geotagging Information Available

How to allow photos taken with geotagging information

- When using an iPhone:
 1. Open/Unlock your phone
 2. Go to Settings, tap Privacy and then Location Services;
 3. Tap Camera and then While Using;
 4. See the screenshot below for additional information.
- When using an Android phone:
 1. Go to your Android device's home screen, then press the "Menu" button. Tap "Settings" to access the settings menu.
 2. Drag your finger up the screen to scroll down the phone's menu until you find the "Location" option. Tap the "Location" option to continue. Note that on some Android devices this may be labeled "Location and Security."
 3. Tap the option labeled "Use GPS Satellites" to place a green check mark next to it. This option must be turned on for the geotagging option to work.
 4. Press the "Home" button to go back to the main screen, then tap the camera icon to launch your Android smartphone's camera.
 5. Tap the "Menu" button once the camera application loads, then tap the "Settings" option. On some Android cameras, this option will simply be a small cog icon.
 6. Scroll down to "Store Location in Pictures," or "Geo-tag Photos," depending on your OS version, and tap that option to put a green check mark next to it. Tap "OK" when you see a message telling you that the GPS function needs to be turned on. Your photos will now be geotagged with your location as long as your phone can get your position from the GPS satellites.

How to send photos with geotagging information:

- Send individual photos as attachment files from a computer.

- Do not make changes to the photo before sending.
- If a file is too large, send one by one
- Send photos to your assigned HSP environmental scientist following the method specified by them (e.g., email).
- Your assigned HSP environmental scientist may also ask you to text the photos to his/her work cell phone if that is more convenient for you.



Example. Screenshot of iPhone that allows photos with geotagging information

Appendix D: Payment Rates, Implementation Guidelines and Verification Requirements for 2021 HSP Incentives Program

Information on standard payment rates for eligible practices under the 2021 HSP Incentives Program, guidelines for implementation of practices, and verification requirements for completed practices are provided in the 2021 HSP Incentives Program Request for Grant Applications. Please see **pages 24 – 50 of the Request for Grant Applications**.