

HEALTHY SOILS PROGRAM PRACTICE MANUAL 2026

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WELCOME: USING THIS DOCUMENT

This document outlines implementation and verification guidelines for Healthy Soils Program (HSP) practices. Refer to this manual when designing on-farm projects within the online [CDFA HSP RePlan Tool](#). HSP participants must use the RePlan tool to create on-farm project designs. RePlan will generate maps, budgets, guidance, requirements, and other relevant project details for HSP practice implementation. For practices with multiple payment scenarios, HSP participants must follow the specific implementation guidelines because the payment rates are unique to each scenario.

The HSP program developed these guidelines to determine the payment rates for practices, their benefits on greenhouse gas (GHG) reductions and carbon sequestration, and other modeled co-benefits. This document replaces the "Appendix A" in previous HSP solicitations and includes new practices for 2026 Block Grant projects. Most of these guidelines have been adapted from NRCS EQIP CA CPS (Conservation Practice Standard) and payment scenarios and based on years of experience by the HSP. NRCS guidance does not supersede these guidelines. Block Grant Recipients (BGRs) and TAPs (Technical Assistance Providers) can reach out to the HSP staff for guidelines clarifications.

PRACTICES SUPPORTED BY HSP

HSP funds twenty-nine practices, in four agricultural systems. Certain practices can be implemented only once, such as woody and herbaceous cover plantings, while others can be implemented annually, such as cover cropping and compost application. Some practices cannot be implemented on the same area as other practices (these are referred to as "non-overlapping practices"). The sections below explain these terms. HSP cannot fund the same practice on the same area as a previously funded HSP project, except if there is a documented, relevant change in ownership or of lessee.

Practice	Implementation Frequency	Agricultural System
Biochar*	Once or Annual	Cropland, Orchard, Vineyard
Compost Application*	Annual	Cropland, Orchard, Vineyard, Grazing Land
Conservation Crop Rotation	Annual	Cropland
Cover Crop	Annual	Cropland, Orchard, Vineyard
Mulching - Natural Materials	Annual	Cropland, Orchard, Vineyard
Prescribed Grazing	Annual	Grazing Land
Residue and Tillage Management – No-Till	Annual	Cropland, Orchard, Vineyard
Residue and Tillage Management – Reduced Till	Annual	Cropland, Vineyard
Alley Cropping	Once	Cropland
Conservation Cover	Once	Cropland, Orchard, Vineyard
Conservation Cover in Orchard or Vineyard Alleys - Perennial Cover Crop	Once	Orchard, Vineyard
Contour Buffer Strips	Once	Cropland
Field Border	Once	Cropland
Filter Strip	Once	Cropland, Orchard, Vineyard
Grassed Waterway	Once	Cropland
Hedgerow Planting	Once	Cropland, Orchard, Vineyard, Grazing Land

Herbaceous Wind Barrier	Once	Cropland
Mulching - Wood Chips	Once	Cropland, Orchard, Vineyard
Multi-story Cropping /Forest Farming	Once	Cropland
Pasture and Hay Planting	Once	Cropland
Range Planting	Once	Grazing Land
Re-saturating Delta Peat Soils Through Rice Cultivation*	Once	Cropland
Riparian Forest Buffer	Once	Cropland, Grazing Land
Riparian Herbaceous Cover	Once	Cropland
Silvopasture	Once	Grazing Land
Strip Cropping	Once	Cropland
Tree/Shrub Establishment	Once	Cropland, Grazing Land
Vegetative Barriers	Once	Cropland
Whole Orchard Recycling	Once	Orchard
Windbreak/Shelterbelt Establishment	Once	Cropland, Orchard, Vineyard, Grazing Land

*There are restrictions on where this practice can be implemented. Please find detailed information on associated practice description.

AGRICULTURAL SYSTEM DEFINITIONS

- **Cropland:** Land where the crop(s) grown are identified as annual or perennial crops, except fruit and nut trees, grapes, and shrub crops. This is according to the [Conservation Compliance Agricultural Commodity List](#) under the Food and Security Act of 1985, as amended, or defined as land that is determined as annual or perennial by the local USDA NRCS if it is not included in the list.
- **Orchard:** A plantation of woody fruit or nut trees. Bananas, pineapple, palms, and other non-woody or monocotyledonous commercial fruits are excluded from this definition ([National Park Service](#), 2022).
- **Vineyard:** A plantation of grapevines that produce grapes for winemaking, raisins, or table grapes.
- **Grazing Land:** Land used for animal production (meat, milk, and fiber), including range and pasture lands.
 - o **Pastureland:** Land that is used for production of forage crops for livestock using agronomic practices such as regular fertilizer applications, liming, and weed control in addition to grazing management (USDA NRCS CA, 2020. [Glossary of Conservation Terms and Acronyms](#)).
 - o **Rangeland:** Land on which the native vegetation (climax or natural potential) is predominantly grasses, grass-like plants, forbs, or shrubs suitable for grazing or browsing use. Rangelands include natural grassland, savannas, most deserts, tundra, alpine plant communities, coastal marshes, wet meadows and lands revegetated naturally or artificially to provide a forage cover that is managed like native vegetation (USDA NRCS CA, 2020. [Glossary of Conservation Terms and Acronyms](#)).

NON-OVERLAPPING PRACTICES

On-farm project proposals may include multiple practices on the same APN, but HSP will not incentivize practices listed in the same groups below on the same land area, i.e., they cannot “overlap.” The RePlan Tool should prevent applicants from combining non-overlapping practices on the same land area.

Conservation Planting Practices

Conservation planting practices involve woody or herbaceous plantings that work to improve biodiversity, habitat, and reduce erosion. Once implemented, this land will be kept out of production and will no longer be

considered Cropland, Orchard, Vineyard, or Grazing Land. Woody and herbaceous plantings can't overlap with each other.

Conservation Planting Practices
Can't overlap with any other Cropland, Orchard, Vineyard, or Grazing Land practices
<i>Can't overlap with each other</i>
Woody Plantings • Riparian Forest Buffer (area) • Tree/Shrub Establishment (area) • Hedgerow Planting (rows) • Windbreak/Shelter break Establishment (rows)
Herbaceous Plantings • Conservation Cover (area) • Contour Buffer Strips (area) • Field Border (area) • Grassed Waterway (area) • Riparian Herbaceous Cover (area) • Herbaceous Wind Barrier (rows) • Vegetative Barrier (rows)

Cropland, Orchard, and Vineyard Practices:

(1) Planting practices

Cropland: Can't overlap within the same group		Orchard, Vineyard: Can't overlap within the same group
Tree planting • Alley Cropping • Multi-story Cropping /Forest Farming	Other practices • Conservation Crop Rotation • Strip Cropping • Pasture and Hay Planting • Mulching – Wood Chips*	• Conservation Cover - Perennial Cover Crop • Cover Crop*,** • Mulching – Wood Chips* • No-Till or Reduced Till

(2) Non-Planting Practices

Can't overlap within same group	Can't overlap within same group
• Mulching – Wood Chips • No-Till or Reduced Till • Whole Orchard Recycling	• Biochar Application • No-Till • Whole Orchard Recycling

(3) Other Non-Planting Practice

- Re-saturating Delta Peat Soils Through Rice Cultivation: Cannot overlap with any other practices.

*For Cropland, Orchard and Vineyard practices, cover crop and mulching wood chip practices may be allowed in the same APN/field provided they don't physically overlap (e.g., cover crop in alleys/furrows and mulching on berms/beds or vice versa).

** Cover crops may overlap with No-Till, Reduced-Till, and/or Mulching - Natural Materials if implemented at different time periods.

Grazing Land Practices

No restrictions on Grazing Land-exclusive practices (Silvopasture, Range Planting, Prescribed Grazing) or compost application - all practices can overlap.

MODELING OF CARBON SEQUESTRATION AND GREENHOUSE GAS EMISSION REDUCTIONS AND OTHER BENEFITS

HSP estimates the benefits of carbon sequestration and GHG emission reductions and other co-benefits from practice implementation using the established Quantification Methodology (QM). The QM was developed by the California Air Resources Board (CARB), California Department of Food and Agriculture (CDFA), and Colorado State University based on the [USDA-NRCS COMET-Planner tool, incorporating the DayCent and DNDC \(DeNitrification-DeComposition\) models](#). Under this QM, the benefits of each practice have been modeled for representative crops in each farming system for several Major Land Resource Areas in the state. When an applicant designs a project in the [CDFA HSP RePlan Tool](#), the tool consults a database of Comet-modeled GHG benefits for the proposed practice's acreage, location, agricultural system, irrigation, species (legume vs. non-legume) and/or tonnage, as applicable. The exceptions to this process are (1) compost, (2) whole orchard recycling, (3) biochar, (4) re-saturating delta peat soils through rice cultivation, and (5) range planting. These five practices have been, respectively, (1) modeled by CARB, (2) modeled by CDFA, (3) reviewed in the literature by CARB, (4) modeled externally and reviewed by CARB, and (5) defined by IPCC Tier 1 standards. Other benefits, such as dust reduction or lowered NO_x emissions, are estimated by CARB for certain reporting processes. The modeling and design of RePlan will be revised for a new version to be used in the 2026 Block Grant solicitation, available from January 2027 onwards. The RePlan tool's modifications include a new function to allow project plans separated by year for annually implemented practices.

GENERAL GUIDELINES FOR PLANTINGS

Species Selection

For practices involving plantings, producers must select species during the on-farm design process in RePlan. Permanent planting practices cannot be implemented in areas where healthy permanent plantings already exist. Depending on the practice, the RePlan tool may prompt users to write in or select one or more species from a provided list of recommended plants for the payment scenario and region. Write-ins are permitted for all practices, but consultation with a technical assistance provider is recommended and must be provided for block grants to ensure species and planting method are suitable for the region and practice purposes. Common types of plantings include:

- Herbaceous Plantings: Annual or perennial cereal grains, grasses, legumes and/or forbs. Seeding rate is measured as pure live seeds (PLS) per square foot. For herbaceous plantings funded by HSP, perennial species should be dominated ($\geq 51\%$ of the required seeding rate) unless specified.
 - Annuals: Herbaceous plants that complete their life cycle and die in 1 year or less.
 - Perennials: Herbaceous plants that have a life span of 3 or more years.
- Woody Plantings: Perennials with persistent, woody stems, and relatively slow growth (e.g., trees and shrubs).

For convenience, a list of species adopted from [NRCS eVegGuide](#), reviewed by HSP staff, are provided with each relevant practice guidance document. Certain species may not be suitable for all ecoregions, conservation purposes, and/or payment scenarios; make sure to use the RePlan Tool to view site-specific recommendations. Block Grant Recipient organizations, or their partner technical assistance providers, retain final discretion over whether the choice of a species is justified and supportable, and may work with farmers and ranchers during project implementation to adjust species choices.

Harvestable Species

Harvestable species are defined as trees or shrubs or perennials that produce harvestable products (e.g., wood, medicinal herbs, nuts, and fruits). No more than 10% of selected plants may be harvestable species (excluding Alley Cropping, Multistory Cropping/Forest Farming, and Pasture and Hay Planting) unless the applicant provides justification, including a description of how the applicant will:

- Minimize disturbance to the soil, vegetation, and residues on surface. Staggering harvest timing and favoring off-ground hand harvesting can help minimize disturbance. Machine-harvesting is not allowed.
- Minimize biomass removal. Avoid pruning as it can negate carbon sequestration benefits.
- Manage harvestable species using the same methods as native species used for conservation purposes. Species that require more water than native species should be avoided. The guidance does not permit synthetic or mineral fertilizers.
- Select species that fit the specific context of the farm/ranch, region, soil, climate, and grantee goals.

Seeding Rate Calculations

Seeding rate guidelines are expressed as pure live seeds per square-foot (PLS). Certain herbaceous planting practice guidelines will include seeding rates and specific species requirements, as well as limitations on percent of annual species. Instructions for converting PLS to pounds (lbs.) per acre are as follows:

1. Find Pure Live Seed (PLS) Counts in one pound of seeds via [USDA NRCS Plant Database](#).
 - a. Enter plant name in the search bar
 - b. Click "View" button on the right to check species information, you will see "Fact Sheet | Plant Guide" at the bottom
 - c. Open the Fact sheet/ Plant Guide to find seed counts in one pound of seeds for the species
2. Convert the required seeding rate from PLS counts/square-foot (sq ft.) to PLS lbs./acre
 - a. 1 acre = 43,560 sq ft.
 - b. 1 lb. PLS = X PLS counts (step 1)

3. Calculate % PLS per pound for purchased seeds - this should be based on seed germination rate and % seeds purity provided by the vendor. For example, the purchased perennial ryegrass seeds come with 90% purity and 85% germination rate.
4. Wherever maximum or minimum percentages of species are expressed in % PLS, if the producer plants at a PLS/sq ft higher than the guidance, a question arises for the maximum or minimum %. For example, some practices do not allow more than 10% of annuals in PLS. This would apply to the *implemented* PLS/sq ft. On the other hand, a practice may require at least 51% perennial species. In that case, if the recommended seeding rate is 100 PLS/ sq ft, but 200 PLS are actually applied, then it is still only required to plant 51 PLS/sq ft of perennials.

Maintenance

Plantings are to be maintained for the duration of the project term. This includes installing plant protection from animals, pests, and/or wind damage, and providing irrigation as needed. Certain practices may have specific requirements for maintenance (e.g., fencing). At the end of the project term, practices involving permanent plantings require final verification of plant growth and effective management (e.g., minimum live plant density or ground coverage requirements). Re-planting may be necessary if plantings fail to meet the survivorship requirements. To achieve the estimated net GHG reductions and meet the healthy soils objectives of conservation practices, woody plantings should be maintained for at least 10 years, and herbaceous plantings should be maintained for at least 3 years.

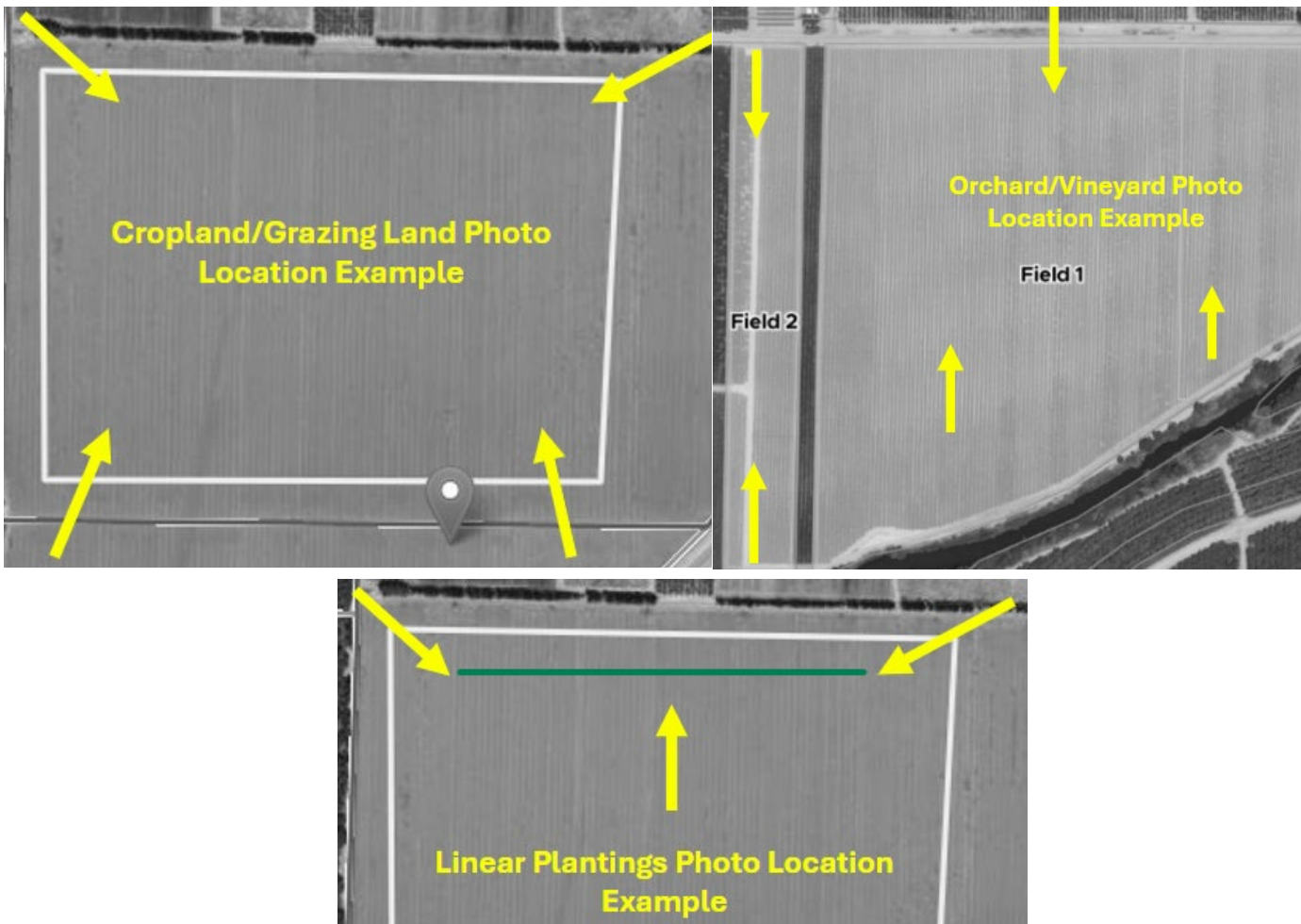
GUIDELINES FOR COMMON VERIFICATION DOCUMENTS

Geotagged Photos

Geotagged photos show the geographic position where they were taken through latitude and longitude information that is in the image file. For taking geotagged pictures with a mobile phone or digital camera, users can enable the GPS function of the device prior to capturing a picture. Geotagging helps CDFA and potential auditors confirm the correct location of practice implementation consistent with project design. Photos should be taken promptly, during or immediately after practice implementation, as evidence often deteriorates on the ground. Please check the [link](#) for instructions on how to take and send geotagged photos. Technical assistance providers and BGRs should work with their Grant Beneficiaries to make sure they are trained on how to take geotagged photos.

Photos should show as much of the implementation acreage as possible. A minimum of 3, and up to 5, photos should be taken per RePlan-defined field and/or per linear planting, as shown in the diagrams below.

- **Cropland and Grazing Land:** Take photos from different locations in the field (e.g., east, west). Adjacent fields of small acreage such as those that share a border, or are separated by an alley/road, can be considered a single field.
- **Orchards and Vineyards:** Take photos from different sides showing both alleys and berms.
- **Linear Plantings:** Take photos at both ends and in the middle of linear plantings.



Alternatives to Geotagged Photos

- **In-person verifications:** BGR or TAP staff can conduct in-person farm verifications. Staff should take photographs even if accurate GPS information is unavailable.

- **Video call/virtual site visit:** If phone reception allows virtual visits despite geotagging problems, BGR or technical assistance provider representatives can take screenshots of a virtual site visit as evidence. Such site visits should include identifiable landmarks (e.g., houses, roads, barns).
- **1-year signed statement exemption:** CDFA allows a single exemption per project using a signed statement from the farmer or vendor in lieu of the geotagged photo requirement being met. If a signed statement is used, the BGR needs to actively follow up with the Grant Beneficiary for the next year to make sure documentation is kept. If they again fail to meet the photo requirements in future years of the project, the BGR, or BGR representative, will have to visit the site to verify that the practice was implemented or use one of the alternative methods described above.

If the producer does not utilize any of these alternatives to geotagged photo options, they may not be eligible for reimbursement. The BGR must contact the CDFA as soon as possible in these cases.

Invoices/Receipts

Invoices/receipts are required for most practices to verify implementation. They should be dated within the project implementation year, with exceptions in cases where seeds, or soil amendments were purchased prior to the project year. Invoice/receipts must include:

- Invoice/Receipt date
- Delivery date, if applicable
- Grantee delivery address(es), if applicable
- Proof of amount delivered/purchased (e.g., tonnage, cubic yards, lbs. of seeds, number of plants).
 - For practices where plants are donated or propagated not by the grantee, documentation must be provided on the donating group's letterhead and should list the dates of donation(s) and the total amount donated. When plants are propagated by the grantee, the same documentation is required, however a letterhead is not required.

Purchased Compost Invoices/Receipts: In addition to the general requirements above, documentation must include:

- Compost facility or third-party vendor letterhead
- Identification of the originating compost facility (e.g., SWIS number)

Planting Practices Invoices/Receipts: In addition to the general requirements above, documentation must include:

- Number of plants/seeds purchased, names of species, and size of containers or height of seedlings if required by payment scenarios.

Farm Logs

CDFA has provided farm log templates to use for specific practices, some required and some optional (listed below and found on [this webpage](#)). For practices that require farm logs, but do not have a template listed below, Grant Beneficiaries may provide a farm log in their own format, provided it includes all details outlined in the practice-specific verification requirements.

Required Farm Logs

- On-farm Composting
- Reduced-Till and No-Till Soil Tillage Rating and System Classification Calculator (STIR)

Optional Farm Logs

- Prescribed Grazing
- The Range Planting Implementation Guidance and Log may be helpful to complete during practice design to ensure all practice species requirements are met.
- Propagated, Donated Plant Log Template for planting practices

PRACTICE IMPLEMENTATION SHEETS

ALLEY CROPPING

Definition	Trees or shrubs are planted in sets of single rows with annual crops produced in the alleys between the sets of woody plants.		
Eligibility	Annual Cropland		
Purpose	Improve crop diversity by growing mixed but compatible crops having different heights on the same area; Increase plant biodiversity and establish habitats for beneficial organisms; Reduce erosion; Improve water quantity or water table depths; Increase carbon storage in plant biomass and soil; Reduce runoff of excess nutrients by increasing nutrient uptake and cycling.		
Payment Scenarios	Implementation	Payment Rate (\$/Acre)	Years Supported
	Tree- planting, single row	\$2,447	1 yr
Guidelines	Must provide names of suitable tree crops at time of project application using the write-in option on the RePlan tool. Tree plantings will replace 20% of annual cropland. Seedlings with potting size of ≥ 2 gallons will be planted in a single row with a density of ≥ 40 trees/acre. Maintain plant growth during the project term by providing necessary tree protection and irrigation.		
Verification Requirements	(1) Geotagged photos (3-5) taken at both ends and middle of alley crops to demonstrate establishment of linear plantings. Photos should be taken after initial establishment and at the end of the grant term; (2) A count of live plants should be reported after initial establishment and at the end of the grant term; (3) Receipts of plants purchased; (4) Species names.		
Reference	Alley Cropping (USDA NRCS CPS 311)		

BIOCHAR

Definition	Biochar produced off-site and incorporated into the soil.		
Eligibility	Annual Cropland, Orchard, Vineyard		
Purpose	Increase soil organic matter content and aggregate stability; Maintain or improve habitat for soil organisms; Increase soil moisture retention and infiltration rate.		
Payment Scenarios	Implementation	Payment Rate (\$/dry Ton)	Years Supported
	1-6 tons / acre	\$0-\$300 approved by BGR, reimbursement may include transport and/or spreading*	1-3 yrs
Guidelines	Biochar source, description, and application rate must be provided during on-farm project application. Biochar must be produced off-site and incorporated into the soil at a total rate of 1-6 tons/acre applied over 1-3 years. Biochar mixed with compost, or treated before application, can also be used, but materials that affect the product's dry weight must be supported separately. Consult with CDFA while planning such projects. Further considerations for planning biochar applications will be outlined in a separate implementation guide to be available before 2027. Plans must be prepared by Technical Assistance Providers who have received American Biochar Institute (ABI) training to use the Web Soil Survey, National Biochar Selection tool, and other related tools. Biochar will only be supported where BGRs engage in direct invoice payment, bulk purchase, or similar systems. Not all soils and biochar types will be supported. American National Standards for biochar recently developed by American Society of Agricultural and Biological Engineers will be used to define biochar quality. Only soils that show good/excellent response to biochar using dynamic soil properties response to biochar as estimated in the Web Soil Survey will be eligible for this practice. * Consult with BGR if this option is available.		
Verification Requirements	Verification standards will be designed in consultation with CDFA according to site conditions and project design. Required documents will include (1) TAP-approved implementation plan; (2) Records from the spreading contractor showing location and tonnage implemented will be required; (3) Photos demonstrating the practice was implemented; (4) Biochar analysis report. If appropriate product seals become available in 2026, these may be required as well.		
Reference	American Society of Agricultural and Biological Engineers X668, Methods for Measurement and testing of Biochar; USDA Web Soil Survey; National Biochar Selection Tool; United States Biochar Initiative; Soil Carbon Amendment (USDA NRCS CPS 336)		

COMPOST APPLICATION

Definition	Application of finished compost made from a variety of feedstocks.		
Eligibility	Cropland, Orchard, Vineyard, Grazing Land soils with soil organic matter $\leq$ 20%		
Purpose	Increase soil organic matter content and aggregate stability; Maintain or improve habitat for soil organisms; Provide plant nutrients; Increase soil moisture retention and infiltration rate.		
Payment Scenarios	Implementation	Payment Rate (\$/ton)	Years Supported
	Scenario 1a. 2-8 tons/Ac Purchased compost*	\$64	3 yrs
	Scenario 1b. 2-8 tons/Ac Purchased compost approved by BGR, reimbursement may include transport and/or spreading*	\$0-80	3 yrs
	Scenario 2. 2-8 tons/Ac On-farm Produced compost	\$64	3 yrs
Guidelines	All Scenarios: The compost application rate and carbon: nitrogen ratio (C:N) should be discussed with and approved by a Technical Assistance Provider prior to application. Applied compost should have a C:N between 7:1 to 25:1. Further considerations for planning compost applications will be outlined in a separate compost implementation guide to be available before 2027. For donated or free compost provided from another compost source, the reimbursement amount will only cover the transportation and spreading costs, not to exceed \$64/ton. Compost moisture should range from 40 – 50%. Apply compost no more than 6 months after delivery. It is detrimental to leave compost standing a long time in the field, especially over winter during rain events. A large quantity of the compost will be off-gassed under those circumstances, so the amount spread will no longer be close to the amount delivered. Scenario 1. Compost must be purchased from a certified facility by the Grant Beneficiary (Scenario 1a); OR purchased by the BGR or Beneficiary from a vendor approved by the BGR, with transport and spreading services made available to the Beneficiary (Scenario 1b). *Scenario 1a and 1b: Consult with BGR to see which of these options are available, and to learn the administrative details of Scenario 1b if available. Scenario 2. On-farm produced compost - compost materials, method and composting process must be documented; feedstocks may include green materials, food materials, wood waste, yard trimmings, agricultural materials or biosolids as defined in 14 CCR Section 17852 (https://www.law.cornell.edu/regulations/california/14-CCR-17852). See compost implementation guide. Sources of on-farm compost eligible for funding must meet the following requirements: • In-vessel or static aerated pile system: Maintain a temperature between 131°F and 170°F for 3 consecutive days. • Windrow composting: Maintain a temperature between 131°F and 170°F for 15 consecutive days. The materials must be turned a minimum of 5 times.		
Verification Requirements	All Scenarios: (1) Geotagged photos from different locations of the field to demonstrate that the practice is fully implemented on the implementation acreage (recommended 3-5 photos per field); (2) Compost analysis report on C:N ratio, back dated no more than 6 months prior to compost application. If the report is not dated within the allowable timeframe, a one-time exception may be allowed, however the requirement must be met in all subsequent years of the project. Grazing land compost applications must be verified with a photo of spreading taking place, since it is difficult to photograph the compost on the ground. Scenario 1a. (3) A copy of receipt for compost including date and amount purchased; (4) A certificate of the compost facility if the facility is not listed in the CalRecycle SWIS database (refer to implementation document to be completed in 2026).		

	Scenario 1b. (3) If compost is directly purchased or provided by the Block Grant Recipient for a Grant Beneficiary, records from the compost spreading contractor showing location and tonnage implemented will be required; (4) Reduced verification requirements may be designed in consultation with CDFA to avoid repetitive filings. Scenario 2. (3) A composting log including feedstock, method and temperatures during composting process (CDFA Template available for download here); (4) Estimated total tonnage of compost applied. Verification of weight/volume will require one of the following: 1. photos of compost being weighed (i.e. compost in a front loader), 2. a weight tag, if applicable, 3. TAP/CES verification, or 4. spreader report of amount of compost applied.
Reference	Soil Carbon Amendment (USDA NRCS CPS 336)

CONSERVATION COVER

Definition	Establishing and maintaining permanent vegetative cover		
Eligibility	Annual Cropland, Idle Land near Cropland, Orchard, Vineyard		
Purpose	Provide food and cover for wildlife, pollinators, and other beneficial organisms; Reduce erosion; Reduce soil compaction; Reduce runoff of excess nutrients, pesticides, and sediment; Increase soil organic matter content; Increase habitat for soil organisms.		
Payment Scenarios	Implementation	Payment Rate (\$/Acre)	Years Supported
	Scenario 1. Introduced species	\$404	1 yr
	Scenario 2. Native species	\$350	1 yr
	Scenario 3. Monarch species – mix species	\$1,405	1 yr
	Scenario 4. Pollinator species	\$1,139	1 yr
Guidelines	All Scenarios: Must select planting species during on-farm application (see below for species recommendations and guidelines). Plants should be seeded at 21-40 pure live seeds per square-foot. No-till drill seeding is recommended. Inoculate legumes at planting time. Maintain plant growth during the project term.		
Verification Requirements	(1) Geotagged photos (3-5) taken from different locations demonstrating ≥ 60% plant coverage of the implementation acreage. Photos should be taken after initial establishment and at the end of the grant term; (2) Receipts of seeds purchased; (3) Species names and seeding rate.		
Reference	Conservation Cover (USDA NRCS CPS 327)		

CONSERVATION COVER: SPECIES SELECTION

Species Selection	All Scenarios: Must select a mixture of perennial species (grasses, forbs and/or legumes); mixture can be ≤10% annuals by pure live seeds per sq ft (PLS). Scenario 1. Can select Introduced* non-natives or natives. Scenario 2. Must select natives. Scenario 3. Must select natives that provide wildlife habitat and/or ecosystem restoration; mixture must be ≥ 4% native milkweed species (<i>Asclepias spp</i>) and < 50% grasses (PLS) Scenario 4. Must select plants providing pollinator habitat; mixture must be < 50% grasses (PLS) Species listed below have been reviewed and approved for this practice by the NRCS (California eVegGuide), however, listed species may not be suitable for all regions and payment scenarios. Use the RePlan Tool to view scenario-specific recommendations. Write-ins are permitted. Consultation with a technical advisor is recommended to ensure species choice, species write-ins, and planting method are suitable for the region and practice purposes. *Indicates non-native (introduced) species reviewed and approved for this practice
Cereal Grains	Annual: Barley*, Cereal rye*, Common oat*, Field corn*, Grain Sorghum, Sudangrass, Triticale*
Forbs	Annual: Buckwheat*, Cultivated radish*, Rape*, Safflower*, Sweet alyssum*, vinegarweed, Yellow monkey flower. Perennial: Blue flax*, California poppy, Cardinal monkeyflower, Common yarrow, coyote mint, Desert globemallow, Great Valley gumweed, Heartleaf milkweed, Alkali heliotrope, Ithuriel's spear, Mexican whorled milkweed, Mountain pride, Pacific aster, Pipestem, Rock phacelia, Showy milkweed, Sulphur flower buckwheat, Wallflower, Western goldenrod, Western vervain, Woollypod milkweed, Woolly rosemallow
Grasses	Annual: Annual fescue*, Annual ryegrass*, Japanese millet*, Regreen sterile hybrid*, Soft brome*. Perennial: Alkali sacaton, American Common reed, Basin wildrye, Big galleta, Big squirreltail, Blue wildrye, Bluebunch wheatgrass, Bottlebrush squirreltail, California barley, California brome, California fescue, California melic, California oatgrass, Chewing's fescue*, Clustered field sedge, Common spikerush, Cosmopolitan bulrush, Creeping wildrye, Deergrass, Desert needlegrass, Foothill needlegrass, Galleta, Idaho fescue, Indian ricegrass, Intermediate wheatgrass*, Junegrass, Lemmon's sedge, Meadow barley, Mountain rush, Nodding needlegrass, Orchardgrass*, Pacific hairgrass, Purple needle grass, Red fescue, Saltgrass, Sandberg bluegrass, Santa Barbara sedge, Sheep fescue*, Slender hairgrass, Slender wheatgrass, Spike bentgrass, Tall fescue*, Three-square bulrush, Tufted hairgrass
Legumes	Annual: Alsike clover*, Arroyo lupine, Barrel clover*, Bell bean*, Bur medic, Common vetch*, Crimson clover*, Field pea*, Purple vetch*, Rose clover*, Sky lupine, Spanish clover*, Subterranean clover*, White lupine*, Winter vetch*. Perennial: Alfalfa*, American vetch, Birdsfoot trefoil*, Bull clover, Catclaw acacia, White clover*, long leaf bush lupine, Narrowleaf trefoil*, Red clover*, Strawberry clover*

CONSERVATION COVER IN ORCHARD OR VINEYARD ALLEYS - PERENNIAL COVER CROP

Definition	Establishing and maintaining permanent vegetative cover in orchard or vineyard alleys		
Eligibility	Orchard and Vineyard		
Purpose	Provide food and cover for wildlife, pollinators, and other beneficial organisms; Reduce erosion; Reduce soil compaction; Reduce runoff of excess nutrients, pesticides, and sediment; Increase soil organic matter content; Increase habitat for soil organisms; Suppress weeds.		
Payment Scenarios	Implementation	Payment Rate (\$/Acre)	Years Supported
	Orchard or Vineyard Alleys	\$272	1 yr
Guidelines	All Scenarios: Must select planting species during on-farm application (see below for species recommendations and guidelines). Plants should be seeded at 21-40 pure live seeds per square-foot. No-till drill seeding is recommended. Inoculate legumes at planting time. Irrigate as needed for plant germination and establishment. During the grant term, conservation cover should not be tilled post-plant establishment; periodic mowing or animal grazing is permitted.		
Verification Requirements	(1) Geotagged photos (3-5) taken from different locations demonstrating $\geq 60\%$ plant coverage of the implementation acreage. Photos should be taken after initial establishment and at the end of the grant term; (2) Receipts of seeds purchased; (3) Species names and seeding rate.		
Reference	Conservation Cover (USDA NRCS CPS 327)		

CONSERVATION COVER IN ORCHARD OR VINEYARD ALLEYS/ PERENNIAL COVER CROP

Species Selection	Must select a mixture of perennial species (grasses, forbs and/or legumes); mixture can be ≤10% annuals by pure live seeds per sq ft (PLS). Species listed below have been reviewed and approved for this practice by the NRCS (California eVegGuide), however, listed species may not be suitable for all regions and payment scenarios. Use the RePlan Tool to view scenario-specific recommendations. Write-ins are permitted. Consultation with a technical advisor is recommended to ensure species choice, species write-ins, and planting method are suitable for the region and practice purposes. * Indicates non-native (introduced) species reviewed and approved for this practice
Cereal Grains	Annual: Barley*, Cereal rye*, Common oat*, Field corn*, Grain Sorghum, Sudangrass, Triticale*
Forbs	Annual: Buckwheat*, Cultivated radish*, Rape*, Safflower*, Sweet alyssum*, vinegarweed, Yellow monkey flower. Perennial: Blue flax*, California poppy, Cardinal monkeyflower, Common yarrow, coyote mint, Desert globemallow, Great Valley gumweed, Heartleaf milkweed, Alkali heliotrope, Ithuriel's spear, Mexican whorled milkweed, Mountain pride, Pacific aster, Pipestem, Rock phacelia, Showy milkweed, Sulphur flower buckwheat, Wallflower, Western goldenrod, Western vervain, Woollypod milkweed, Woolly rosemallow
Grasses	Annual: Annual fescue*, Annual ryegrass*, Japanese millet*, Regreen sterile hybrid*, Soft brome*. Perennial: Alkali sacaton, American Common reed, Basin wildrye, Big galleta, Big squirreltail, Blue wildrye, Bluebunch wheatgrass, Bottlebrush squirreltail, California barley, California brome, California fescue, California melic, California oatgrass, Chewing's fescue*, Clustered field sedge, Common spikerush, Cosmopolitan bulrush, Creeping wildrye, Deergrass, Desert needlegrass, Foothill needlegrass, Galleta, Idaho fescue, Indian ricegrass, Intermediate wheatgrass*, Junegrass, Lemmon's sedge, Meadow barley, Mountain rush, Nodding needlegrass, Orchardgrass*, Pacific hairgrass, Purple needle grass, Red fescue, Saltgrass, Sandberg bluegrass, Santa Barbara sedge, Sheep fescue*, Slender hairgrass, Slender wheatgrass, Spike bentgrass, Tall fescue*, Three-square bulrush, Tufted hairgrass
Legumes	Annual: Alsike clover*, Arroyo lupine, Barrel clover*, Bell bean*, Bur medic, Common vetch*, Crimson clover*, Field pea*, Purple vetch*, Rose clover*, Sky lupine, Spanish clover*, Subterranean clover*, White lupine*, Winter vetch*. Perennial: Alfalfa*, American vetch, Birdsfoot trefoil*, Bull clover, Catchclaw acacia, White clover*, long leaf bush lupine, Narrowleaf trefoil*, Red clover*, Strawberry clover*

CONSERVATION CROP ROTATION

Definition	A planned sequence of crops grown on the same ground over a period of time (i.e. the rotation cycle).		
Eligibility	Annual Cropland. Perennial hayfields are not eligible.		
Purpose	Increase crop biodiversity; Reduce plant pest pressures; Reduce erosion; Reduce runoff of excess nutrients, pesticides, and sediment; Increase soil moisture retention.		
Payment Scenarios	Implementation	Payment Rate (\$/Acre)	Years Supported
	Scenario 1. Basic rotation	\$23	3 yrs
	Scenario 2. Specialty crops	\$62	3 yrs
Guidelines	All Scenarios: A rotation plan is required at the time of on-farm project application, including all crops in the sequence with at least one annual crop. Effective implementation of the rotation plan should add higher residue and/or perennial crops to reduce erosion and increase other soil health or conservation benefits.		
Verification Requirements	(1) Geotagged photographs (3-5) taken from different locations of the field to demonstrate that the practice is fully implemented in the implementation acreage and shows crops in the rotation; (2) A farming log recording rotation implementation.		
Reference	Conservation Crop Rotation (USDA NRCS CPS 328)		

CONTOUR BUFFER STRIPS

Definition	Narrow strips of permanent, herbaceous vegetative cover established around the hill slope, and alternated down the slope with wider cropped strips that are farmed on the contour		
Eligibility	Cropland on hillslope(s) where there is a significant amount of sheet/rill erosion and/or sediment potentially delivered to the downslope edge of the field.		
Purpose	Reduce erosion; Reduce runoff of excess nutrients, contaminants, and sediment downslope; Increase soil moisture retention and infiltration rate; Increase plant biodiversity and provide food and cover for beneficial organisms.		
Payment Scenarios	Implementation	Payment Rate (\$/Acre)	Years Supported
	Scenario 1. Introduced species, foregone income	\$587	1 yr
	Scenario 2a. Native species, foregone income	\$563	1 yr
	Scenario 2b. Wildlife Pollinator, foregone income	\$563	1 yr
Guidelines	All Scenarios: Plant species names must be provided during on-farm application (see below for species recommendations and guidelines). Width of strips: (1) ≥15 feet wide if ≥50% grass; (2) ≥30 feet wide if ≥50% legumes; OR (3) ≥30 feet wide if legume/forbs are used alone. Inoculate legumes at planting time. Maintain plant growth during the project term. Scenario 1. Introduced perennial species seeded at 41-60 pure live seeds per sq ft. Scenario 2. Native perennial species seeded at 21-40 pure live seeds per sq ft.		
Verification Requirements	(1) Geotagged photos (3-5) taken from different locations demonstrating ≥ 60% plant coverage of the implementation acreage. Photos should be taken after initial establishment and at the end of the grant term; (2) Receipts of seeds purchased; (3) Species names and seeding rate.		
Reference	Contour Buffer Strips (USDA NRCS CPS 332)		

CONTOUR BUFFER STRIPS: SPECIES SELECTION

Species Selection	All Scenarios: Must select a mixture of perennial species (grasses, forbs and/or legumes); mixture can be ≤10% annuals by pure live seeds per sq ft (PLS). Scenario 1. Can select Introduced* non-natives or natives Scenario 2. Must select natives. For scenario 2b, must select ≥ 3 pollinator friendly natives. Listed species may not be suitable for all regions and payment scenarios. Use the RePlan Tool to view scenario-specific recommendations. Write-ins are permitted. Consultation with a technical advisor is recommended to ensure species choice, species write-ins, and planting method are suitable for the region and practice purposes. * Indicates non-native (introduced) species reviewed and approved for this practice
Cereal Grains	Annual: Barley*, Cereal rye*, Common oat*, Field corn*, Grain Sorghum*, Sudangrass*, Triticale*
Forbs	Annual: Buckwheat*, Cultivated radish*, Rape*, Safflower*, Sweet alyssum*, Yellow monkey flower. Perennial: Blue flax*, California poppy, Cardinal monkeyflower, Common yarrow, Desert globemallow, Great Valley gumweed, Heartleaf milkweed, Ithuriel's spear, Mexican whorled milkweed, Mountain pride, Pacific aster, Pipestem, Rock phacelia, Showy milkweed, Sulphur flower buckwheat, Wallflower, Western goldenrod, Woollypod milkweed, Woolly rosemallow
Grasses	Annual: Annual fescue*, Annual Ryegrass*, Japanese millet*, Regreen sterile hybrid*, Soft brome*. Perennial: Alkali sacaton, American Common reed, Basin wildrye, Big galleta, Big squirreltail, Blue wildrye, Bluebunch wheatgrass, Bottlebrush squirreltail, California barley, California brome, California fescue, California melic, California oatgrass, Chewing's fescue*, Clustered field sedge, Common spikerush, Cosmopolitan bulrush, Creeping wildrye, Deergrass, Desert needlegrass, Foothill needlegrass, Galleta, Idaho fescue, Indian ricegrass, Intermediate wheatgrass*, Junegrass, Lemmon's sedge, Meadow barley, Mountain rush, Nodding needlegrass, Orchardgrass*, Pacific hairgrass, Purple needle grass, Red fescue, Saltgrass, Sandberg bluegrass, Santa Barbara sedge, Sheep fescue*, Slender hairgrass, Slender wheatgrass, Spike bentgrass, Tall fescue*, Three-square bulrush, Tufted hairgrass
Legumes	Annual: Alsike clover*, Arroyo lupine, Barrel clover*, Bell bean*, Bur medic*, Common vetch*, Crimson clover*, Field pea*, Purple vetch*, Rose clover*, Spanish clover*, Subterranean clover*, White lupine*, Winter vetch*, Winter vetch*. Perennial: Alfalfa*, American vetch, Birdsfoot trefoil*, Bull clover, Catclaw acacia, White clover*, long leaf bush lupine, Narrowleaf trefoil*, Red clover*, Sky lupine, Strawberry clover*

COVER CROP

Definition	Crops including grasses, legumes, and forbs for seasonal cover and other conservation purposes.		
Eligibility	Cropland, Orchard and Vineyard (Alleys)		
Purpose	Reduce erosion; Reduce soil compaction; Reduce runoff of excess nutrients, pesticides, and sediment; Increase soil organic matter content; Increase habitat for soil organisms; Promote biological nitrogen fixation; Increase soil moisture retention and infiltration rate; Increase plant biodiversity and provide food and cover for beneficial organisms; Suppress weeds.		
Payment Scenarios	Implementation	Payment Rate (\$/Acre)	Years Supported
	Scenario 1. One species	\$122	3 yrs
	Scenario 2. Multiple species	\$153	3 yrs
Guidelines	All Scenarios: Must select planting species during on-farm application (see below for species recommendations and guidelines). Fertilization should be avoided and the cover crop should be allowed to grow to produce as much biomass as possible. Once terminated, cover crop biomass/residue should not be removed. In areas of limited soil moisture, terminate growth of the cover crop sufficiently to conserve soil moisture for the cash crop. Cover crop cannot be harvested for forage production, nor as a cash crop. Grazing during relevant times of year is allowed. Cover crop residue may not be claimed as a natural materials mulching practice. If a field or an area of a field fails the verification standards in Year 1 and Year 2, it is not eligible for the practice in Year 3. After Year 1 or Year 2, technical assistance providers may investigate the field surface to recommend reductions to the surface area planted.		
Verification Requirements	(1) Geotagged photos (3-5) taken from different locations demonstrating ≥ 60% plant coverage of the implementation acreage; (2) Receipts of seeds purchased; (3) Species names and seeding rate.		
Reference	Cover Crop (USDA NRCS CPS 340)		

COVER CROP: SPECIES SELECTION

Species Selection	All Scenarios: Select single or multiple annual species that serve the project purposes. To improve aggregate stability and reduce erosion, at least one fibrous rooted grass is recommended. To supply nitrogen to subsequent crop in crop rotation, add legumes with appropriate inoculants where necessary. Species listed below have been reviewed and approved for this practice by the NRCS (California eVegGuide), however, listed species may not be suitable for all regions and payment scenarios. Use the RePlan Tool to view scenario-specific recommendations. Write-ins are permitted. Consultation with a technical advisor is recommended to ensure species choice, species write-ins, and planting method are suitable for the region and practice purposes. * Indicates non-native (introduced) species reviewed and approved for this practice
Cereal Grains	Annual: Barley*, Cereal rye*, Common oat*, Common wheat*, Grain Sorghum*, Pearl millet*, Proso millet*, Sorghum sudangrass*, Sudangrass*, Triticale*
Forbs	Annual: Brown mustard*, Buckwheat*, Common beet*, Common sunflower, Cultivated radish*, Field mustard*, flax*, Lacy phacelia, Rape*, Safflower*, White or yellow mustard*, Wild Canterbury bells, California bluebell
Grasses	Annual: Annual Fescue*, Annual Ryegrass*, Browntop millet*, Foxtail millet*, Japanese millet*, Regreen sterile hybrid*, Small fescue, Soft brome*, Teff grass*. Perennial: California brome
Legumes	Annual: Annual white sweetclover*, Annual yellow sweetclover*, Arrowleaf clover*, Arroyo lupine, Balansa clover*, Bell bean*, Chick pea*, Common vetch*, Cowpea*, Crimson clover*, Egyptian clover*, Field pea*, Lentil*, Persian clover, Reversed clover*, Purple vetch*, Rose clover*, Small-flowered lupine, Subterranean clover*, Sunn hemp*, Tepary bean*, Tomcat Clover, White lupine*, Winter vetch*, Winter vetch*. Perennial: Alfalfa*, American bird's-foot trefoil, Gama medick*, White clover*, Red clover*, Strawberry clover

FIELD BORDER

Definition	A strip of permanent vegetation established at the edge or around the perimeter of a field.		
Eligibility	Idle strip or borders of Cropland		
Purpose	Reduce runoff of excess nutrients, contaminants, and pathogens and sediment to surface and groundwater; Increase plant biodiversity and provide food and cover for beneficial organisms; Reduce emissions of particulate matter.		
Payment Scenarios	Implementation	Payment Rate (\$/Acre)	Years Supported
	Scenario 1. Introduced species	\$248	1 yr
	Scenario 2. Native Species	\$283	1 yr
	Scenario 3. Pollinator Species	\$757	1 yr
Guidelines	All Scenarios: Must select planting species during on-farm application (see below for species recommendations and guidelines). Maintain plant growth during the project term. Scenario 1. Introduced perennial species seeded at 41-60 pure live seeds per sq ft. Scenario 2. Native perennial species seeded at 21-40 pure live seeds per sq ft. Scenario 3. Pollinator friendly species seeded at 21-40 pure live seeds per sq ft.		
Verification Requirements	(1) Geotagged photos (3-5) taken at both ends and middle of linear plantings demonstrating >60% plant coverage. Photos should be taken after initial establishment and at the end of the grant term; (2) Receipts of seeds purchased; (3) Species name and seeding rate.		
Reference	Field Border (USDA NRCS CPS 386)		

FIELD BORDER: SPECIES SELECTION

Species Selection	All Scenarios: Must select a mixture of perennial species (grasses, forbs and/or legumes); mixture can be ≤10% annuals by pure live seeds per sq ft (PLS). Scenario 1. Can select Introduced* or native perennial species. Scenario 2. Must select native perennial species. Scenario 3. Must select a diverse mix of native pollinator-friendly perennial species that flower throughout the growing season. Seed mixture composition must contain less than 50% grasses. Species listed below have been reviewed and approved for this practice by the NRCS (California eVegGuide), however, listed species may not be suitable for all regions and payment scenarios. Use the RePlan Tool to view scenario-specific recommendations. Write-ins are permitted. Consultation with a technical advisor is recommended to ensure species choice, species write-ins, and planting method are suitable for the region and practice purposes. * Indicates non-native (introduced) species reviewed and approved for this practice
Forbs	Annual: Bird's eyes, Blue Field Gilia, California gilia, Common borage*, Common madia, Cultivated radish*, Dove weed, Five spot, Lacy phacelia, Sneezeweed, Twiggy wreath plant, vinegarweed, Woodland clarkia. Perennial: California Bee Plant, California poppy, Common lippia, Common yarrow, Giant Blazingstar, Great Valley gumweed, imbricate phacelia, Ithuriel's spear, Western goldenrod
Grasses	Annual: Soft brome*. Perennial: Blue wildrye, California barley, Creeping wildrye, Deergrass, Meadow barley, Orchardgrass*, Purple needle grass, Saltgrass, Tufted hairgrass
Legumes	Annual: Arroyo lupine, Crimson clover*, Purple vetch*, Starflower, Tomcat Clover, Winter vetch*. Perennial: Alfalfa*, Birdsfoot trefoil*, Bull clover, Giant western lupine, White clover* Strawberry clover*

FILTER STRIP

Definition	A strip or area of herbaceous vegetation that removes contaminants from overland flow.		
Eligibility	Idle strip or borders of Cropland, Orchards, Vineyards		
Purpose	Reduce runoff of excess nutrients, contaminants, and suspended solids to surface water; Increase plant biodiversity and provide food and cover for beneficial organisms; Reduce suspended solids and associated contaminants in irrigation tailwater and excessive sediment in surface waters.		
Payment Scenarios	Implementation	Payment Rate (\$/Acre)	Years Supported
	Scenario 1. Introduced species	\$372	1 yr
	Scenario 2. Native species	\$408	1 yr
Guidelines	All Scenarios: Must select planting species during on-farm application (see below for species recommendations and guidelines). Maintain plant growth during the project term. Scenario 1. Introduced perennial species seeded at ≥ 60 pure live seeds per sqft. Scenario 2. Native perennial species seeded at 41-60 pure live seeds per sqft.		
Verification Requirements	(1) 3-5 Geotagged photographs of fields showing established filter strip ($\geq 60\%$ plant coverage); (2) Receipts of seeds purchased; (3) Species name and seeding rate; (4) At the end of grant term, provide 3-5 geotagged photos demonstrate $\geq 60\%$ ground cover by live plants to verify program requirements are met.		
Reference	Filter Strip (USDA NRCS CPS 393)		

FILTER STRIP: SPECIES SELECTION

Species Selection	All Scenarios: Must select a mixture of perennial species (grasses, forbs and/or legumes); mixture can be ≤10% annuals by pure live seeds per sq ft (PLS). Scenario 1. Can select Introduced* non-natives or natives Scenario 2. Must select natives. Species listed below have been reviewed and approved for this practice by the NRCS (California eVegGuide), however, listed species may not be suitable for all regions and payment scenarios. Use the RePlan Tool to view scenario-specific recommendations. Write-ins are permitted. Consultation with a technical advisor is recommended to ensure species choice, species write-ins, and planting method are suitable for the region and practice purposes. * Indicates non-native (introduced) species reviewed and approved for this practice
Grasses	Annual: Annual fescue*, Annual Ryegrass*, Japanese millet*, Regreen sterile hybrid*, Soft brome*. Perennial: Alkali sacaton, American Common reed, Basin wildrye, Big galleta, Big squirreltail, Blue wildrye, Bluebunch wheatgrass, Bottlebrush squirreltail, California barley, California brome, California fescue, California melic, California oatgrass, Chewing's fescue*, Clustered field sedge, Common spikerush, Cosmopolitan bulrush, Creeping wildrye, Deergrass, Desert needlegrass, Foothill needlegrass, Galleta, Idaho fescue, Indian ricegrass, Intermediate wheatgrass*, Junegrass, Lemmon's sedge, Meadow barley, Mountain rush, Nodding needlegrass, Orchardgrass*, Pacific hairgrass, Purple needle grass, Red fescue, Saltgrass, Sandberg bluegrass, Santa Barbara sedge, Sheep fescue*, Slender hairgrass, Slender wheatgrass, Spike bentgrass, Tall fescue*, Three-square bulrush, Tufted hairgrass
Legumes	Annual: Alsike clover*, Arroyo lupine, Barrel clover*, Bell bean*, Bur medic*, Common vetch*, Crimson clover*, Field pea*, Purple vetch*, Rose clover*, Sky lupine, Spanish clover*, Subterranean clover*, White lupine*, Winter vetch*. Perennial: Alfalfa*, American vetch, Birdsfoot trefoil*, Bull clover, Catclaw acacia, White clover*, long leaf bush lupine, Narrowleaf trefoil*, Red clover*, Strawberry clover*

GRASSED WATERWAY

Definition	A shaped or graded channel that is established with suitable vegetation to convey surface water at a nonerosive velocity using a broad and shallow cross section to a stable outlet.		
Eligibility	Idle strip or borders of Cropland where excessive sedimentation and soil erosion as a result from ephemeral or classic gully erosion.		
Purpose	Convey runoff from terraces, diversions, or other water concentrations without causing erosion or flooding; Prevent gully formation; Improve or maintain water quality; Increase plant biodiversity and provide food and cover for beneficial organisms.		
Payment Scenarios	Implementation	Payment Rate (\$/Acre)	Years Supported
	Scenario 1. Base Waterway, Pacific Region	\$2,704	1 yr
	Scenario 2. Base waterway with checks	\$4,431	1 yr
Guidelines	All Scenarios: Must select planting species during on-farm application (see below for species recommendations and guidelines). Inoculate legumes at planting time. Plant in the area from tops of the bank on both sides using a seeding rate of ≥ 60 pure live seeds per square-foot. Maintain plant growth during the project term. Additional requirements for scenario 2: Fabric or stone checks should be installed every 100 feet along the waterway perpendicular to waterflow and 2/3 the waterway top width to reduce maintenance and provide temporary protection until vegetation is established. Fabric Checks should be installed 18" deep with 12" laid over on the surface.		
Verification Requirements	(1) Geotagged photos (3-5) taken from different locations demonstrating $\geq 60\%$ plant coverage of the implementation acreage. Photos should be taken after initial establishment and at the end of the grant term; (2) Receipts of seeds purchased; (3) Species names and seeding rate.		
Reference	Grassed Waterway (USDA NRCS CPS 412)		

GRASSED WATERWAY: SPECIES SELECTION

Species Selection	All Scenarios: Must select a mixture of perennial species (grasses, forbs and/or legumes); mixture can be ≤10% annuals by pure live seeds per sq ft (PLS). Species listed below have been reviewed and approved for this practice by the NRCS (California eVegGuide), however, listed species may not be suitable for all regions and payment scenarios. Use the RePlan Tool to view scenario-specific recommendations. Write-ins are permitted. Consultation with a technical advisor is recommended to ensure species choice, species write-ins, and planting method are suitable for the region and practice purposes. * Indicates non-native (introduced) species reviewed and approved for this practice
Grasses	Annual: Annual fescue*, Annual Ryegrass*, Japanese millet*, Regreen sterile hybrid*, Soft brome*. Perennial: Alkali sacaton, American Common reed, Basin wildrye, Big galleta, Big squirreltail, Blue wildrye, Bluebunch wheatgrass, Bottlebrush squirreltail, California barley, California brome, California fescue, California melic, California oatgrass, Chewing's fescue*, Clustered field sedge, Common spikerush, Cosmopolitan bulrush, Creeping wildrye, Deergrass, Desert needlegrass, Foothill needlegrass, Galleta, Idaho fescue, Indian ricegrass, Intermediate wheatgrass*, Junegrass, Lemmon's sedge, Meadow barley, Mountain rush, Nodding needlegrass, Orchardgrass*, Pacific hairgrass, Purple needle grass, Red fescue, Saltgrass, Sandberg bluegrass, Santa Barbara sedge, Sheep fescue*, Slender hairgrass, Slender wheatgrass, Spike bentgrass, Tall fescue*, Three-square bulrush, Tufted hairgrass
Legumes	Annual: Alsike clover*, Arroyo lupine, Barrel clover*, Bell bean*, Bur medic*, Common vetch*, Crimson clover*, Field pea*, Purple vetch*, Rose clover*, Sky lupine, Spanish clover*, Subterranean clover*, White lupine*, Winter vetch*. Perennial: Alfalfa*, American vetch, Birdsfoot trefoil*, Bull clover, Catclaw acacia, White clover*, long leaf bush lupine, Narrowleaf trefoil*, Red clover*, Strawberry clover*

HEDGEROW PLANTING

Definition	Establishment of dense vegetation in a linear design to achieve natural resource conservation purposes.		
Eligibility	Idle strip or borders of Cropland, Orchards, Vineyards, Grazing Land		
Purpose	Provide or maintain food, cover, and habitat corridors for wildlife; Enhance pollen, nectar, and nesting habitat for pollinators; Provide substrate for predaceous and beneficial invertebrates as a component of integrated pest management; Act as screens and barriers to intercept noise, airborne particulate matter and dust, odor, chemical drift; Boundary delineation and contour guidelines (Living fences); Increase carbon storage in plant biomass and soil.		
Payment Scenarios	Implementation	Payment Rate (\$/Ft)	Years Supported
	Single Row	\$12	1 yr
Guidelines	All Scenarios: Must select planting species during on-farm application (see below for species recommendations and guidelines). Hedgerow should be planted at a density of ≥ 200 live plants/acre (equivalent to maximum plant space of 27 feet within a row, observing a row width of 8 feet); 100 or more plants/acre must be trees or shrubs. Maintain plant growth during the project term by providing necessary tree protection and irrigation.		
Verification Requirements	(1) Geotagged photos (3-5) taken at both ends and middle of linear plantings demonstrating plant establishment. Photos should be taken after initial establishment and at the end of the grant term; (2) A count of live plants should be reported after initial establishment and at the end of the grant term; (3) Receipts of plants purchased; (4) Species names.		
Reference	Hedgerow Planting (USDA NRCS CPS 422)		

HEDGEROW PLANTINGS: SPECIES SELECTION

Species Selection	All Scenarios: Hedgerows shall be established using at least three different species of pollinator-friendly and/or native species (trees, shrubs, perennial wildflowers) that, at maturity, reach an average height of ≥ 3 feet and width of 15 feet. At least 50% of species must be woody plantings (trees and/or shrubs). Species listed below have been reviewed and approved for this practice by the NRCS (California eVegGuide), however, listed species may not be suitable for all regions and payment scenarios. Use the RePlan Tool to view scenario-specific recommendations. Write-ins are permitted. Grant Beneficiaries should be provided access to advisors with expertise in species selection and planting methods to ensure species choice, species write-ins, and planting method are suitable for the region and practice purposes. * Indicates non-native (introduced) species reviewed and approved for this practice
Forbs	Perennial: Blue dicks, California Bee Plant, California goldenrod, California poppy, Common lippia, Common yarrow, Fireweed, Giant Blazingstar, Great Valley gumweed, hayfield tarweed, Heartleaf milkweed, Hedge Nettle, Hummingbird trumpet, imbricate phacelia, Ithuriel's spear, Mexican whorled milkweed, Pacific aster, Pipestem, Point Reyes horkelia, Rock lettuce, Rock phacelia, Showy milkweed, Sulphur flower buckwheat, Western goldenrod, Western thistle, Western vervain, Woollypod milkweed, Woolly sunflower
Grasses	Perennial: Blue wildrye, Bottlebrush squirreltail, California barley, California brome, California fescue, Deergrass, Desert needlegrass, Idaho fescue, Meadow barley, Purple needle grass, Slender wheatgrass, Tufted hairgrass, Twotooth sedge
Legumes	Perennial: Bull clover, California (Western) redbud, False indigobush, Giant western lupine, Silver bush lupine
Shrubs	Beavertail, Bigberry manzanita, Birchleaf mountain mahogany, Bladderpod spiderflower, Blueblossom ceanothus, Blueblossom ceanothus, Brittlebush, Buckbrush, California blackberry, California buckthorn (Coffeeberry), California huckleberry, California wild grape, California wildrose, Cattle saltbush, Chamise, Common buttonbush, Concha' ceanothus - hybrid*, Coyotebrush, Creeping snowberry, Curl-leaf mountain mahogany, Dark Star' ceanothus - hybrid, Deerbrush, Desert ceanothus, Desert willow, Douglas spiraea, Eastern Mojave buckwheat, European black elderberry, Flannelbush, Fourwing saltbush, Golden currant, Green rabbitbrush, Hollyleaf cherry, Hollyleaf redberry, Hollyleaved barberry, Mulefat, Naked buckwheat, Ninebark, Oak gooseberry, Oceanspray, Pinemat manzanita, Pink honeysuckle, Pink queen*, Point Reyes ceanothus, Quailbush, Rocky Mountain elderberry, St. Catherine's lace, Sticky whiteleaf manzanita, Toyon, Western azalea, Western white clematis, White sage, Whiteleaf manzanita, wild mock orange, Woolly bluecurls, Yellow yarrow, Yerba Santa
Trees	Arroyo willow, Blue oak, California buckeye, Chokecherry, Interior live oak, Red willow, Valley oak, Western dogwood

HERBACEOUS WIND BARRIERS

Definition	Herbaceous vegetation established in narrow strips within the field to reduce wind speed and wind erosion.		
Eligibility	Idle strip or borders of Cropland		
Purpose	Reduce erosion, particulate matter emissions, and crop damage from wind; Increase plant biodiversity and provide food and cover for beneficial organisms.		
Payment Scenarios	Implementation	Payment Rate (\$/Ft)	Years Supported
	Cool Season Perennial Species	\$0.20	1 yr
Guidelines	All Scenarios: Must select planting species during on-farm application (see below for species recommendations and guidelines). Width of the Herbaceous Wind Barrier must be at least 1.5 feet. Maintain plant growth during the project term.		
Verification Requirements	(1) Geotagged photos (3-5) taken at both ends and middle of linear plantings demonstrating >60% plant coverage; Photos should be taken after initial establishment and at the end of the grant term; (2) Receipts of seeds purchased; (3) Species name and seeding rate.		
Reference	Herbaceous Wind Barrier (USDA NRCS CPS 603)		

HERBACEOUS WIND BARRIERS: SPECIES SELECTION

Species Selection	All Scenarios: Must select a mixture of perennial species (grasses, forbs and/or legumes); mixture can be ≤10% annuals by pure live seeds per sq ft (PLS). Species listed below have been reviewed and approved for this practice by the NRCS (California eVegGuide), however, listed species may not be suitable for all regions and payment scenarios. Use the RePlan Tool to view scenario-specific recommendations. Write-ins are permitted. Consultation with a technical advisor is recommended to ensure species choice, species write-ins, and planting method are suitable for the region and practice purposes. * Indicates non-native (introduced) species reviewed and approved for this practice
Grasses	Annual: Barley*, Cereal rye*, Field corn*, Grain Sorghum*
Legumes	Annual: Safflower* Perennial: Regreen sterile hybrid*

MULCHING

Definition	Applying plant residues or other suitable organic materials produced offsite to the land surface.		
Eligibility	Annual Cropland, Orchard and Vineyard (berms and/or alleys)		
Purpose	Maintain or increase organic matter content; Reduce water loss from evaporation; Reduce erosion; Suppress weeds.		
Payment Scenarios	Implementation	Payment Rate (\$/ Acre)	Years Supported
	Scenario 1. Natural Materials purchased through BGR*	\$0 - 518 with Materials, Transport, and optional Spreading	3 yrs
	Scenario 2. Wood Chips purchased through BGR*	\$0 - \$4,385 with Materials, Transport, and optional Spreading	1 yr
	Scenario 3. Wood Chips flat rate payment	\$2,924	1 yr
Guidelines	All Scenarios: All mulch materials must be produced off-site. Scenario 1: Natural materials must come from an approved source (e.g. wood shavings, sawdust, leaves, rice hulls, grass clippings, crop residues, straw, nut hulls/shells), applied in a 1–3-inch layer, at minimum 1 ton/acre, and cover at least 70% of the implementation acreage. Scenarios 2 and 3: Wood chips must be chemically untreated, woody material between ¾ - 2 inches in diameter and able to last for several years, at a rate of ≥40 cubic yards per acre, resulting in a 2–4-inch layer. Wood chips may be applied to all or a portion of the field such as on the alleys or to the crop rows (berms), depending on the intended benefits (and/or crop type) such as conserving moisture, reducing weed pressure, etc. Wood chips should be maintained in the grant term. Please note that the amount of wood chips must meet the minimum application rate of 40 cubic yards per acre (If measuring wood chips by tons with moisture around 50%, use unit conversion of 1 cubic yard =1.4 tons). If actual application rate is less than 40 cubic yards per acre and the flat rate payment is used, the reimbursement should be based on actual amount of wood chips applied and discounted by \$73.10 per cubic yard wood chips. * Consult with BGR if these options are available.		
Verification Requirements	(1) Geotagged photos from different locations of the project field to demonstrate that the practice is fully implemented, including photos of mulch thickness measured by a ruler and mulch coverage; (2) Receipts of materials if purchased or donated with proof documents including quantity, mulch composition, and source of materials.		
Reference	Mulching (USDA NRCS CPS 484)		

MULTISTORY CROPPING/ FOREST FARMING

Definition	Trees or shrubs planted in stands that are managed as an overstory for annual crops.		
Eligibility	Annual Cropland		
Purpose	Improve crop diversity by growing mixed but compatible crops having different heights on the same area; Increase plant biodiversity and establish habitats for beneficial organisms; Reduce erosion; Improve water quantity or water table depths; Increase carbon storage in plant biomass and soil; Reduce runoff of excess nutrients by increasing nutrient uptake and cycling.		
Payment Scenarios	Implementation	Payment Rate (\$/Acre)	Years Supported
	Scenario 1. Native tree or shrub planting	\$365	1 yr
	Scenario 2. Non- native tree or shrub planting	\$430	1 yr
Guidelines	All Scenarios: Must provide names of suitable tree crops at time of project application using the write-in option on the RePlan tool. Tree plantings will replace 20% of annual cropland. Seedlings will be planted with a density of ≥ 40 trees/acre. Maintain plant growth during the project term by providing necessary tree protection and irrigation. Scenario 1. Native tree/shrub species; $\geq 50\%$ seedlings should be a medium size (1 quart - 1 gallon pot or 10 cubic inch container) size Scenario 2. Non-native bare root tree/shrub seedlings with a ≥ 20 cubic inch container size; OR 36-60-inch-tall shrub seedling 36-60; OR shrub seedlings with a ≥ 20 cubic inch container size		
Verification Requirements	(1) Geotagged photos (3-5) taken from different locations demonstrating 20% tree crop establishment on the implementation acreage. Photos should be taken after initial establishment and at the end of the grant term; (2) A count of live plants should be reported after initial establishment and at the end of the grant term; (3) Names of tree crop species.		
Reference	Multi-story Cropping/Forest Farming (USDA NRCS CPS 379)		

PASTURE AND HAY PLANTING

Definition	Establishing adapted and compatible species, varieties, or cultivars of perennial herbaceous plants suitable for pasture or hay production.		
Eligibility	Annual Cropland changing use; irrigated or non-irrigated cropland conversion.		
Purpose	Establishing adapted and compatible species, varieties, or cultivars of perennial herbaceous plants suitable for pasture or hay production; Increase plant biodiversity and establish habitats for beneficial organisms.		
Payment Scenarios	Implementation	Payment Rate (\$/Ac)	Yrs Supported
	Scenario 1. High seeding rate	\$510	1 yr
	Scenario 2a. Standard seeding rate with fertilizer	\$395	1 yr
	Scenario 2b. Standard seeding rate without fertilizer	\$178	1 yr
Guidelines	All Scenarios: Must select planting species during on-farm application (see below for species recommendations and guidelines). Maintain plant growth during the project term. Scenario 1. Seeding rate of 30 lbs./acre pure live seed or 41-60 pure live seeds per sq ft. Scenario 2. Seeding rate of 9 lbs./acre pure live seed or 21-40 pure live seeds per sq ft.; Fertilizer application (Scenario 2a) must be discussed with and approved by a Technical Assistance Provider or certified professional before implementation.		
Verification Requirements	(1) Geotagged photos (3-5) taken from different locations demonstrating ≥ 60% plant coverage of the implementation acreage. Photos should be taken after initial establishment and at the end of the grant term; (2) Receipts of seeds purchased; (3) Species names and seeding rate.		
Reference	Pasture and Hay Planting (USDA NRCS CPS 512) - <i>Formerly Forage and Biomass Planting</i>		

PASTURE AND HAY PLANTING: SPECIES SELECTION

Species Selection	All Scenarios: Must select a mixture of perennial species (grasses, forbs and/or legumes); mixture can be ≤10% annuals by pure live seeds per sq ft (PLS), Species listed below have been reviewed and approved for this practice by the NRCS (California eVegGuide), however, listed species may not be suitable for all regions and payment scenarios. Use the RePlan Tool to view scenario-specific recommendations. Write-ins are permitted. Consultation with a technical advisor is recommended to ensure species choice, species write-ins, and planting method are suitable for the region and practice purposes. * Indicates non-native (introduced) species reviewed and approved for this practice
Cereal Grains	Annual: Cereal rye*, Common oat*
Forbs	Annual: Cultivated radish*, Rape*. Perennial: Chicory*
Grasses	Annual: Annual Ryegrass*. Perennial: Alkali sacaton, Bermuda grass*, Big bluestem, Blue wildrye, Bluebunch wheatgrass, California barley, Creeping wildrye, Dallisgrass*, Kentucky bluegrass*, Kulegrass*, Little bluestem, Meadow barley, Orchardgrass*, Perennial ryegrass*, Red fescue, RS hybrid wheatgrass*, Slender wheatgrass, Smooth brome*, Tall fescue*, Tall wheatgrass*
Legumes	Annual: Alsike clover*. Perennial: Alfalfa*, American bird's-foot trefoil, Birdsfoot trefoil*, Chickpea milkvetch*, White clover*, Red clover*, Silver bird's-foot trefoil, Strawberry clover*

PREScribed GRAZING

Definition	Managing the harvest of vegetation with grazing and/or browsing animals consistent with the grazing management plan.		
Eligibility	Grazing Land		
Purpose	Improve or maintain quantity and/or quality of forage for grazing and browsing animals' health and productivity; Maintain native plant biodiversity and habitat for beneficial organisms; Manage fine fuel loads to achieve desired conditions.		
Payment Scenarios	Implementation	Payment Rate (\$/Acre)	Years Supported
	Scenario 1. Pasture, basic	\$82	3 yrs
	Scenario 2. Range, basic	\$7	3 yrs
Guidelines	All Scenarios: A prescribed grazing management plan is required and must be prepared by a Field or Range Management Specialist/Conservationist, or equivalent professional with direct experience preparing plans. These plans should be reviewed by a Certified Rangeland Manager, Associate Rangeland Manager, or equivalent professional with direct experience reviewing plans (e.g., UC ANR Rangeland Management Advisor, individuals with relevant trainings or accreditations from groups such as, but not limited to, the Savory Institute or Holistic Management International). The same individual can prepare and review the plan if they are qualified. The plan can be provided after on-farm project approval and must be reviewed by the BGR or TAP partner to ensure the plan meets the minimum requirements listed in this practice description – this determination is at the discretion of the BGR/TAP partner. In cases where a pre-existing plan is prepared and reviewed by any of the above qualified professionals, and it covers the project fields and practice, a new plan is not needed if it meets the minimum requirements listed in this practice description. Scenario 1. Grazing management to improve irrigated/non-irrigated Pastureland condition Scenario 2. Grazing management to improve Rangeland condition		
Plan and Specifications	At a minimum, the plans and specifications must include: • Client's objectives for this practice. • Project area information (e.g., historic and current land use, acreage, description of soils, presence of invasive/noxious plant species, erosion, resource concerns (soil, water, plants, animals, energy), ecological sites, vegetation communities, cultural resources, sensitive area protection, threatened and endangered species, etc.) • Map of planned grazing management units that includes identification of existing infrastructure supporting planned grazing (e.g., livestock water, fence, gates, access roads, mineral/salt placement, etc.). • Current and proposed stocking rate. • Feed and forage balance by management unit that aligns current and planned animal demand with availability of forage produced or provided, with consideration for livestock distribution and production, forage attributes, wildlife grazing/browsing needs, quality, seasonal availability, and hay production. • A grazing strategy that identifies how livestock will graze the management units and describes the intensity, timing, duration, disturbance, and frequency of grazing. The strategy will identify rest periods during the growing seasons. In California's Mediterranean climate, it is recommended to have 30 days of rest for annual-plant dominated fields and 60 days of rest for perennial-plant dominated fields. • Contingency plan that serves as a guide for adaptive (proactive) management decisions to minimize or mitigate resource or economic impacts (e.g. grass		

	banking, hay supply, herd reduction, etc.) from episodic events: (e.g., drought, soil saturation, flooding, fire, insects, predators, etc.). Monitoring protocols and implementation log that should be used to assess whether the grazing management is addressing the identified goals and objectives and to support timely adaptive management decisions.
Verification Requirements	(1) A grazing log which includes at a minimum the grazing dates and stubble height after grazing (Optional CDFA template available for download here); (2) Geotagged photos from different locations of the management units showing forage before and after grazing; (3) Verification occurs at the end of each project year or the end of the grazing season.
Reference	Prescribed Grazing (USDA NRCS CPS 528)

RANGE PLANTING

Definition	Establishment of adapted perennial or self- sustaining vegetation such as grasses, forbs, and legumes.		
Eligibility	Rangeland (under "Grazing Land" agricultural system)		
Purpose	Provide or improve forages for livestock and wildlife; Provide habitats for wildlife and beneficial insects; Increase soil organic matter content; Increase habitat for soil organisms; Reduce erosion; Reduce runoff of excess nutrients.		
Payment Scenarios	Implementation	Payment Rate (\$/Acre)	Years Supported
	Scenario 1a. Native species broadcast	\$634	1 yr
	Scenario 1b. Native species high forb drilled	\$553	1 yr
	Scenario 1c. Native species low forb drilled	\$404	1 yr
	Scenario 2a. Nonnative species broadcast	\$223	1 yr
	Scenario 2b. Nonnative species drilled	\$212	1 yr
	Scenario 3. Annual mixed species	\$153	1 yr
Guidelines	All Scenarios: Must select planting species during on-farm application (see below for species recommendations and guidelines). Maintain plant growth during the project term. Scenario 1: Native perennial mixed species at required seeding rate according to specific implementation scenario identified below. 1a. Broadcast at 41-60 pure live seeds/sq ft. 1b. No-till or range drill at 41-60 pure live seeds/sq ft 1c. No-till or range drill at 21-40 pure live seeds/sq ft. Scenario 2: Non-native adapted perennial mixed species at required seeding rate according to specific implementation scenario identified below. 2a. Broadcast at 41-60 pure live seeds/sq ft. 2b. No-till or range drill at 21-40 pure live seeds/sq ft. Scenario 3: Annual mixed species seeded by broadcast or drill at 21-60 pure live seeds/sq ft.* Optional CDFA template available for download here may be helpful to complete during practice design to ensure all practice species requirements are met. * Indicates a new scenario		
Verification Requirements	(1) Geotagged photos (3-5) taken from different locations demonstrating ≥ 60% plant coverage of the implementation acreage. Photos should be taken after initial establishment and at the end of the grant term; (2) Receipts of seeds purchased; (3) Species names and seeding rate; (4) Description of planting method and date of planting.		
Reference	Range Planting (USDA NRCS CPS 550)		

RANGE PLANTING: SPECIES SELECTION

Species Selection	All Scenarios: Must select a mixture of perennial species (grasses, forbs and/or legumes). Scenarios 1a to 1c. Must select natives; ≥51% perennial by pure live seeds per sq ft (PLS). Scenarios 2a – 2b. Can select natives and introduced* non-natives; ≥51% perennial (PLS). Scenario 3. Seeding mix can include natives, nonnatives, and annuals. Refer to Cover Crop species selection list. Species listed below have been reviewed and approved for this practice by the NRCS (California eVegGuide), however, listed species may not be suitable for all regions and payment scenarios. Use the RePlan Tool to view scenario-specific recommendations. Write-ins are permitted. Grant Beneficiaries should be provided access to advisors with expertise in species selection and planting methods to ensure species choice, species write-ins, and planting method are suitable for the region and practice purposes. * Indicates non-native (introduced) species reviewed and approved for this practice
Forbs	Annual: Lacy phacelia. Perennial: California poppy
Grasses	Annual: Annual Ryegrass*, Soft brome*. Perennial: Blue wildrye, California barley, California melic, Deergrass, Koeagrass*, Meadow barley, Orchardgrass*, Purple needle grass, Sandberg bluegrass, Tufted hairgrass
Legumes	Annual: Bur medic*, Crimson clover*, Rose clover*, Subterranean clover*, Winter vetch*. Perennial: Birdsfoot trefoil*

RE-SATURATING DELTA PEAT SOILS THROUGH RICE CULTIVATION

Definition	Convert annual cropland or pastureland (including alfalfa) on peat soils into rice cultivation		
Eligibility	Cropland on the highly organic and/or mineral-organic soils in the Sacramento–San Joaquin Delta Region		
Purpose	Reduce oxidation and degradation of organic matter in the region; Reduce subsidence of peat soils; Reduce greenhouse gas (GHG) emissions; Provide wildlife habitat.		
Payment Scenarios	Implementation	Payment Rate (\$/Acre)	Years Supported
	Convert annual cropland or pastureland into rice cultivation	\$800	1 yr
Guidelines	Land use documentation for the past 3 years is required at the time of on-farm project application. Field is flooded for about 8 months of the year and allowed to drain for 2 months in the spring for land preparation and planting and 2 months in the fall for harvest and residue management. Rice straw should be chopped, rolled and crimped, or stomped down flat, with no tillage or disking. Field should be flooded no later than December 15 and remain flooded until March 1. CDFA expects rice cultivation to be maintained for a minimum of 5 years.		
Verification Requirements	(1) An operation log recording all steps for land conversion to ensure the finished field meets requirements for rice production; Verification time is during the first-year rice cultivation when the field is flooded; (2) Geotagged photos from different locations of the field to demonstrate that the land conversion is fully implemented; (3) A farming log recording rice production activity including field flooding and draining periods and straw management will be submitted each year in the grant term.		
Reference	Re-saturating Delta Peat Soils Through Rice Cultivation White Paper from CARB and CDFA - <i>to be finalized in 2026</i>		

RESIDUE AND TILLAGE MANAGEMENT – NO-TILL

Definition	Limiting soil disturbance to manage the amount, orientation, and distribution of crop and plant residue on the soil surface year-round. No-Till must have a STIR (Soil Tillage Intensity Rating)* no greater than 0.075.		
Eligibility	Annual Cropland, Orchard and Vineyard Alleys. Only fields that have received conventional tillage prior to on-farm project application are eligible for this practice.		
Purpose	Reduce tillage-induced particulate emissions and excessive sediment in surface waters; Reduce erosion; Reduce energy use; Maintain soil organic matter content; Maintain habitat for soil organisms; Maintain food and cover for beneficial organisms,		
Payment Scenarios	Implementation	Payment Rate (\$/Acre)	Years Supported
	No-Till or Strip-Till	\$33	3 yrs
Guidelines	During the project term, crop residues or living plants should be kept on soil surface, not burned or removed. No-Till: No soil disturbance will be performed. All planting methods must be no-till drill or broadcast as applicable. Strip-Till: Tillage is only performed along the rows of seed bed (≤8 inches width). Planting method may be no-till drill or strip-till planting.		
Verification Requirements	(1) Geotagged photos from different locations of each field showing field operations (including equipment used), field floor and overview of the whole field at end of each project year; (2) A farming log recording field activities related to soil disturbance for the entire grant year. This should include the dates, methods, and equipment used during farm operations (i.e. harvest and termination, subsurface fertilizer injection, or planting), as well as periods where soil remained undisturbed (i.e., fallow, covered with crop residues, or living cover crop/ volunteer grasses were allowed to grow). The STIR calculator provided by CDFA (available for download here) assists in logging this information and should be submitted; (3) Practice implementation is considered complete and ready to verify at the end of each project year.		
Reference	Residue and Tillage Management – No-Till (USDA NRCS CPS 329)		

*The Healthy Soils Program classifies a tillage system using a STIR (Soil Tillage Intensity Rating) value. The STIR value range for no-till is 0.001 – 0.075, reduced-till 0.076 – 0.252, and intensive tillage 0.253 – 1.00, respectively. Parameters for STIR calculation are derived from the various operations database in RUSLE2 (Revised Universal Soil Loss Eq. 2) for the system used in growing a crop or a rotation. The HSP uses Equation 3-13 in "[Quantifying greenhouse gas sources and sinks in cropland and grazing land systems](#)" (Ogle, et.al., 2024). A calculation sheet can be downloaded at this [link](#) including instructions.

Reference

Ogle, S.M., Adler, P.R., Bentrup, G., Derner, J., Domke, G., Del Grosso, S., Lehmann, J., Reba, M. and Woolf, D., 2024. Quantifying greenhouse gas sources and sinks in cropland and grazing land systems. In: Hanson, Wes L.; Itte, Cortney; Edquist, Kara, eds. *Quantifying greenhouse gas fluxes in agriculture and forestry: Methods for entity-scale inventory*. Technical Bulletin Number 1939, 2nd edition. Washington, DC: US Department of Agriculture, Office of the Chief Economist. 6-1-6-23. Chapter 3., 1939, pp.3-1

RESIDUE AND TILLAGE MANAGEMENT – REDUCED TILL

Definition	Managing the amount, orientation, and distribution of crop and other plant residue on the soil surface year-round while limiting soil-disturbing activities used to grow and harvest crops. Reduced-Till must have a STIR (Soil Tillage Intensity Rating)* value within 0.076 – 0.252.		
Eligibility	Annual Cropland, Vineyards. Only fields that have received conventional tillage prior to on-farm project application are eligible for this practice.		
Purpose	Reduce tillage-induced particulate emissions and excessive sediment in surface waters; Reduce erosion; Reduce energy use; Maintain soil organic matter content; Maintain habitat for soil organisms; Maintain food and cover for beneficial organisms.		
Payment Scenarios	Implementation	Payment Rate (\$/Acre)	Years Supported
	Reduced- Till	\$41	3 yrs
Guidelines	For the full project term, use tillage methods that limit soil disturbance, such as chisel plowing, field cultivating, tandem disking, or vertical tillage. This also includes the use of planting/tillage systems with fewer tillage operations (e.g. ridge tillage). Crop residues or living plants should cover the soil surface during winter-spring period, not burned or removed.		
Verification Requirements	(1) Geotagged photos from different locations of each field showing field operations (including equipment used), field floor and overview of the whole field at end of each project year; (2) A farming log recording field activities related to soil disturbance for the entire grant year. This should include the dates, methods, and equipment used during farm operations (i.e. harvest and termination, subsurface fertilizer injection, or planting), as well as periods where soil remained undisturbed (i.e., fallow, covered with crop residues, or living cover crop/ volunteer grasses were allowed to grow). The STIR calculator provided by CDFA (available for download here) assists in logging this information and should be submitted; (3) Practice implementation is considered complete and ready to verify at the end of each project year.		
Reference	Residue and Tillage Management – Reduced Till (USDA NRCS CPS 345)		

*The Healthy Soils Program classifies a tillage system using a STIR (Soil Tillage Intensity Rating) value. The STIR value range for no-till is 0.001 – 0.075, reduced-till 0.076 – 0.252, and intensive tillage 0.253 – 1.00, respectively. Parameters for STIR calculation are derived from the various operations database in RUSLE2 (Revised Universal Soil Loss Eq. 2) for the system used in growing a crop or a rotation. The HSP uses Equation 3-13 in "[Quantifying greenhouse gas sources and sinks in cropland and grazing land systems](#)" (Ogle, et.al., 2024). A calculation sheet can be downloaded at this [link](#) including instructions.

RIPARIAN FOREST BUFFER

Definition	An area predominantly covered by trees and/or shrubs located adjacent to and up-gradient from a watercourse or water body.		
Eligibility	Idle strip or borders of Cropland, Grazing Land along perennial and intermittent streams and/or creeks.		
Purpose	Reduce runoff of excess nutrients, contaminants, and pathogens and sediment to surface water; Restore, maintain, or improve riparian plant communities and diversity; Provide food, cover, and habitat corridors for aquatic and terrestrial wildlife, pollinators, and other beneficial organisms.		
Payment Scenarios	Implementation	Payment Rate (\$/Acre)	Years Supported
	Scenario 1. Bare-root, hand planted	\$3,862	1 yr
	Scenario 2a. Cuttings, Small to Medium Size	\$4,516	1 yr
	Scenario 2b. Cuttings, Medium to Large Size	\$8,254	1 yr
	Scenario 3. Container, hand planted	\$6,981	1 yr
Guidelines	All Scenarios: Must select planting species during on-farm application (see below for species recommendations and guidelines). The area of practice implementation must be upgradient from and adjacent to a stream or creek. Establish plantings with a density at a minimum of 35 live plants/acre. Applicants must consult with experts experienced in implementing riparian forest buffer plantings for recommendations on plant species types, planting density, applicant goals, and project area specific considerations including hydrology. Planting density depends on site-specific conditions, however the recommended minimum implemented project area width from stream to improve terrestrial and aquatic habitat should be 35 feet. Recommended planting depth ratio for non-seedling plantings is 2:1 (below-ground: above-ground). Maintain plant growth during the project term by providing necessary tree protection, weed control, and irrigation, as needed. Scenario 1. Seedling size: shrubs and hardwood trees: 18-36 inches tall or 10-20 cubic inch container; conifer trees: 1-year old seedlings or 4-6 cubic inches container Scenario 2. Cutting size (2a) small to medium: 0.25-1-inch diameter and 2-4 ft long; (2b) medium to large: 1-6-inch diameter and 4-6 ft long. Scenario 3. Container size: At minimum 40 cubic inches		
Verification Requirements	(1) Geotagged photos (3-5) taken from different locations demonstrating plant establishment on the implementation acreage. Photos should be taken after initial establishment and at the end of the grant term; (2) A count of live plants should be reported after initial establishment and at the end of the grant term; (3) Receipts of plants purchased; (4) Species names; (5) Calculation determining site-specific planting density.		
Reference	Riparian Forest Buffer (USDA NRCS CPS 391)		

RIPARIAN FOREST BUFFER: SPECIES SELECTION

Species Selection	All Scenarios: Must select a mixture of tree and/or species. Species listed below have been reviewed and approved for this practice by the NRCS (California eVegGuide), however, listed species may not be suitable for all regions and payment scenarios. Use the RePlan Tool to view scenario-specific recommendations. Write-ins are permitted. Grant Beneficiaries should be provided access to advisors with expertise in species selection and planting methods to ensure species choice, species write-ins, and planting method are suitable for the region and practice purposes. The number of harvestable species (i.e. fruits, berries, nuts) must not exceed 10% of total number of plants or justification must be provided. Harvest operations must not compromise conservation practice purposes due to habitat disturbance and/or significant vegetation loss (Harvestable Species).
Shrubs	Birchleaf mountain mahogany, Blue elderberry, California blackberry, California buckthorn (Coffeeberry), California wild grape, California wildrose, Common buttonbush, Common snowberry, Coyotebrush, Creeping oregon grape, Douglas' sagewort, Douglas spiraea, European black elderberry, Flannelbush, Fourwing saltbush, Golden currant, Hollyleaf cherry, Hollyleaved barberry, Iodinebush, Little leaf mock orange, Mule-fat, Pink honeysuckle, Rocky Mountain elderberry, Thimbleberry, Toyon, Utah serviceberry, Western poison oak, Western sweetshrub, wild mock orange, Woods' rose
Trees	Arroyo willow, Black cottonwood, Box elder, California black oak, California black walnut, California buckeye, California hoptree, California laurel, California live oak, California sycamore, Canyon live oak, Fremont cottonwood, Goodding's willow, Interior live oak, Oregon ash, Pacific dogwood, Red willow, Redosier dogwood, Sandbar willow, Valley oak, White alder

RIPARIAN HERBACEOUS COVER

Definition	Perennial plants tolerant of intermittent flooding or saturated soils, established or managed as the dominant vegetation in the transitional zone between upland and aquatic habitats. Planting converts irrigated or non-irrigated cropland to unfertilized perennial cover near aquatic habitats.		
Eligibility	Cropland		
Purpose	Restore, maintain, or improve riparian plant communities and diversity; Provide food, cover, and habitat corridors for aquatic and terrestrial wildlife, pollinators, and other beneficial organisms.; Improve and maintain water quality; Increase or maintain stability of stream banks and shorelines; Dissipate stream energy and trap sediment; Increase water storage on floodplains.		
Payment Scenarios	Implementation	Payment Rate (\$/Ac), except for scenario 2	Yrs Supported
	Scenario 1. Broadcast Seeding	\$1,404	1 yr
	Scenario 2. Plug Planting	\$1/plant (max \$19,360)	1 yr
	Scenario 3. Pollinator Cover	\$2,474	1 yr
Guidelines	All Scenarios: Area of practice implementation must be upgradient from and adjacent to a stream. Must select planting species during on-farm application (see below for species recommendations and guidelines). Applicants must consult with experts experienced in implementing riparian herbaceous cover plantings for recommendations on plant species types, planting density, applicant goals, and project area specific considerations. Plug planting density depends on site-specific water body conditions. Planting area width should be calculated prior to determining recommended plant density. Recommended minimum width should be 2.5 times the stream width (based on the horizontal distance between bank-full elevations) or 35 feet for water bodies. Maintain plant growth and established riparian zone during the project term. Scenario 1. Native perennials broadcast and/or no-till drill seeded at 41-60 pure live seeds/sq ft (PLS). Scenario 2. Native aquatic perennials plug-planted, maximum of 19,360 plants/acre. Scenario 3. Native pollinator-friendly perennials broadcast and/or no-till drill seeded at 41-60 PLS.		
Verification Requirements	(1) Geotagged photos (3-5) taken from different locations demonstrating ≥ 60% plant coverage of the implementation acreage. Photos should be taken after initial establishment and at the end of the grant term; (2) Receipts of seeds purchased; (3) Species names and seeding rate; (4) Description of planting method and date of planting; (5) Calculation determining site-specific planting density.		
Reference	Riparian Herbaceous Cover (USDA NRCS CPS 390)		

RIPARIAN HERBACEOUS COVER: SPECIES SELECTION

Species Selection	All Scenarios: Must select a mixture of perennial species (grasses, forbs and/or legumes) to create an adapted, diverse vegetative plant community that is under close management to ensure long term survival and ecological succession. Mixture can be ≤10% annuals by pure live seeds per sq ft (PLS). Scenario 1. Must select natives; ≤50% grasses (PLS) Scenario 2. Must select native aquatic plants Scenario 3. Must select between 2-12 pollinator-friendly natives to ensure ≥2 species in bloom at any given time of the growing season; ≤50% grasses (PLS) Species listed below have been reviewed and approved for this practice by the NRCS (California eVegGuide), however, listed species may not be suitable for all regions and payment scenarios. Use the RePlan Tool to view scenario-specific recommendations. Write-ins are permitted. Consultation with a technical advisor is recommended to ensure species choice, species write-ins, and planting method are suitable for the region and practice purposes.
Forbs	Annual: Yellow monkey flower. Perennial: Common yarrow, Great Valley gumweed, Western goldenrod
Grasses	Perennial: Alkali sacaton, Blue wildrye, California barley, California brome, Cane bluestem, Common spikerush, Creeping wildrye, Meadow barley, Mountain rush, Nodding needlegrass, Red fescue, River bulrush, Santa Barbara sedge, Three-square bulrush
Legumes	Perennial: California (Western) redbud

SILVOPASTURE

Definition	Establishment and/or management of desired trees and forages on the same land unit.		
Eligibility	Grazing Land		
Purpose	Provide forage, shade, and/or shelter for livestock; Improve the productivity and health of forages; Provide habitats for wildlife and beneficial insects; Increase carbon storage in plant biomass and soil; Reduce erosion; Reduce runoff of excess nutrients.		
Payment Scenarios	Implementation	Payment Rate (\$/Acre)	Years Supported
	Establish trees, existing grasses	\$314	1 yr
Guidelines	Must select planting species during on-farm application (see below for species recommendations and guidelines). Plan containerized seedlings at 4-6 cubic inches or 1-year old bare root seedlings at a density at ≥ 20 live plants per acre. Provide tree protection, including fencing and irrigation; maintain plant growth during the project term.		
Verification Requirements	(1) Geotagged photos (3-5) taken from different locations demonstrating plant establishment on the implementation acreage. Photos should be taken after initial establishment and at the end of the grant term; (2) A count of live plants should be reported after initial establishment and at the end of the grant term; (3) Receipts of plants purchased; (4) Species names.		
Reference	Silvopasture (USDA NRCS CPS 381)		

SILVOPASTURE: SPECIES SELECTION

Species Selection	Select a mixture of tree species (avoid shrubs). Species listed below have been reviewed and approved for this conservation practice by the NRCS, however, listed species may not be suitable for all regions and payment scenarios and may even be <u>toxic to certain livestock</u>. Species selected from the RePlan tool or write-ins should be discussed with a technical advisor or certified professional before planting. The number of harvestable species (i.e. fruits, berries, nuts) must not exceed 10% of total number of plants or justification must be provided. Harvest operations must not compromise conservation practice purposes due to habitat disturbance and/or significant vegetation loss (Harvestable Species). * Indicates non-native (introduced) species reviewed and approved for this practice
Trees	American plum, Arizona cypress, Arroyo willow, Austrian pine, Baker's cypress, Bigleaf maple, Bishop pine, Bitter cherry, Black cottonwood, Blackfruit dogwood, Blue oak, Bolander beach pine, Box elder, Brewer spruce, Brown dogwood, California black oak, California black walnut, California buckeye, California laurel, California live oak, California red fir, California sycamore, Canyon live oak, Chokecherry, Coast redwood, Coastal live oak, Common persimmon, Corkscrew willow, Coulter pine, Cuyamaca cypress, Douglas fir, Douglas hawthorn, Dune willow, Engelmann spruce, European alder, European white poplar, Flowering crabapple, Foothill Ash, Foxtail pine, Fremont cottonwood, Giant chinquapin, Giant Sequoia, Goodding's willow, Grand fir, Gray pine, Hackberry, Honey locust, Hybrid balsam poplar, Incense cedar, Interior live oak, Island oak, Jeffrey pine, Knobcone pine, Lilac chaste tree*, Lodgepole pine, Monterey cypress, Monterey pine, Mountain ash, Mountain hemlock, Narrowleaf cottonwood, Noble fir, Olive*, Oregon ash, Oregon crab apple, Oregon white oak, Pacific dogwood, Pacific madrone, Ponderosa pine, Port Orford cedar, Red alder, Red willow, Redheart, Redosier dogwood, Redshank, Sandbar willow, Sargent's cypress, Scouler's willow, Scrub oak, Shasta red fir, Silver maple, Sitka spruce, Sitka willow, Soapbark, Subalpine fir, Sugar pine, Tecate cypress, Thinleaf alder, Valley oak, Vine maple, Western chokecherry, western dogwood, Western hemlock, Western juniper, Western red cedar, western white pine, White alder, White fir, Yellow willow

STRIP CROPPING

Definition	Growing strips of erosion-resistant crops next to erosion-susceptible crops, in a systematic arrangement across a field.		
Eligibility	Annual Cropland – irrigated or non-irrigated		
Purpose	Improve plant productivity and health; Increase plant biodiversity and provide food and cover for beneficial organisms; Reduce erosion; Reduce runoff of excess nutrients, pesticides, and sediment.		
Payment Scenarios	Implementation	Payment Rate (\$/Acre)	Years Supported
	Wind and water erosion control	\$3	1 yr
Guidelines	The names of planting species must be provided during on-farm application using the write-in option on the RePlan tool; ≥ 50% vegetation cover must be perennial erosion resistant species. Do not include erosion- susceptible crops in adjacent strips at the same time during the year. Approved species for the practice, payment scenario, and region can be selected using the RePlan tool. Two or more strips are required. Maintain plant growth during the project term.		
Verification Requirements	(1) Geotagged photos from different locations of the field to demonstrate established strips (>60% plant coverage); (2) Receipts of seeds purchased; (3) Number, width and length of strips; (4) At the end of grant term, provide geotagged photos that demonstrate ≥60% ground cover by live plants to verify program requirements are met.		
Reference	Strip Cropping (USDA NRCS CPS 585)		

TREE/SHRUB ESTABLISHMENT

Definition	Establishing woody plants by planting seedlings or cuttings, by direct seeding, and/or through natural propagation.		
Eligibility	Cropland, Grazing Land		
Purpose	Restore, maintain, or improve native plant communities and diversity by establishing woody plants; Provide habitat for desired wildlife species compatible with ecological characteristics of site; Reduce erosion; Reduce runoff of excess nutrients, pesticides, and sediment; Increase carbon storage in plant biomass and soil.		
Payment Scenarios	Implementation	Payment Rate (\$/Ac)	Yrs Supported
	Scenario 1. Conservation, hand planted	\$603	1 yr
	Scenario 2. Conservation, hand planted, browse protection	\$1,527	1 yr
Guidelines	All Scenarios: Must select planting species during on-farm application (see below for species recommendations and guidelines). Plant shrub seedlings at 6-18 inches tall or ≤10 cubic inches container; tree or hardwood seedlings at 18-36 inches tall or 10-20 cubic inches container. Plant at a density of ≥150 live trees per acre. Maintain plant growth during the project term by providing necessary tree protection and irrigation. For Scenario 2: Must install tree tubes and wood stake to fasten items in place to protect seedlings from animal browsing damage.		
Verification Requirements	(1) Geotagged photos (3-5) taken from different locations demonstrating plant establishment on the implementation acreage. Photos should be taken after initial establishment and at the end of the grant term; (2) A count of live plants should be reported after initial establishment and at the end of the grant term; (3) Receipts of plants purchased; (4) Species names.		
Reference	Tree/Shrub Establishment (USDA NRCS CPS 612)		

TREE/SHRUB ESTABLISHMENT: SPECIES SELECTION

Species Selection	All Scenarios: Must select a mixture of species. Species listed below have been reviewed and approved for this practice by the NRCS (California eVegGuide), however, listed species may not be suitable for all regions and payment scenarios. Use the RePlan Tool to view scenario-specific recommendations. Write-ins are permitted. Consultation with a technical advisor is recommended to ensure species choice, species write-ins, and planting method are suitable for the region and practice purposes. The number of harvestable species (i.e. fruits, berries, nuts) must not exceed 10% of total number of plants or justification must be provided. Harvest operations must not compromise conservation practice purposes due to habitat disturbance and/or significant vegetation loss (Harvestable Species). * Indicates non-native (introduced) species reviewed and approved for this practice
Shrubs	Alaska cedar, Alkalai heath, Antelope bitterbrush, Apache plume, Basin big sagebrush, Beavertail, Big saltbush, Bigberry manzanita, Birchleaf mountain mahogany, Black sage, Blackbrush, Bladderpod spiderflower, Blue elderberry, Blueblossom ceanothus, Blueblossom ceanothus, Brittlebush, Buckbrush, Buckbrush, Burrobrush, Burrobush, Bush seepweed, Bush sunflower, California blackberry, California buckthorn (Coffeeberry), California Dutchman's pipe, California gooseberry, California huckleberry, California snowdrop bush, California wild grape, California wildrose, Catalina hollyleaf cherry, Cattle saltbush, Ceanothus, Chamise, Chaparral currant, Chuparosa, Coastal sagebrush, Common buttonbush, Common snowberry, Common snowberry, Coyotebrush, Creeping oregon grape, Creeping snowberry, Creosote bush, Curl-leaf mountain mahogany, Deerbrush, Desert peach, Desert willow, Douglas' sagewort, Douglas spiraea, Eastern Mojave buckwheat, European black elderberry, Flannelbush, Fourwing saltbush, Fragrant sage, Fragrant sumac, Fraser's photinia*, Fuchsia flowered gooseberry, Golden currant, Green rabbitbrush, Greenleaf manzanita, Hoary coffeeberry, Hollyleaf cherry, Hollyleaf redberry, Hollyleaved barberry, Iodinebush, Island mallow, Italian buckthorn*, Largeflower bush monkeyflower, Laurel sumac, Mule-fat, Naked buckwheat, Nevada ephedra (Nevada jointfir), Oak gooseberry, Oceanspray, Pinemat manzanita, Pink honeysuckle, Pink queen*, Point Reyes ceanothus, Quailbush, Rayless goldenhead, Red elderberry, Rock spiraea, Rocky Mountain elderberry, Rose meadowsweet, Rubber rabbitbrush, Salal, Santa catalina island currant, Shadscale saltbush, Sierra currant, Skunkbush sumac, Smooth mountain mahogany, Smooth sumac*, St. Catherine's lace, Sticky whiteleaf manzanita, Strawberry tree*, Sugar bush, Thick-leaf yerba santa, Thimbleberry, Toyon, Tree anemone, Tree poppy, Utah serviceberry, Vine Hill manzanita, Wax currant, Western poison oak, Western sweetshrub, Western white clematis, White sage, Whiteleaf manzanita, wild mock orange, Woods' rose, Woolly bluecurls, Woollyleaf ceanothus, Yerba Santa
Trees	Aleppo pine*, Arroyo willow, Bearbrush, Bigleaf maple, Bishop pine, Black cottonwood, Blue gum*, Blue oak, Box elder, Brutia pine*, California black oak, California black walnut, California buckeye, California Foothill pine, California laurel, California live oak, California sycamore, California wax myrtle, Canyon live oak, Chinese elm*, Chinese hackberry*, Chinese pistache*, Chokecherry, Coast redwood, Coastal live oak, Coulter pine, Cuyamaca cypress, Deodar cedar*, Douglas fir, Fremont cottonwood, Giant Sequoia, Goodding's willow, Green ash*, Hybrid balsam poplar*, Incense cedar, Interior live oak, MacNab Cypress, Manna gum*, Mountain ash, Mountain gum*, Mt. Atlas mastic tree pistache*, Olive*, Oregon ash, Oregon white oak, Pacific dogwood, Pacific madrone, Pacific willow, Peruvian peppertree*, Pittosporum*, Pomegranate*, Ponderosa pine, Red willow, Redosier dogwood, River sheoak*, Sandbar willow, Scrub oak, Silver maple*, Sugarberry (hackberry), Valley oak, Vine maple, Wavyleaf siltassel, Western chokecherry, western dogwood, White alder, Yellow willow

VEGETATIVE BARRIER

Definition	Permanent strips of stiff, dense vegetation established along the general contour of slopes or across concentrated flow areas.		
Eligibility	Idle strip or borders of Cropland		
Purpose	Reduce ephemeral gully erosion and sediment transport to surface waters; Increase plant biodiversity and provide food and cover for beneficial organisms.		
Payment Scenarios	Implementation	Payment Rate (\$/Ft)	Years Supported
	Vegetative Planting	\$2	1 yr
Guidelines	Projects will be located where sheet or rill erosion is of concern. Must select planting species during on-farm application (see below for species recommendations and guidelines). Broadcast or drill seeds in a strip of at least 3 feet width along the general contour of slopes. Maintain plant growth during the project term.		
Verification Requirements	(1) Geotagged photos (3-5) taken at both ends and middle of established barrier to demonstrate established plants (>60% plant cover). Photos should be taken after initial establishment and at the end of the grant term; (2) Receipts of plants purchased; (3) Species names.		
Reference	Vegetative Barriers (USDA NRCS CPS 601)		

VEGETATIVE BARRIER: SPECIES SELECTION

Species Selection	Must select a mixture of perennial species (grasses, forbs and/or legumes); mixture can be ≤10% annuals by pure live seeds per sq ft (PLS). The selected species should be tolerant of soil erosion with a vegetation stiffens index (VSI) of 0.05 - 0.10. Species listed below have been reviewed and approved for this practice by the NRCS (California eVegGuide), however, listed species may not be suitable for all regions and payment scenarios. Use the RePlan Tool to view scenario-specific recommendations. Write-ins are permitted. Consultation with a technical advisor is recommended to ensure species choice, species write-ins, and planting method are suitable for the region and practice purposes. * Indicates non-native (introduced) species reviewed and approved for this practice
Grasses	Annual: Soft brome*. Perennial: Blue wildrye, California barley, California brome, Deergrass, Meadow barley
Legumes	Annual: Winter vetch*

WHOLE ORCHARD RECYCLING

Definition	Woody perennial crops are chipped at the end of their agronomic life cycle. The wood chips are incorporated into the soil of the fields where the trees stood, which may be fallowed or continue agronomic production.		
Eligibility	Orchards; only orchards 10 years or older at application submission are eligible. Practice cannot be implemented on soils with soil organic matter greater than 20%.		
Purpose	Increase soil organic matter content and aggregate stability; Maintain or improve habitat for soil organisms; Increase soil moisture retention and infiltration rate.		
Payment Scenarios	Implementation	Payment Rate (\$/Acre)	Years Supported
	Whole Orchard Recycling	\$861	1 yr
Guidelines	The on-farm project application requires the age of trees (10 years or older). Orchard trees should be chipped and incorporated on the field where they were grown, not exported to new fields. Chips must be evenly distributed throughout the orchard and incorporated into the soil to at least 6 inches depth.		
Verification Requirements	(1) Geotagged photographs of fields showing removed trees, chipping, spreading and incorporation of wood chips; (2) A farm log including chipping details (e.g. tons of chips, size); (3) Verification is when chips are incorporated.		
Reference	Soil Carbon Amendment (USDA NRCS CPS 336); CDFA Whole Orchard Recycling white paper (https://www.cdfa.ca.gov/oefi/healthysoils/docs/CDFA_WOR_Report.pdf)		

WINDBREAK/ SHELTERBELT ESTABLISHMENT

Definition	Establishment of a single row of trees and/or shrubs that provide wind protection for cropland or livestock.		
Eligibility	Idle strip or borders of Cropland, Orchards, Vineyards, Grazing Land		
Purpose	Reduce erosion, particulate matter emissions, and crop damage from wind; Provide shelter for livestock from wind and heat; Provide or maintain food, cover, and habitat corridors for wildlife; Enhance pollen, nectar, and nesting habitat for pollinators; Increase carbon storage in plant biomass and soil; Screen noise, airborne particulate matter and dust, odor, chemical drift; Boundary delineation and contour guidelines (living fences).		
Payment Scenarios	Implementation	Payment Rate (\$/Ft)	Years Supported
	Scenario 1. 1-row, trees/shrubs	\$2	1 yr
	Scenario 2. 1-row, trees/shrubs, wind protection fence	\$3	1 yr
Guidelines	All Scenarios: Must select planting species during on-farm application (see below for species recommendations and guidelines). Trees or shrubs will be planted in a single row with a density of ≥ 200 live plants/acre (equivalent to plant space within the row at maximum 27 feet with a width of 8 feet), using seedlings with potting size of 15-20 cubic inches or bare root seedlings at 2-3 years old before transplanting. Maintain plant growth during the project term by providing necessary tree protection, fencing, and irrigation. Scenario 2. A wind-protection fence is required.		
Verification Requirements	(1) Geotagged photos (3-5) taken at both ends and middle of linear plantings demonstrating plant establishment. Wind protection fence should be visible in the photos for Scenario 2. Photos should be taken after initial establishment and at the end of the grant term; (2) A count of live plants should be reported after initial establishment and at the end of the grant term; (3) Receipts of plants purchased; (4) Species names.		
Reference	Windbreak/ Shelterbelt Establishment and Renovation (USDA NRCS CPS 380)		

WINDBREAK/ SHELTERBELT ESTABLISHMENT: SPECIES SELECTION

Species Selection	All Scenarios: Must select a mixture of tree and/or species. Species listed below have been reviewed and approved for this practice by the NRCS (California eVegGuide), however, listed species may not be suitable for all regions and payment scenarios. Use the RePlan Tool to view scenario-specific recommendations. Write-ins are permitted. Consultation with a technical advisor is recommended to ensure species choice, species write-ins, and planting method are suitable for the region and practice purposes. The number of harvestable species (i.e. fruits, berries, nuts) must not exceed 10% of total number of plants or justification must be provided. Harvest operations must not compromise conservation practice purposes due to habitat disturbance and/or significant vegetation loss (Harvestable Species). * Indicates non-native (introduced) species reviewed and approved for this practice
Shrubs	Big saltbush, Bigberry manzanita, Bigpod ceanothus, Birchleaf mountain mahogany, Black sage, Bladderpod spiderflower, Blue elderberry, Blueblossom ceanothus, California blackberry, California buckthorn (Coffeeberry), California snowdrop bush, California wildrose, Catalina hollyleaf cherry, Chaparral currant, Coastal sagebrush, Common buttonbush, Common snowberry, Coyotebrush, Douglas spiraea, European black elderberry, Flannelbush, Fourwing saltbush, Fragrant sumac, Fraser's photinia*, Golden currant, Greenleaf manzanita, Hoary coffeeberry, Hollyleaf cherry, Hollyleaved barberry, Island mallow, Italian buckthorn*, Laurel sumac, Mule-fat, Oleander*, Pinemat manzanita, Point Reyes ceanothus, Quailbush, Santa catalina island currant, Santa cruz island bush mallow, Skunkbush sumac, Smooth mountain mahogany, St. Catherine's lace, Sticky whiteleaf manzanita, Strawberry tree*, Sugar bush, Toyon, Tree anemone, Tree poppy, White sage, Whiteleaf manzanita, wild mock orange Legume Shrubs: Black locust*, Blackwood*, California (Western) redbud, Coastal wattle*, Honey mesquite, Sydney golden wattle*
Trees	Afghan pine*, Aleppo pine*, Arroyo willow, Athel tamarisk*, Bearbrush, Bigleaf maple, Bishop pine, Black cottonwood, Blue gum*, Box elder, Brutia pine*, California black oak, California black walnut, California buckeye, California Foothill pine, California hoptree, California laurel, California live oak, California sycamore, California wax myrtle, Canyon live oak, Carolina poplar*, Chinese elm*, Chinese hackberry*, Chinese pistache*, Coast redwood, Coastal live oak, Coulter pine, Cuyamaca cypress, Deodar cedar*, Douglas fir, Fremont cottonwood, Giant Sequoia, Goodding's willow, Green ash*, Honey locust*, Hybrid balsam poplar*, Incense cedar, Interior live oak, Italian cypress*, Lilac chaste tree*, Manna gum*, Mountain gum*, Mt. Atlas mastic tree pistache*, Narrowleaf cottonwood, Olive*, Oregon ash, Pacific dogwood, Pacific madrone, Peruvian peppertree*, Pink melaleuca*, Pittosporum*, Pomegranate*, Ponderosa pine, Quaking aspen, Red ironbark*, Red willow, River sheoak*, Silver maple*, Sugarberry (hackberry), Tulip tree*, Valley oak, Vine maple, Wavyleaf silktassel, western dogwood, White alder, Yellow willow

SOIL HEALTH TESTING

Soil Health testing is an optional use of on-farm project funds, with a cap of \$2,500 per project. Shipping and analytical costs are reimbursable to the Grant Beneficiary, BGR or Subrecipient(s). There is no more flat-rate payment for soil sampling. A BGR may invoice OARS for the purchase of equipment and use of staff time to assist in soil sampling as Program Administration costs. Respectively, by either the BGR or Subrecipient(s), but not the Grant Beneficiary.

A wide range of soil health tests have become available in recent years, although there are relatively few analytical laboratories that offer competitive ranges of soil health tests, or packages of tests. There is no prohibition on sending samples to laboratories out of state.

In the block grant format, technical assistance providers should provide assistance to farmers and ranchers with soil health testing. To describe changes in project soils over time, the soils should be sampled before practice implementation and resampled at least once at the same time of year, typically after three years, in the same place. Further recommendations are seen below.

Typical soil health tests now being used include the following. BGRs should not pay for standard fertility panels (Nitrate, P, K, micronutrients, texture) although some laboratories are now describing them as “soil health tests.”

- Total Carbon
- Total Nitrogen
- Water-extractable Carbon
- Water-extractable Nitrogen
- Permanganate-oxidizable Carbon (POx-C)
- Microbial respiration (24 or 72-hour)
- Phospholipid Fatty Acid (PLFA)

In addition, soil health tests that can be performed on-farm include:

- Infiltration rate
- Aggregate stability, as with the Slakes phone app
- Soil color

This section will be updated with further considerations.

SOIL SAMPLING RECOMMENDATIONS FOR SOIL ORGANIC MATTER/CARBON ANALYSIS

SUPPLIES

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 paper sheets for recording
4. Permanent marker and/or pen
5. Straight shovel (sharpshooter or drain spade style) **OR** a soil probe.

WHEN TO TAKE SAMPLES

- Generally speaking, avoid sampling when there has been an organic amendment to the soil less than six months before.
- Ideally soil samples should be taken 11-13 months after the previous year's practice implementation.
- Take initial baseline soil samples before implementing any HSP management practices, preferably no more than 1 month prior to starting implementation.
- Then, take the following soil samples near the same time of year, assuming the practice will also occur near the same time of year.
 - If the practice occurs earlier in the calendar year than the previous sample, sample just prior to the new date and make a note; Or
 - If the practice occurs six months or more later in the calendar year than the previous sample, move the sampling date to be just prior to starting to implement the practice.
- The last round of sampling for the HSP grant term is potentially the most important evidence of changes in the soil and should take place at the same time of year as the baseline sample, and no less than six months after implementation of any healthy soils practices. It could therefore be advisable to wait an extra year, depending on the schedule of practices in the field and HSP funding deadlines.
- The procedures above will help ensure the most accurate estimates of soil organic matter or carbon gained over time.
- Do not take samples immediately after heavy rainfall or irrigation events, or after applications of compost, mulch materials, and/or other soil amendments, etc.
- If the grant has multiple practices on the same field, and the producer plans to take more than 1 sample for this field, all soil samples should be taken at once prior to starting implementation of the first practice.

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. To increase the likelihood of perceptible results, we recommend taking soils from at least 6 locations with a sampling unit and mixing them uniformly to make a composite soil sample which is then sent for analysis.

Example 1: Mark an area of 30 by 30 feet in the field as your sampling unit. Individual sampling locations may be selected by:

- Walking in a zig-zag pattern; or,
- Divide the field into 6 grid-squares of 10 feet by 10 feet each and collect one sample from each square.

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). If you are interested in soils from both row and inter-row areas, you need to take composite sample(s) from each area separately.

Example 2: Designate a central sampling point that you can return to with a good level of accuracy, either by marking with a post, counting trees, etc. Use a tape measure to take samples at a standard distance from that point, effectively sampling a circle.

Overall, if sampling from a row-cropping or orchard system, consider which area(s) are of most interest (i.e. row vs. inter-row areas). If you are interested in soils from both row and inter-row areas, you need to take composite

sample(s) from each area separately. Do NOT take samples from feedlots, compost piles, fences, roads, depressions, areas with high salinity or consistently high moisture content.

Please mark on your field map the sampling unit(s) where initial soil samples are taken and take soil samples from the same unit(s) throughout the grant term. This will ensure your soil test results are comparable over time.

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.

If storing soil samples prior to sending them to a laboratory:

- Ensure that the soil is dry (you can dry it sufficiently by keeping it exposed to indoor air while it is spread in a shallow layer), as moist soils at room temperature can degrade soil organic matter, or
- Store the sample(s) in a freezer.
- Send the samples for analysis ideally within less than a month. Samples should not be kept for long periods of time prior to analysis.

You are recommended to send soil samples to the SAME soil analytical laboratory every year for your project. The normal variation between laboratories' results, even for the same type of test, will typically make it impossible to measure the differences between different years' samples and to see gains in soil organic matter or other indicators over time. If you know your soils are **calcareous soils** (soils with a significant amount of calcium carbonate), please make sure to notify the laboratory when sending your soil samples, so that they can accommodate for the analysis.

RESOURCES FOR SOIL ANALYTICAL LABORATORIES

- 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>
- UC Cooperative Extension Central Sierra List of Laboratories for Tissue/Soil/Water - Agricultural Analysis:
<https://ucanr.edu/sites/default/files/2024-07/400176.pdf>
- Selected Plant and Soil Testing Laboratories in Central and Southern California:
<https://ucanr.edu/county/cooperative-extension-ventura-county/soil-and-plant-testing-labs-california-1999>
- Other laboratories to be added to this list.