

California Department of Food and Agriculture
 2017 Healthy Soils Program (HSP) Demonstration Projects
 Projects Selected for an Award of Funds (Updated as of July 9, 2018)

Recipient Organization	Project Description	Type	Amount Awarded	Estimated Cost Sharing	County	GHG Reduction Estimation (Tonnes CO ₂ eq/yr)
Ananda Valley Farm	Using wood chips in fields can sequester more carbon, reduce GHG emissions and increase mycorrhizal fungi and other soil organisms. However, using woodchips directly in agricultural fields needs to be useful and practical for a farm while not reducing yields. Wood chips in the soil tie up nitrogen which lowers yields. This study will establish guidelines for using wood chips with additional fertilizer to overcome the nitrogen tie-up, while increasing soil productivity.	B	\$68,945	\$62,000.00	San Mateo	0.3
Audubon California	The project includes planting a cover crop and installing a riparian forest buffer in Yolo County. To evaluate the effectiveness of the cover crop, the project will monitor soil organic matter and estimate reductions in greenhouse gas (GHG) emissions, as well as measure multiple benefits such as soil nutrient concentrations, soil moisture retention capacity, and bird use of the cover crop each year. The Recipient will share the benefits of the cover crop and riparian forest buffer and other wildlife-friendly farming practices to farmers through on-farm Field Days.	B	\$99,243	\$251,691.00	Yolo	29.0
Cal Poly Corporation	This project will study the effects of compost application and no-till on soil carbon (C), greenhouse gas (GHG) emissions and other soil health parameters relevant to the production of wine grapes on the California Central Coast. There will be two separate trials in the Paso Robles American Viticultural Area (AVA). Changes on soil C, GHG emissions, soil properties, crop yield and quality will be evaluated before and after practice implementation. Results will be disseminated through on-farm workshops, as well as through four other external professional presentations and workshops. Current practices and potential for adoption will also be evaluated through outreach activities.	A	\$206,771	\$135,443.00	San Luis Obsipo	2.0

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Cal Poly Pomona Foundation, Inc	The project aims to show the benefits and costs of building soil health via compost application and incorporating cover crops between cash crop plantings. The Recipient will conduct this demonstration project on a field where they are simultaneously transitioning to certified organic production and switching from hay production to vegetable crops. As many farmers throughout California are looking for higher value crops as the costs of production increases, the project will demonstrate how successful organic production depends on building soil health via practices such as cover crop incorporation and compost application. The Recipient will hold yearly farm field-days throughout the project for farmers to see the benefits and challenges of implementing these two practices.	B	\$57,518	\$33,100.00	Los Angeles	9.1
California Marine Sanctuary Foundation	The Project seeks to improve soil health and reduce greenhouse gases through composting and planting hedgerows on two ranches in the Elkhorn Slough watershed. The Recipient will monitor changes in plant dynamics and soil organic matter and conduct an economic analysis for forage production. Demonstration of these practices to encourage broader adoption regionally will be pursued through field tours, highlights in rancher-related newsletters and websites, and in-person presentations to rancher groups. The Project will also create an opportunity to constructively engage farmers with win-win practices that improve marine health.	B	\$98,830	\$54,853.00	Monterey	62.2
Center for Land-Based Learning	This project uses an intensive cover crop regime to improve soil structure and nutrient availability at a farm which was previously an industrial site. This project will help to increase crop productivity and water percolation capacity of the soil. Currently, the soil has a hardpan at the 0" to 18" layer that is preventing water percolation leading to accumulation of salts. This has led to soil quality deterioration and significantly reduced plant growth. This project will demonstrate how the common occurrence of compacted and unimproved urban and near-urban soils can be rendered productive through adopting practices that promote soil health.	B	\$80,003	\$28,742.00	Yolo	12.8

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Community Environmental Council	This project assesses the feasibility of compost application on grazed rangeland to increase soil health and mitigate greenhouse gas emissions. Together with a large and diverse set of partners, the Recipient will integrate compost application into a working ranch, garner support for wide scale adoption of carbon farming practices on agricultural land, and show the potential for the agricultural sector to become both more resilient in the face of climate change and a leader in climate change mitigation.	A	\$201,386	\$143,333.00	Santa Babara	276.4
First Generation Farmers	The project includes planting herbaceous wind barriers and hedgerow plantings to reduce soil erosion, intercept airborne particulate matter, as well as conserve habitat and food for wildlife. Reducing tillage management practices will reduce sheet, rill and wind erosion and tillage induced particulate emissions. Additionally, through reduced tilling, the soil will improve its organic matter content, increate plant-available moisture, and reduce energy use. Cover cropping the farmland will increase soil organic matter content, capture and recycle or redistribute nutrients in the soil profile, promote biological nitrogen fixation and reduce energy use, increase biodiversity, suppress weeds, manage soil moisture, and minimize and reduce soil compaction. All of these practices combined create an ecosystem that not only reduces GHG emissions, but increases the entire farming system's living organisms.	B	\$60,881	\$59,255.00	Contra Costa	115.6
Pauma Band of Mission Indians	This project engages a dynamic partnership to transition 30-acre row crops toward a carbon-friendly, no till orchard. The project will demonstrate to at least 120 farmers on to use cover crops to reduce invasive weeds, increase soil organic matter, and reduce farm management costs. In 2019, a "Carbon-Sink Farming Convergence" will bring farmers, tribal representatives and other stakeholders to educate and mobilize active participants in the carbon-friendly farming movement. Impact will be further amplified through ongoing outreach efforts by the Intertribal Agriculture Council, Carbon Cycle Institute, Rural Coalition and Mission Resource Conservation District.	B	\$80,000	\$71,384.00	San Diego	14.4

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Resource Conservation District of Greater San Diego County	This project will demonstrate that the implementation of compost application, mulching, and cover crops in San Diego (SD) County can positively impact soil quality, crop yields, cost savings, and the environment – even on a small scale. This project is situated at the Tijuana River Valley Community Garden and targets local farmers in SD County, which is home to the largest number of small (<10-acre) farms in the United States. The Recipient will use this demonstration project to highlight the environmental and economic co-benefits of carbon farming practices through field days for local farmers and project dissemination on local and state levels.	B	\$100,000	\$89,323.00	San Diego	0.2
Resource Conservation District of Santa Cruz County	This demonstration project will showcase a variety of conservation management practices used in a 140-acre organic multi-crop farm. Conservation practices include hedgerows, grassed filter strips, native grass pastures, riparian buffers, crop rotation, and cover crops. The Recipient will partner with another association and the farmer to design and host a series of field tours around the farm targeting forty new growers per year for three years, and focusing on different soil conservation practices.	B	\$98,628	\$36,598.00	Santa Cruz	1.9
Sonoma Resource Conservation District	The Project consists of establishing a series of thirty-six demonstration field plots in two vineyard blocks to collect soil data in order to assess the effects of compost application and different traditional tillage methods (no-till, alternate-row till, and full tillage) on soil health and soil carbon content.	B	\$99,576	\$48,222.00	Sonoma	24.1
Sonoma Resource Conservation District	The project will demonstrate carbon sequestration benefits of compost application on grassland to at least 120 ranchers and farmers through demonstration field days. Project activities will take place on a ranch where the management consists of cattle grazing with a high density, short duration grazing regime. Expected benefits of compost application include improving soil quality and fertility, net primary productivity, forage production, and soil water holding capacity. The project hopes to achieve increased adoption rates of compost application through demonstrations, as well as through ongoing carbon farming work with local ranchers and farmers.	B	\$85,353	\$41,870.00	Sonoma	247.3

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The McConnell Foundation	The project will act as a "learning laboratory" for the northern Sacramento Valley where the applicability of carbon sequestration through rangeland soil management practices can be tested. In turn, the installation and management costs and benefits to soil health, forage production, and ecological function can be disseminated at the local, regional, and statewide scale. The success of the project will be measured by increases in soil organic matter, agricultural and ecological co-benefits, the adoption of soil management practices and new certified compost facilities within the region.	B	\$62,452	\$80,856.00	Shasta	38.5
The Regents of the University of California, Davis	This project will implement cover crop and compost application in processing tomatoes/feed corn crop rotation at the Russell Ranch Sustainable Agriculture Facility in Davis. Soil health and GHG emissions will be evaluated on fields where compost, winter cover crop, and cover crops plus compost to be implemented. Compost treatments will also be implemented at an adjacent commercial farm and compared with Russell Ranch results. A comprehensive soil health assessment tool developed for N.E. soils will be tested for use in CA soils and paired with the development of an economic model to convey results in a manner useful for CA growers. Results will be shared via social media, blog posts, a webinar, and at seven on-farm field days/workshops.	A	\$250,000	\$109,316.00	Yolo	28.8
The Regents of the University of California, Davis	The project will implement conservation management practices of reduced till, cover crop, and compost management to provide benefits to and increase the sustainability of annual crop production systems. The Recipient will utilize replicated, randomized field comparisons to demonstrate the influence these practices may have on soil health, greenhouse gas (GHG) emissions and crop yields over time. The project includes an outreach program to increase awareness and adoption of these practices.	A	\$237,305	\$143,670.00	Fresno	64.8

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The Regents of the University of California, Davis on behalf of Agriculture and Natural Resources	This project will demonstrate the use of food waste compost in comparisons with livestock green waste compost on California rangeland. The Recipient will use a rigorous statistical and sampling design to document impacts of compost amendments on healthy soil indicators including soil carbon (C) and nitrogen cycling, forage production, and water holding capacity. The outreach design includes a participatory action research framework and utilizes a stakeholder advisory committee to co-develop outreach and evaluation activities. This work will foster important partnerships with diverse stakeholders and strongly tie to the UC Carbon Neutrality Initiative, placing this work in a larger context of climate change mitigation.	A	\$227,417	\$135,000.00	Yuba	26.7
The Regents of the University of California, Davis on behalf of Agriculture and Natural Resources	Whole orchard recycling (WOR) incorporates orchard removal waste on-site, without burning or moving the debris to another location. Slow adoption of WOR stems from concerns that incorporating a large volume of high carbon (C) to nitrogen (N) wood grindings before replanting could negatively affect tree nutrition. The Recipient projects that the large input of C by WOR will increase soil N retention and reduce nitrous oxide (N ₂ O) emissions. This project will monitor N ₂ O and carbon dioxide (CO ₂) emissions, soil C and N dynamics and soil health indicators for nearly three years after a one-time WOR mulching rate of 60 T/ac. Several field days will allow growers to view the impact of WOR on soil structure and tree orchard growth.	A	\$249,578	\$352,450.00	Fresno	42.0
The Regents of the University of California, Davis on behalf of Agriculture and Natural Resources	The project will implement composting, cover cropping, and reduced tillage, and monitor changes in soil properties and greenhouse gas (GHG) emissions associated with implementation of these practices at three UC ANR-coordinated farm demonstration evaluations in California. The project will also develop and implement an outreach program to disseminate information and engage stakeholders in practices that improve agricultural sustainability through soil management.	A	\$235,797	\$312,202.00	Merced, Sutter, San Joaquin	238.8

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The Regents of the University of California, Davis on behalf of Agriculture and Natural Resources	This project will investigate the influence of cover crops, compost, and reduced tillage on soil health in an irrigated crop rotation. Data include several soil health and agronomic production criteria. The study will be conducted at the UC ANR Intermountain Research and Extension Center with local crops. Expecting substantial outreach interest in compost, cover crops, and reduced tillage due to a large acreage shift to organic production in the region, the project is evaluating treatments under two production methods: conventional and organic. The inclusion of both methods is needed to accurately estimate changes in soil and crop yield in both systems and it provides the unique opportunity to compare changes in soil health in both systems.	B	\$100,000	\$50,800.00	Siskiyou	6.3
West Coast Waste, Inc.	The Project will showcase and assess the benefits of compost and mulch application to tree crops on five acres of almond orchards. Each acre will be divided into three equal sections for each treatment: control, compost, and mulch. All soil health assessments and greenhouse gas emission analyses will be performed by the partner, the University of California, Davis (UCD). UCD will also train local staff on the proper collection of soil and air samples. Another partner will perform all outreach and education responsibilities, including preparing and distributing all outreach materials to the target communities.	A	\$203,489	\$456,169.00	Madera	7.2
Yolo County Resource Conservation District	The project will demonstrate compost application on a cattle ranch in Winters. The Recipient will monitor soil organic carbon and greenhouse gas (GHG) emissions as well as overall improvements to soil health and forage production. The project team will collaborate closely with the landowner and range management experts to develop cost-benefit data for regional/statewide adoption and incentives programming. The Recipient will lead an outreach program with support from other associations to share project information with the ranching and conservation community via a project webpage and engaging on-site compost demonstrations and field trial tours.	A	\$249,178	\$108,192.00	Yolo	227.3