

# CLIMATE SMART AGRICULTURE

## HEALTHY SOILS PROGRAM

Credit: Deborah Pagliaccia

California's farms and ranches play a critical role in achieving the state's ambitious greenhouse gas (GHG) reduction targets. They serve as sinks for atmospheric carbon by sequestering it in soils and woody plants where carbon is needed for plant growth. Farm management practices like composting, reduced tillage, and planting windbreaks and hedgerows can produce healthy, biologically-active soils rich in organic matter.

In 2017, California launched the Healthy Soils Program, a trailblazing initiative that provides grants to farmers and ranchers who adopt soil-building practices that increase on-farm carbon sequestration and reduce on-farm GHG emissions. The program also funds demonstration projects to showcase healthy soils practices and accelerate their adoption through farmer-to-farmer education.



### IMPACT OF THE HEALTHY SOILS PROGRAM

- Farms awarded incentive grants: **64**
- Farms awarded demonstration projects: **22**
- Number of counties with Healthy Soils grants: **31**
- GHG reductions: **117,600** metric tons CO<sub>2</sub> emissions reductions over 10 years, equivalent to removing more than **25,000** cars from the road for one year\*



### FINANCES

- Budget for FY 2016-17: **\$7.5 million**
- Budget for FY 2017-18: **Zero**
- Proposed budget for FY 2018-19: The Governor's proposal includes \$5 million in GGRF and \$9 million in Prop. 68 funds; CalCAN is seeking **\$25 million** for the program



### ADDITIONAL BENEFITS TO CALIFORNIANS

- Reduces the use of chemical fertilizers
- Improves air and water quality and the health of rural communities
- Increases biodiversity and wildlife habitat
- Increases water infiltration and retention, aiding with water conservation, flood mitigation and erosion control
- Improves on-farm soil fertility and plant health

### TOP TEN COUNTIES AWARDED

COUNTY	TOTAL AWARDS
Merced	11
Sonoma	8
San Luis Obispo	6
Yolo	6
Fresno	4
Marin	4
Riverside	4
San Diego	4
Santa Barbara	4
Stanislaus	4

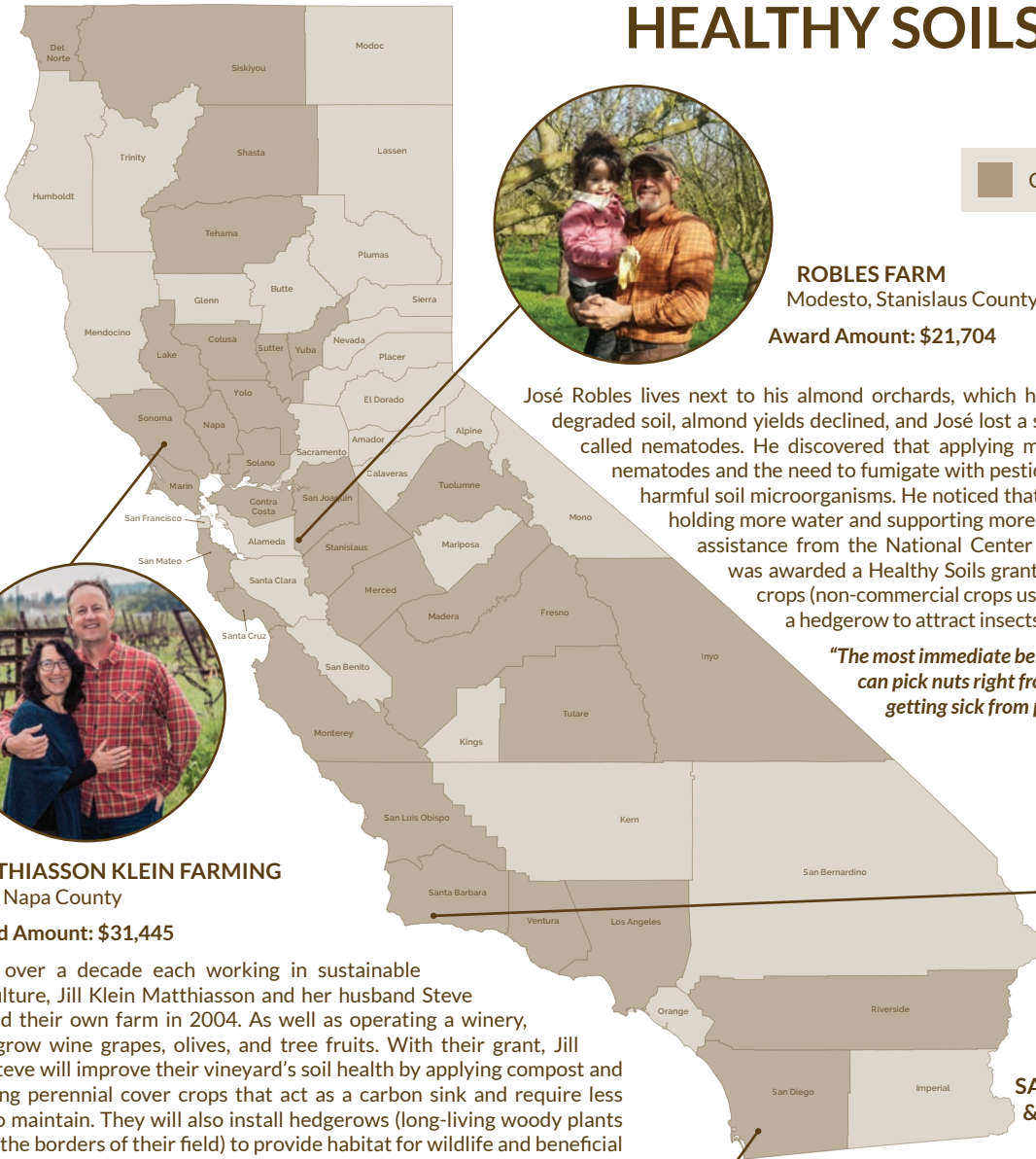
*The Healthy Soils Program is administered by the California Department of Food and Agriculture (CDFA).*

*More information is available on their website: [www.cdfa.ca.gov/oefi/healthysoils](http://www.cdfa.ca.gov/oefi/healthysoils)*

\* Calculated with CDFA data and US EPA's Greenhouse Gas Equivalencies Calculator

# HEALTHY SOILS PROGRAM PROFILES

Counties with HSP Grants



**ROBLES FARM**  
Modesto, Stanislaus County

**Award Amount: \$21,704**

José Robles lives next to his almond orchards, which he has farmed since 2005. Due to degraded soil, almond yields declined, and José lost a section of trees to soil-borne pests called nematodes. He discovered that applying mulch and compost eliminated the nematodes and the need to fumigate with pesticides, which killed both helpful and harmful soil microorganisms. He noticed that healthier soils work like a sponge, holding more water and supporting more productive trees. With application assistance from the National Center for Appropriate Technology, José was awarded a Healthy Soils grant to apply compost and plant cover crops (non-commercial crops used to improve soil health) as well as a hedgerow to attract insects and improve orchard pollination.

*"The most immediate benefit we get is to our health. Now, we can pick nuts right from the trees without worrying about getting sick from pesticides."*

- José Robles



**MATTHIASSEON KLEIN FARMING**  
Napa, Napa County

**Award Amount: \$31,445**

After over a decade each working in sustainable agriculture, Jill Klein Matthiasson and her husband Steve started their own farm in 2004. As well as operating a winery, they grow wine grapes, olives, and tree fruits. With their grant, Jill and Steve will improve their vineyard's soil health by applying compost and planting perennial cover crops that act as a carbon sink and require less fuel to maintain. They will also install hedgerows (long-living woody plants along the borders of their field) to provide habitat for wildlife and beneficial insects. By adopting these practices, they will sequester carbon, increase soil fertility and water-holding capacity, and produce higher quality grapes.

*"My livelihood is tied to the climate. As farmers, we're on the first line of defense, and we want to do everything we can to slow down the effects of climate change."*

- Jill Matthiasson Klein



**SANTA BARBARA BLUEBERRIES  
& RESTORATION OAKS RANCH**  
Gaviota, Santa Barbara County

**Award Amount: \$18,982**

Ed Seaman started his farming career in Santa Barbara Blueberries' roadside farm stand. Since then, he has worked in every aspect of the operation, which he and his wife now own. They secured Healthy Soils funding in partnership with Restoration Oaks Ranch where the blueberry farm is located. Their focus is to build resilience in the face of extreme water insecurity. On the slope above their well, they will plant native shrubs and trees to reduce soil erosion, stabilizing the hillside and encouraging water penetration to recharge the aquifer. At the ranch, compost spread over grazed lands will add soil organic matter, thereby increasing soil carbon storage. Mulching the blueberry fields will increase soil moisture and cut irrigation demand.

*"We think we can take a holistic approach to keep more water and carbon in the soil, use less fertilizer and produce better crops. We want to demonstrate this on a working operation to show that this is replicable for people making a living in agriculture."*

- Ed Seaman



**PAUMA BAND OF LUISEÑO INDIANS**  
Pauma Valley, San Diego County

**Award Amount: \$100,000**

In addition to growing 160 acres of avocados and citrus, the Pauma Band have a 40-acre vegetable operation that they will convert to a no-till olive orchard. Miguel Hernandez, Pauma Band Water Master and Agricultural Manager, credits the Healthy Soils grant with providing them resources to prioritize carbon sequestration and climate benefits in the transition. By practicing no-till agriculture, they will minimize carbon released when soil is disturbed and will use less diesel fuel by eliminating tillage-related tractor use. To prepare the soil, they will plant cover crops for three consecutive years to outcompete invasive weeds and bolster soil health. Funded as a demonstration project to conduct outreach, they will bring together farmers, tribal representatives and other stakeholders to learn from their experiences with climate smart practices.

*"It's all in the title. Healthier soils grow healthier food for our communities to eat."*

- Miguel Hernandez