

# Carbon Farming: Is Good for the Soil and the Planet

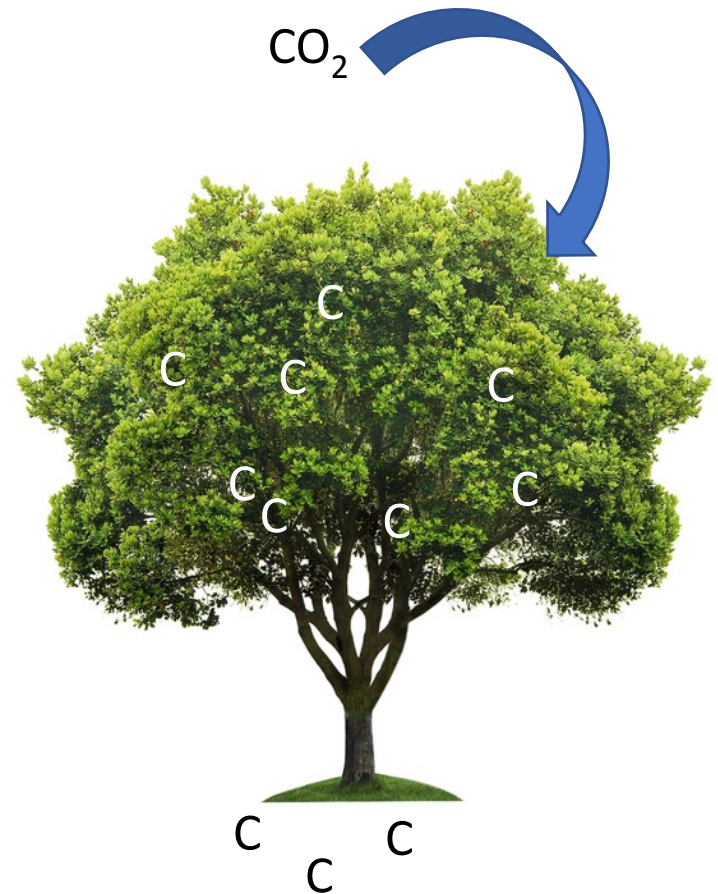


Miguel A. Garcia, PhD  
Napa County Resource Conservation District

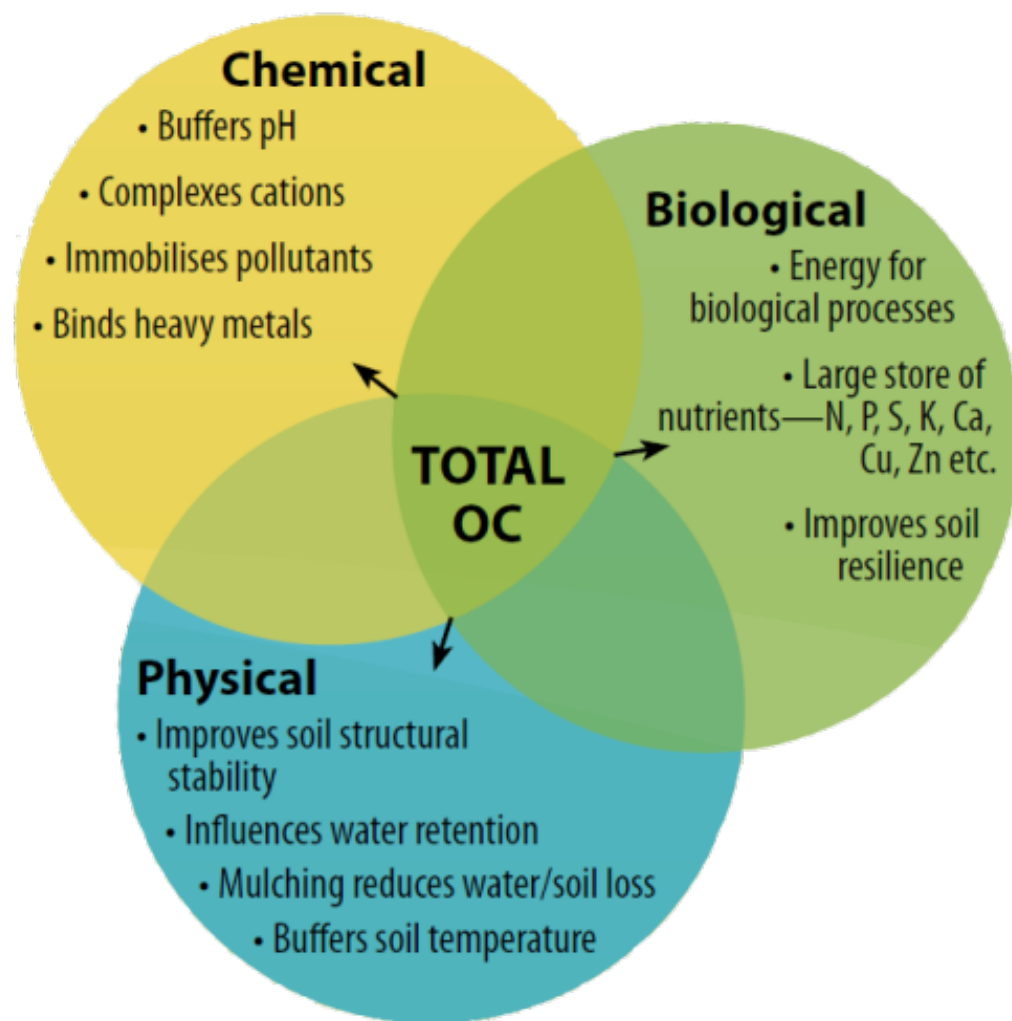


# What is Carbon Farming?

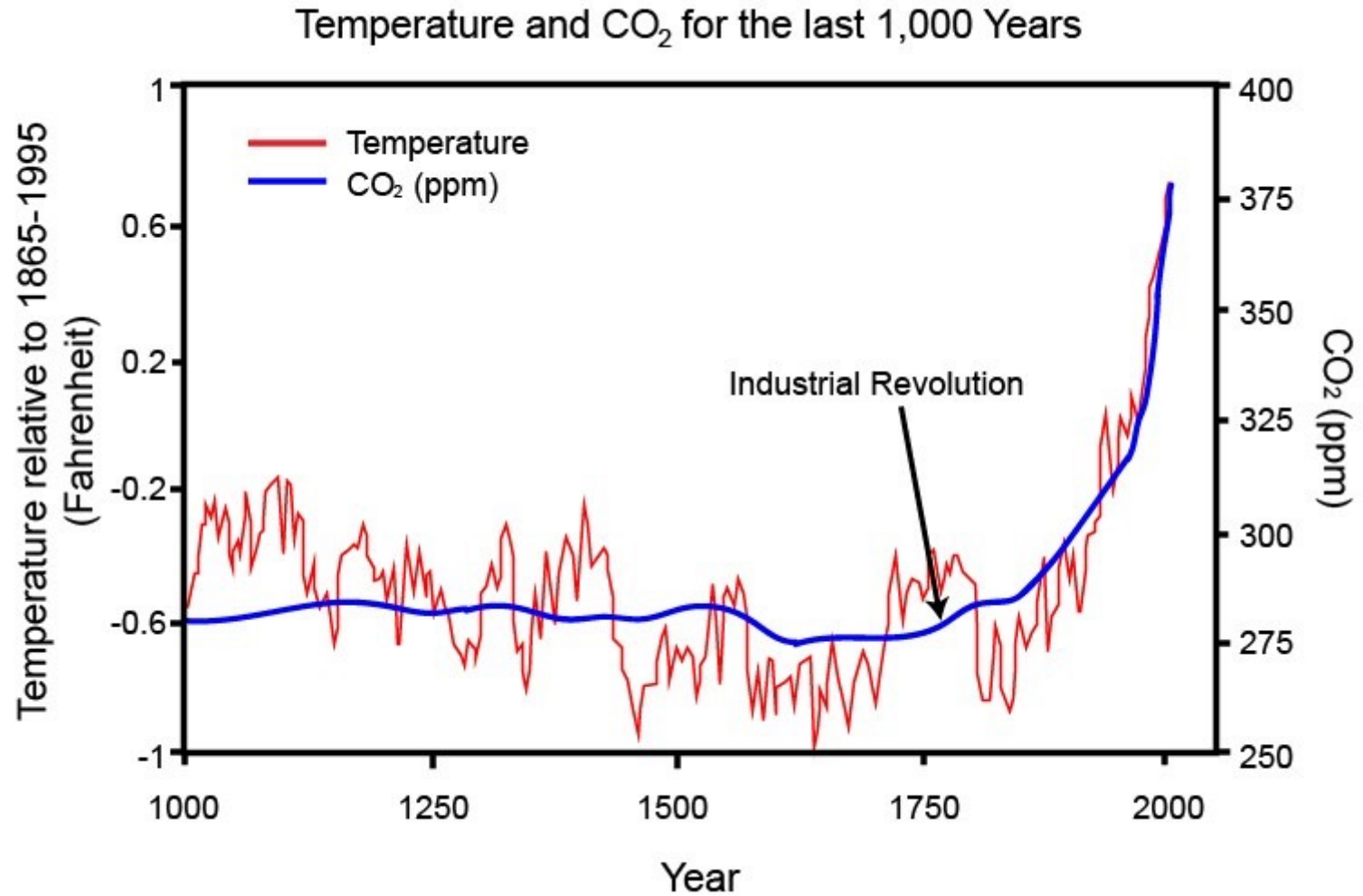
**Carbon farming involves implementing agricultural practices to improve the rate at which  $\text{CO}_2$  is removed from the atmosphere and converted to plant material and soil organic matter.**



# Why Focus on Carbon?



# Why Focus on Carbon?





# Why Focus on Carbon?



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## California's Latest Weapon Against Climate Change Is Low-Tech Farm Soil

May 2, 2019 · 5:00 AM ET

LAUREN SOMMER

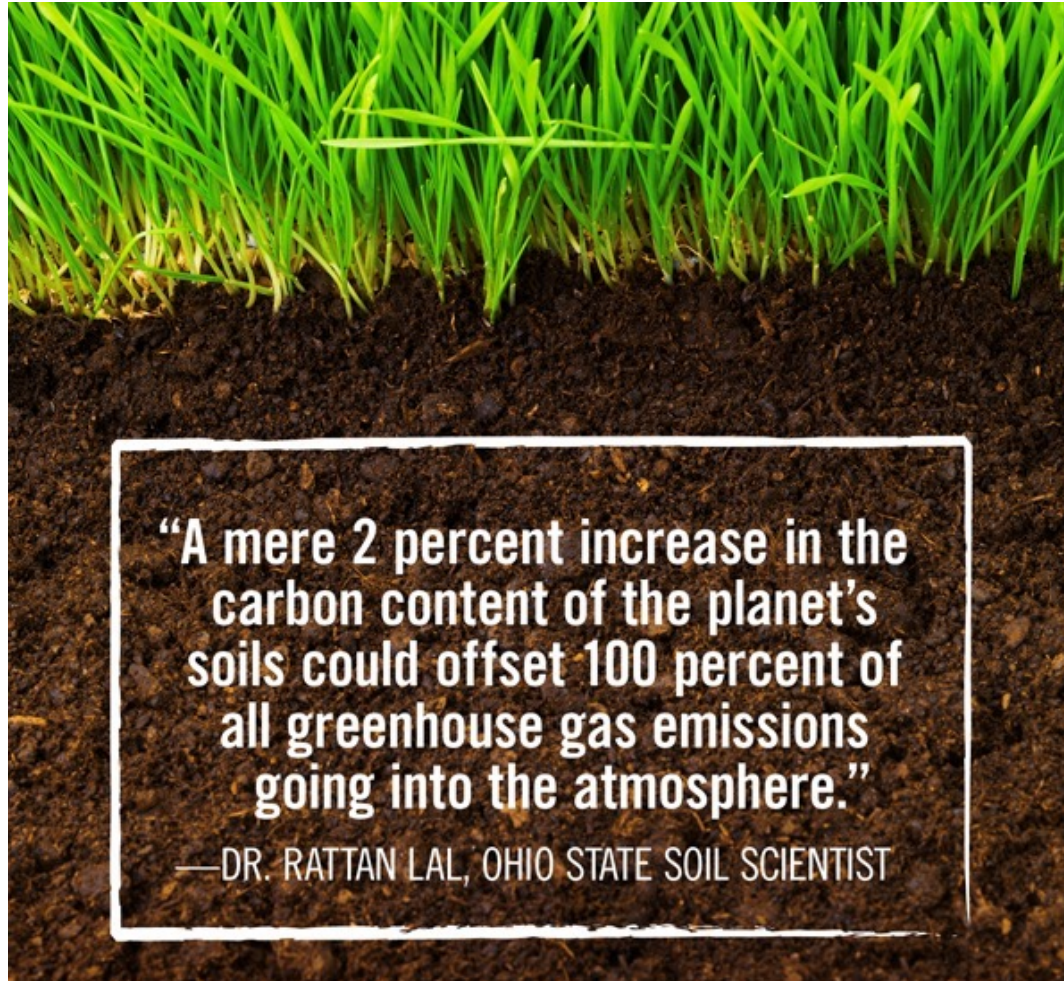
FROM KQED



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# Why Focus on Carbon?

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# How do farming practices affect soils



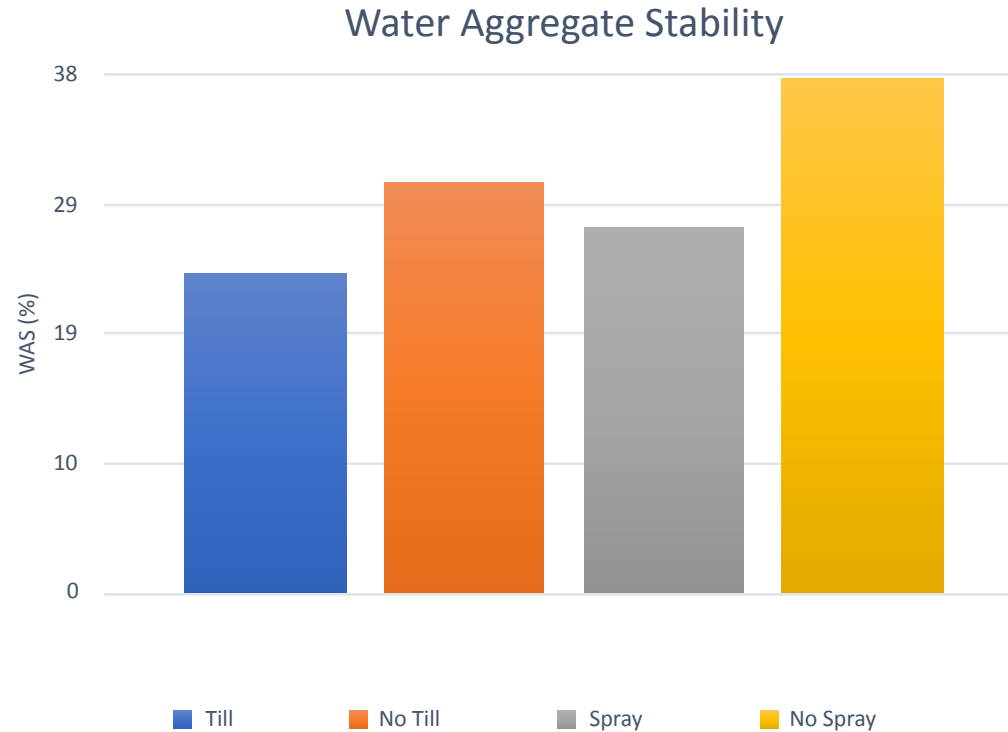


# How do farming practices affect soils

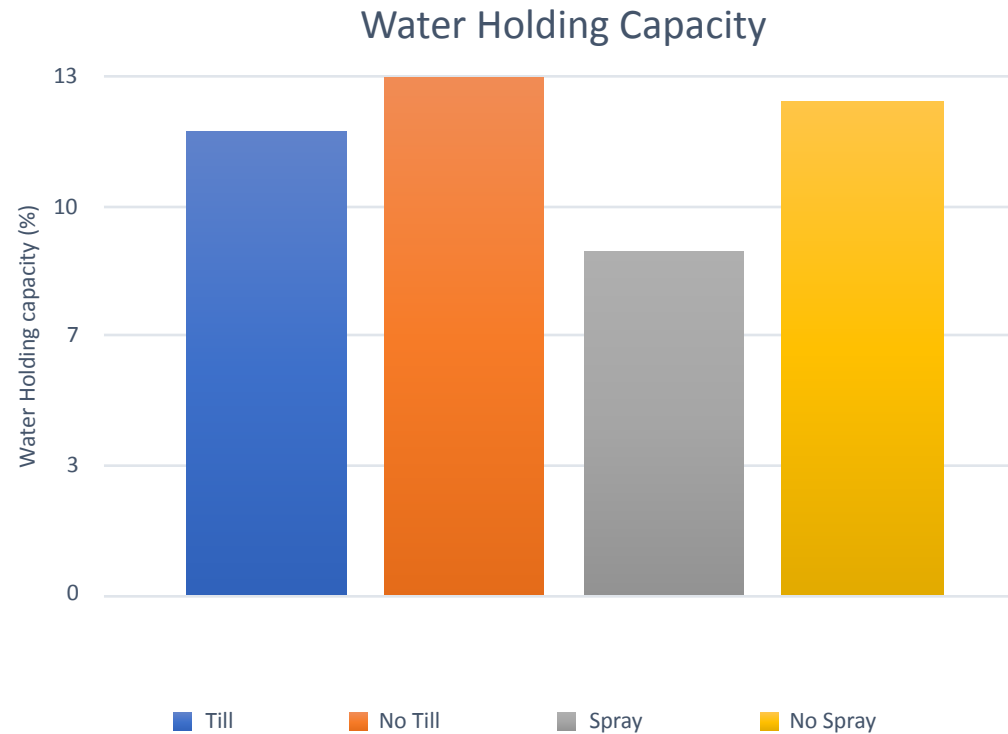




# How do farming practices affect soils

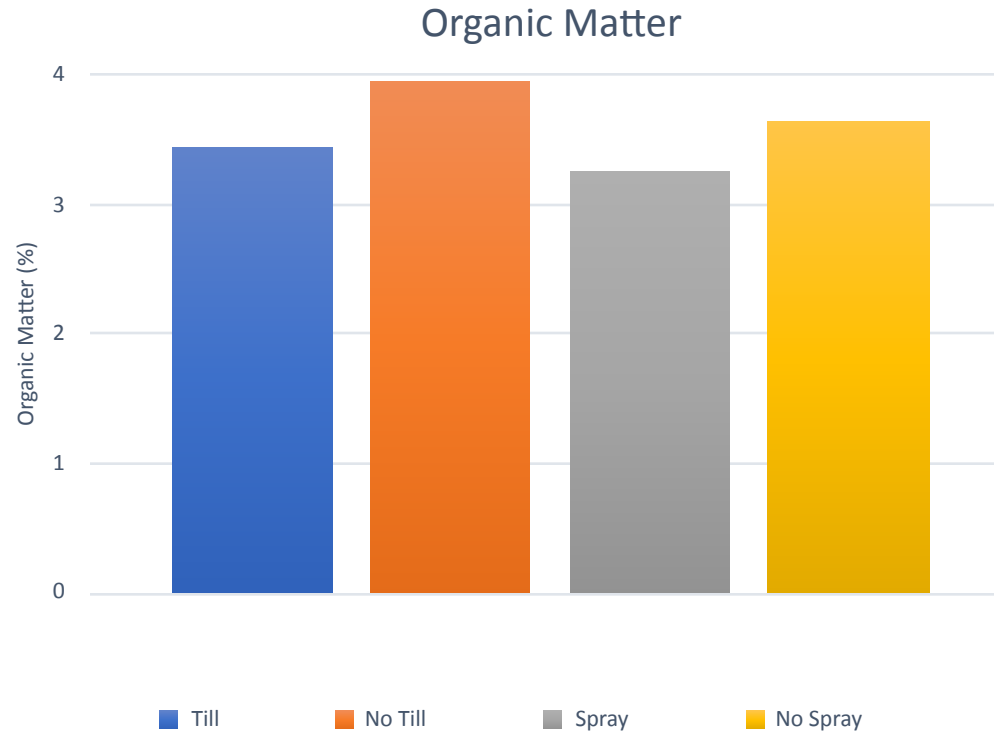


# How do farming practices affect soils

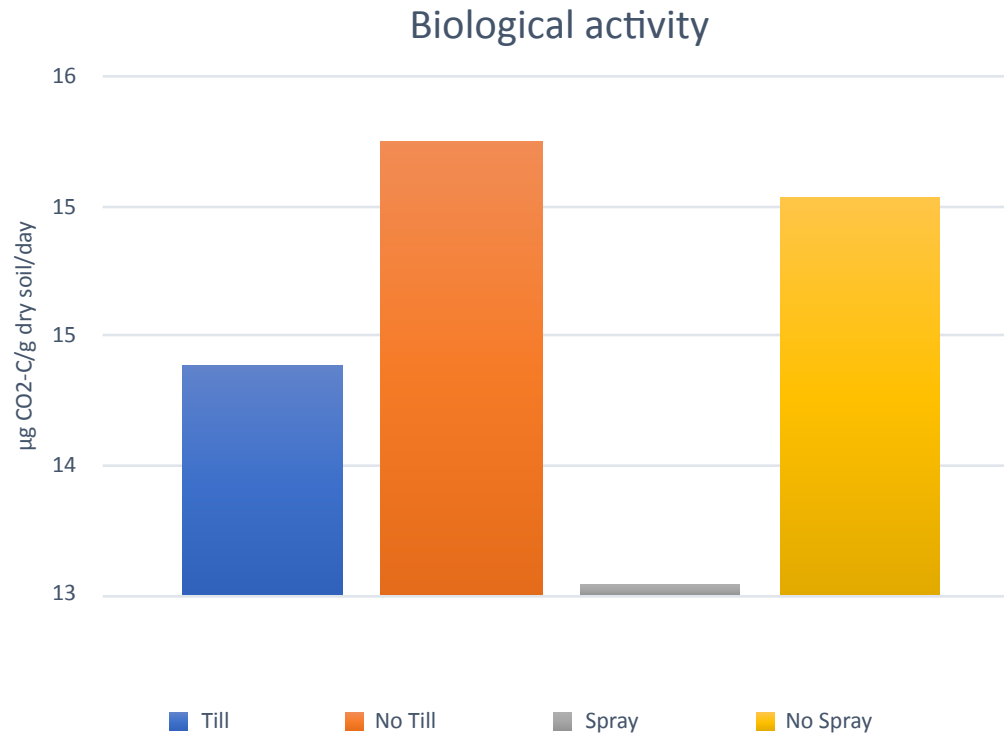




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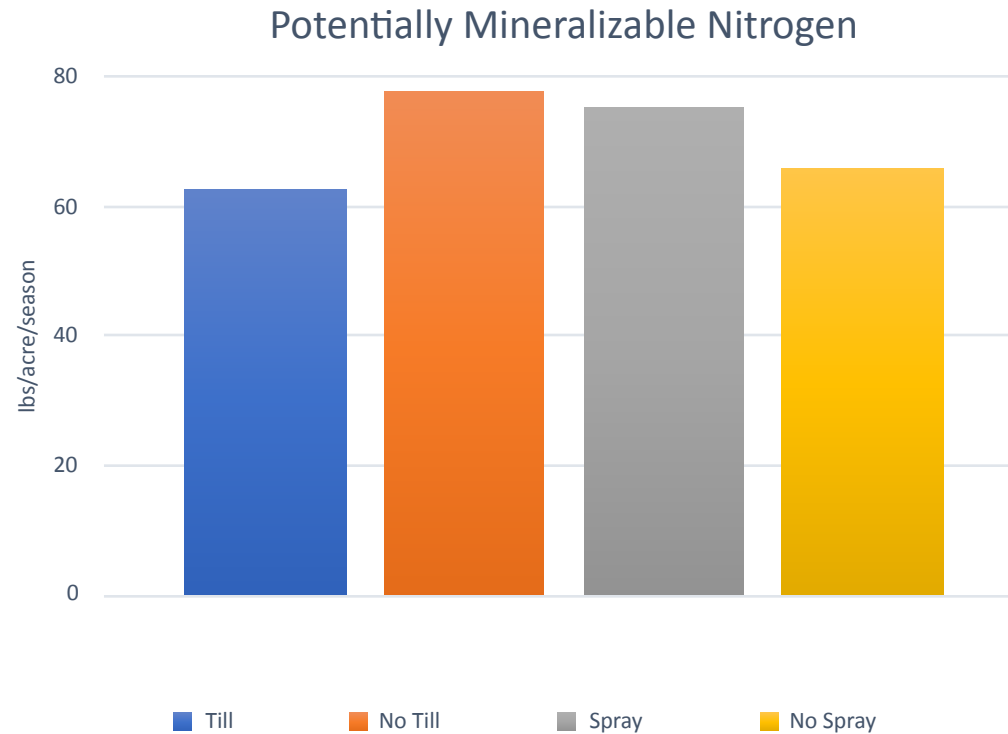


# How do farming practices affect soils





# How do farming practices affect soils



# Carbon Farm Planning



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# Carbon Farm Planning

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- Mulching/compost application
- Residue and Tillage Management, No Till/  
Strip Till/Direct Seed
- Multi-Story Cropping
- Windbreak/Shelterbelt Establishment
- Forage and Biomass Planting
- Nutrient Management
- Tree/Shrub Establishment
- Forest Stand Improvement
- Riparian Restoration
- Riparian Forest Buffer
- Vegetative Barrier
- Windbreak/Shelterbelt Renovation
- Herbaceous Wind Barriers
- Critical Area Planting
- Residue and Tillage Management
- Grassed Waterway
- Hedgerow Planting
- Cross Wind Trap Strips Conservation  
Cover
- Wetland Restoration





# Carbon Farm Planning

**COMET**  
Planner



United States Department of Agriculture  
Natural Resources Conservation Service



Carbon and greenhouse gas evaluation  
for NRCS conservation practice planning

**Recommended use of COMET-Planner:** This evaluation tool is designed to provide generalized estimates of the greenhouse gas impacts of conservation practices and is intended for initial planning purposes. Site-specific conditions (not evaluated in this tool) are required for more detailed assessments of greenhouse gas dynamics on your farm. Please visit COMET-Farm if you would like to conduct a more detailed analysis.

[Home](#) [Help](#) [Legacy Tool](#) [California Healthy Soils Tool](#)

EVALUATE POTENTIAL CARBON SEQUESTRATION AND  
GREENHOUSE GAS REDUCTIONS FROM ADOPTING NRCS  
CONSERVATION PRACTICES



CLICK TO VIEW  
INTRODUCTION VIDEO

NRCS Conservation Practices included in COMET-Planner are only those that have been identified as having greenhouse gas mitigation and/or carbon sequestration benefits on farms and ranches. This list of conservation practices is based on the qualitative greenhouse benefits ranking of practices prepared by NRCS.

## Step 1

Begin by naming your project and selecting your state and county

Project Name:

State:

County:

## Step 2

Select the class of conservation practices that best describes the practice you would like to evaluate



Grazing Lands



Woody Plantings



Cropland To  
Herbaceous Cover



Restoration Of  
Disturbed Lands

## Step 3

Select a NRCS Conservation Practice Standard and a Practice Implementation that best describes your system. You may add multiple practices. If you would like to add a practice under a different class of practices, return to Step 2.



# Carbon Farm Planning

## COMET-Planner Carbon Sequestration and Greenhouse Gas Estimation Report

Project Name:

State: CA

County: Napa

Date Created: 5/2/2019 4:11:22 PM

	Enter Acreage	Carbon Dioxide	Nitrous Oxide	Methane	Total CO <sub>2</sub> -Equivalent
NRCS Conservation Practices					
Residue and Tillage Management - No-Till (CPS 329) - Intensive Till to No Till or Strip Till on Irrigated Cropland	10	2	0	0	2
Residue and Tillage Management - No-Till (CPS 329) - Reduced Till to No Till or Strip Till on Irrigated Cropland	10	2	0	0	2
Nutrient Management (CPS 590) - Replace Synthetic N Fertilizer with Compost (CN ratio 10) on Irrigated Croplands	10	3	0	0	3
Cover Crop (CPS 340) - Add Legume Seasonal Cover Crop to Irrigated Cropland	10	9	-4	0	5
Tree/Shrub Establishment (CPS 612) - Conversion of Annual Cropland to a Farm Woodlot	10	188	0	N.E.2	188
Hedgerow Planting (CPS 422) - Replace a Strip of Cropland with 1 Row of Woody Plants	10	81	0	N.E.2	81
Total		285.00	-4.00	0.00	281.00

1Negative values indicate a loss of carbon or increased emissions of greenhouse gases

2Values were not estimated due to limited data on reductions of greenhouse gas emissions from this practice

For more information on how these estimates were generated, please visit [www.comet-planner.com](http://www.comet-planner.com).



# Carbon Farm Planning

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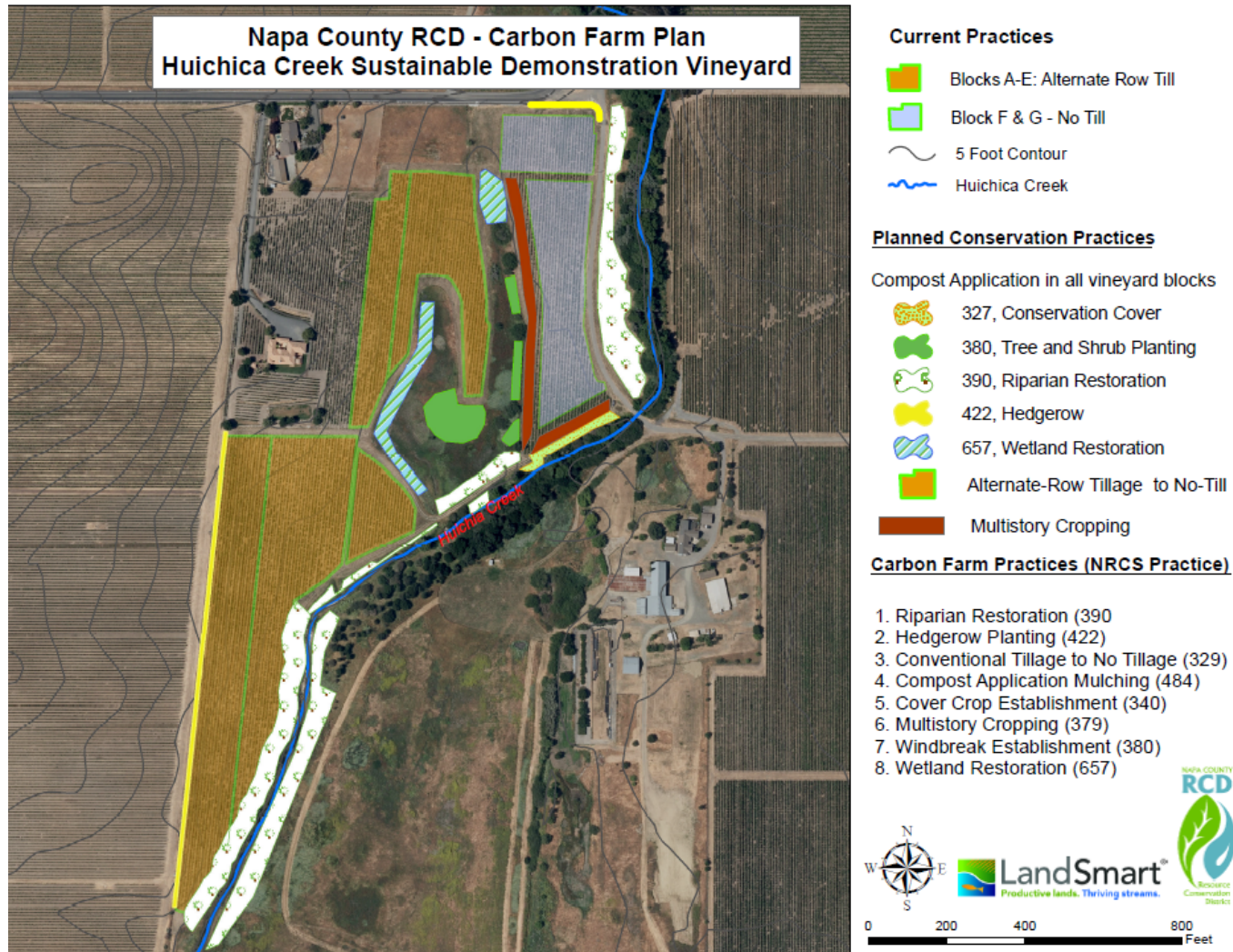
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Equivalent to  
about 60 typical  
passenger cars





# Carbon Farm Planning



# THANK YOU!



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707-690-3122

