

San Diego Agricultural Planning Program Producer Needs Assessment Results

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Resource Conservation District
of Greater San Diego County



**RESOURCE
CONSERVATION
DISTRICT**
Greater San Diego County



Resource Conservation District Carbon Farming Program



PLANNING



TECHNICAL
ASSISTANCE



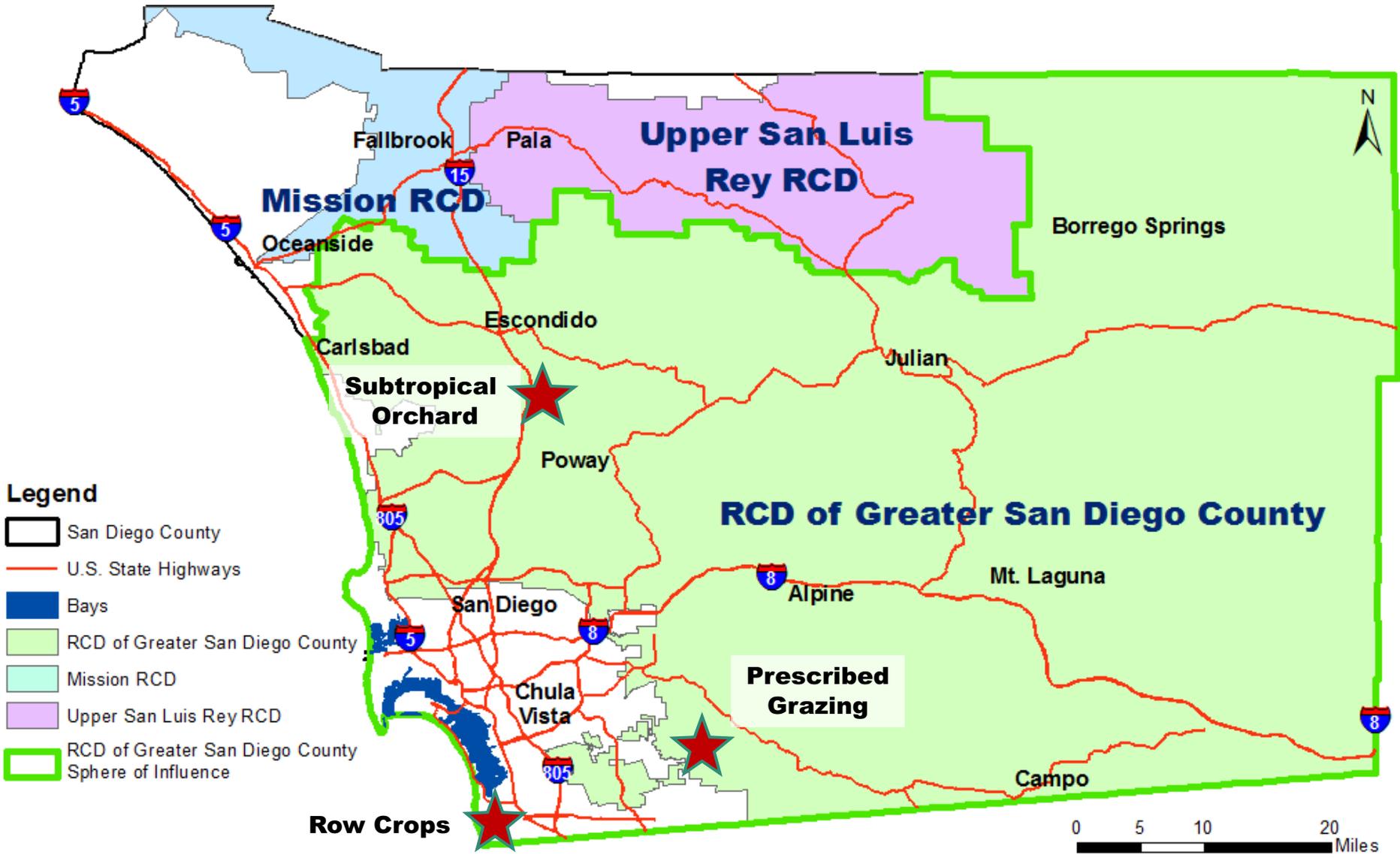
IMPLEMENTATION



MONITORING &
ANALYSES



RCD Demonstration Sites



Demonstration Site History

- 30 acres of avocados originally planted in 1960's, grew to 70' height
- Mature canopy struck by drought, heat waves, wildfire
- New owner transitioned to organic and water conserving practices



Orchard in Transition

- CA Dept of Food and Ag
- Sep 2020 – March 2023
- \$100,000
 - Seed and Compost Inputs
 - Sampling
 - Labor for Implementation
 - Outreach Events
- Target Concerns:
 - Water holding capacity
 - Weed management
 - Nitrogen fixation
 - Pollination
 - Erosion control



Study Design

➤ Three Trial Plots

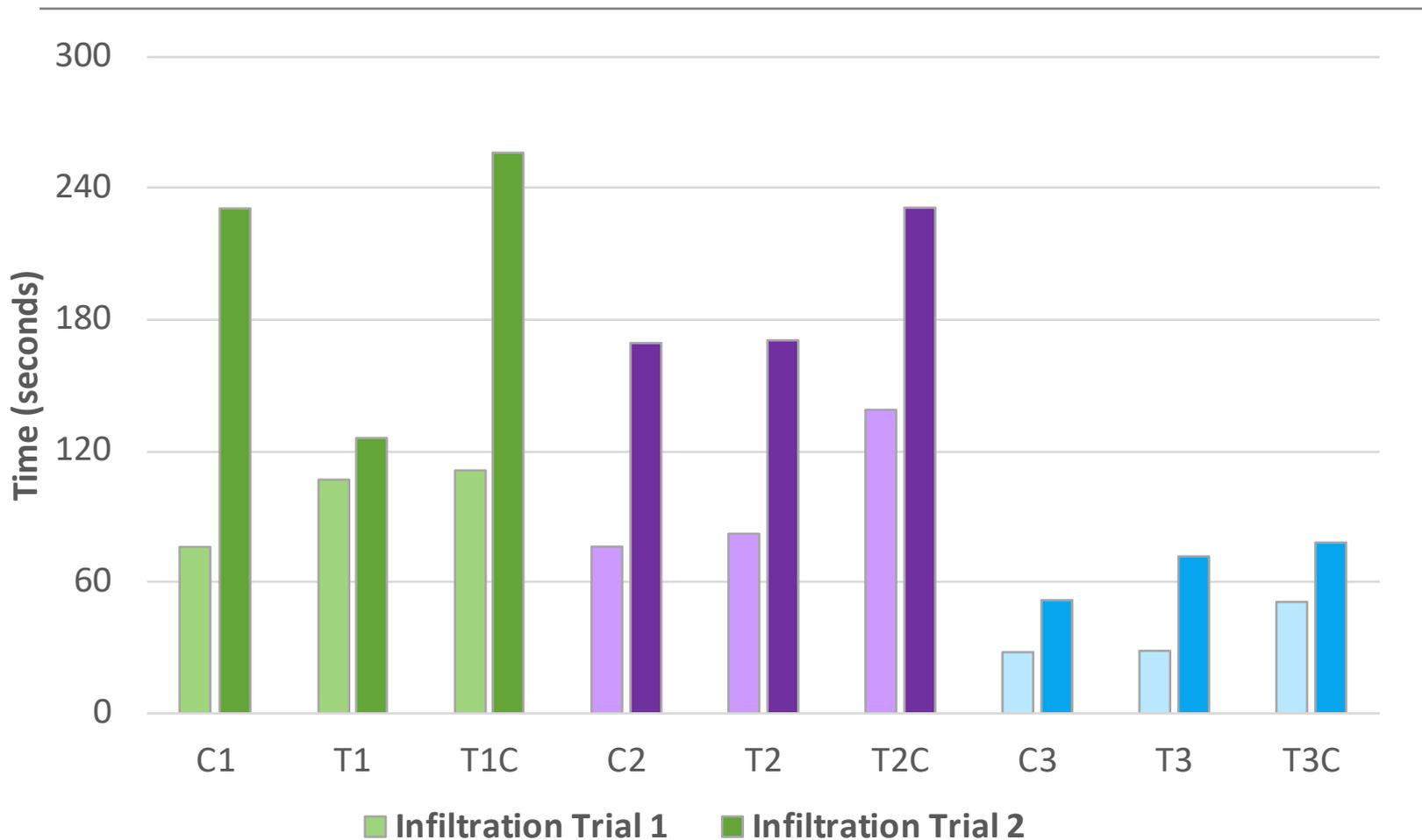
- One Acre Each
- Control
- Cover Crops Only
- Cover Crops + Compost

➤ Monitoring

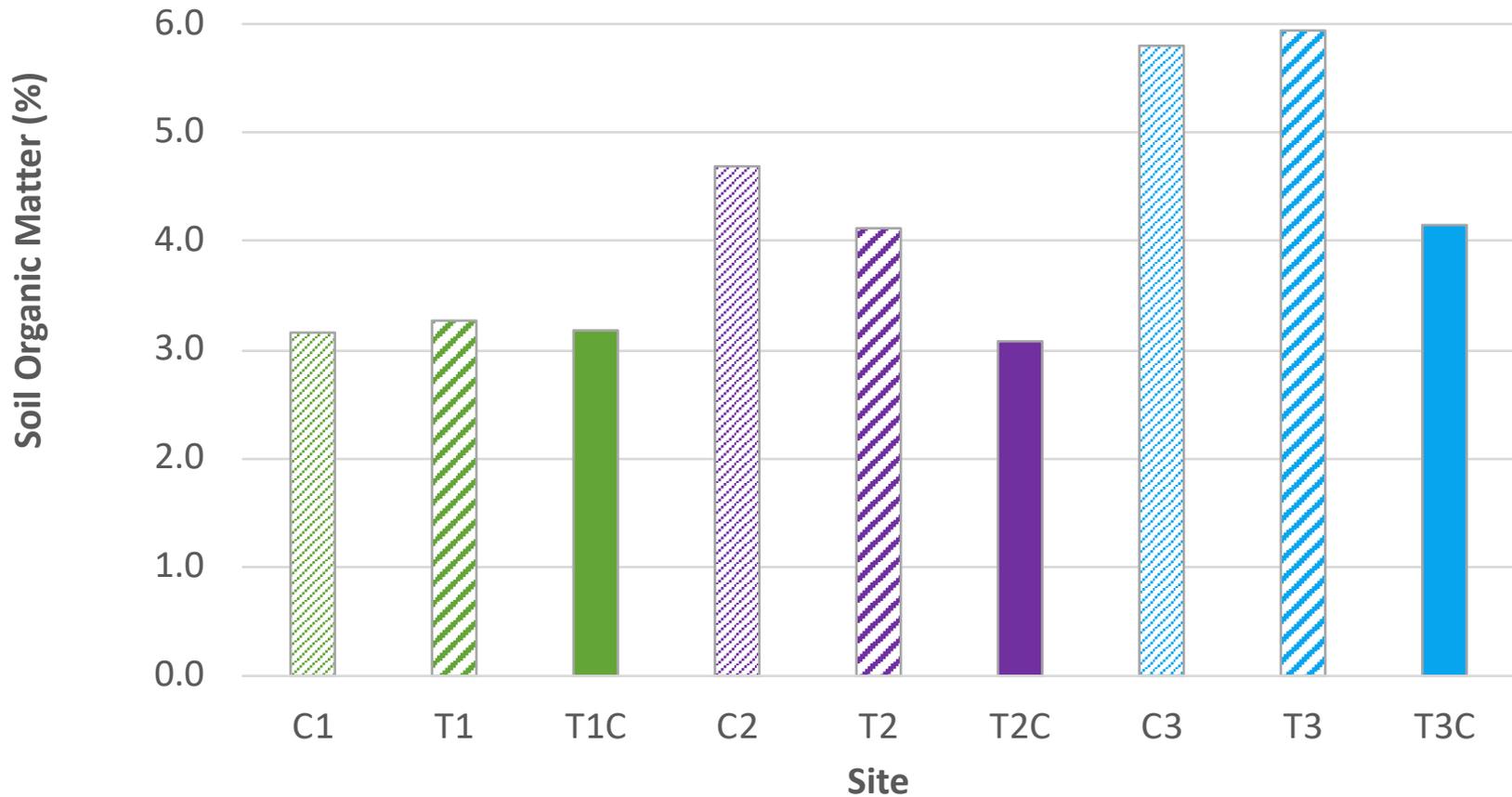
- Soil organic carbon
- C:N ratio
- Soil moisture
- Crop biomass
- Input costs

Soil Type	Acres	% Area
Cieneba very rocky coarse sandy loam, 30 - 75% slopes	2.3	50.7
Vista coarse sandy loam, 9 - 15 % slopes	0.1	2.6
Vista coarse sandy loam, 15 - 30 % slopes	2.1	46.7

Baseline Monitoring: Infiltration



Baseline Monitoring: Organic Matter



Implementation

- Warm Season Seed
 - Japanese buckwheat
 - Red cowpeas
 - Coated teff
- Cool Season Seed
 - Bell beans
- Methods
 - Topdress with Compost
 - Broadcast or Manual Seeder
 - Expanded Irrigation System



Challenges

- Mechanization on Steep Slopes and Narrow Alleys
- Availability of Labor and Equipment
- Irrigation Uniformity
- Predation



Outreach and Education

- Webinars
 - Managing Orchard Temperature Extremes, UCANR
 - Warm Season Cover Crops in CA, NRCS
 - Orchard Cover Crops Considerations, NCAT
- Field Days
 - Orchard Compost Application - San Pasqual Valley Soils

Free Virtual Panel Discussion
Protecting Orchards with Cover Crops
Wednesday, July 21, 2021
2:30 pm to 4:00 pm

The Resource Conservation District of Greater San Diego County and UC Cooperative Extension invite you to a virtual panel discussion on cover crops in perennial systems.

From pollination to erosion control and nitrogen fixation, cover crops can boost orchard productivity. Agricultural advisors will share research on how cover crops adapt orchards to climatic conditions like heat waves and drought.

Join us for updates about our demonstration site at an organic avocado orchard in Escondido and funding opportunities for conservation practices.

Register at ResourceConservationDistrict.formstack.com/forms/orchard_panel_spring21
Or contact Joel Kramer: ag@rcdsandiego.org | 619.562.0096 x103

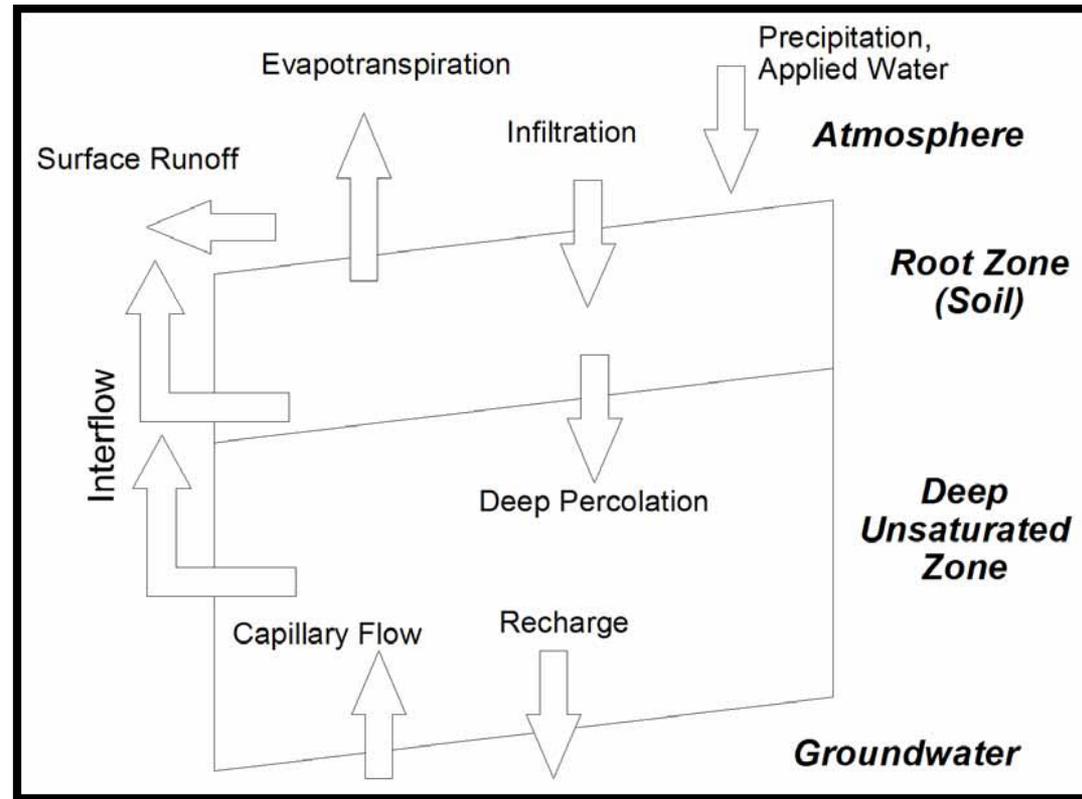
Presenters

Dr. Ben Faber Subtropical Crop Advisor UC Cooperative Extension	Dr. Margaret Smither-Kopperl Plant Materials Center Manager Natural Resources Conservation Service
Rex Dufour Western Regional Director National Center for Appropriate Technology	Dr. Esther Mosase Community Education Specialist UC Cooperative Extension
Joel Kramer Regional Agricultural Specialist at RCD of Greater San Diego County	

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Water Balance

- 1% in organic matter = 1 acre-inch capacity (Kansas State Ext 2012)
 - + Evapotranspiration
 - + Infiltration
 - + Water holding capacity
 - Surface Runoff
- Limitations
 - Cool season preferred
 - Additional irrigation system necessary



Credit: Harter and Hopmans 2005

Regional Examples

- KD Farms,
San Pasqual Valley
- RCD Demo Plot,
Tijuana River Valley
- Solidarity Farms,
Pauma Valley
- Few examples from
hilly orchards



Funding Opportunities

- ▶ **California Department of Food and Agriculture**
 - ▶ Healthy Soils Program (HSP)
- ▶ **Natural Resource Conservation Service**
 - ▶ Environmental Quality Incentives Program (EQIP)
- ▶ **Zero Foodprint**
 - ▶ Restore California
- ▶ **Project Apism**
 - ▶ Seeds for Bees



We Are Here to Help

- Soil Sampling
- Irrigation Evaluation
- Grant Application Support
- Implementation Guidance on Conservation Practices
- Pollinator Habitat Plant Selection
- Chipping for Fire Prevention



Thank You!

Questions?
ag@rcdsandiego.org



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