Regenerative Almond Study

Ecdysis Foundation
www.ecdysis.bio

What do we need? We are looking for regenerative almond producers to take part in a comprehensive study of their orchard ecosystems.

The issue. Producers are trying to improve their soil health, reduce their carbon imprint, and reduce the costs associated with water and other inputs, amidst increasingly unpredictable growing conditions.

The solution. Regenerative agriculture improves soil health and increases biodiversity while growing nutritious food profitably…

What can you do to stay ahead with regenerative agriculture? We are recruiting producers for an ambitious study of almond production in California. Our goal is to answer two questions:

- ***What are the soil health, biodiversity, yields, and profits on regenerative and conventional orchards?***
- ***What is the best way to transition to a regenerative operation?***

If you are a regenerative producer or are considering a transition to regenerative production.

We have funding for a limited number of producers, if we exceed this number, we may require a participation fee.

To participate, please contact:
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Director
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In 2018-2020, we compared regenerative almond systems with conventional best practices across California's northern almond range.

Regenerative orchards had 30% higher soil organic matter, greater carbon sequestration, 6 times higher water infiltration rates, 6 times higher insect biomass, greater soil microbial activity, similar yields, and twice the profits.

…Regenerative almond producers are adopting a fully integrated system that harnesses the power of a highly functional ecosystem. Producers reduce synthetic agrichemicals, plant living covers, hedgerows, and pollinator strips, incorporate composts, compost teas, and integrate livestock when possible in the spring 120 days before harvest.

How to participate?

1. **Contact us ASAP (phone or email).**
2. **Answer a short, 10 question pre-survey.**
3. **Provide us with directions to your orchard.**
4. **Allow us access to your orchard 3 times per year for 3 years. We will provide you with notice prior to any visits.**
5. **Answer a post-harvest survey on management and economics.**


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What we will measure from your orchards and share with you

Soils*

*down to 15 cm, unless otherwise noted

- Soil organic matter (SOM)
- Total Soil Carbon (TSC) (down to 60 cm)
- Total Soil Nitrogen (TSN) (down to 60 cm)
- Soluble salts
- Nitrate-Nitrogen
- Phosphorus
- Potassium
- Calcium
- Magnesium
- Sodium
- Sulfur
- Zinc
- Iron
- Manganese
- Copper
- Bulk density
- pH

Soil water

- Water infiltration rates
- Water holding capacity
- Wet aggregate stability

Soil microbial communities/Soil health

- PLFA
- Respiration
- Haney Soil Health test

Orchard Floor Plant Community

- % ground cover
- Understory biomass
- Species diversity
- Species richness
- Abundance
- Functional groups

Trees

- Leaf analysis
- Almond nutrient density/diversity
- Fungal diseases
- Yield

Invertebrates*

*Communities will be characterized from the soil column, soil surface, foliage, and within the almond canopy.

- Biomass
- Abundance
- Species richness
- Species diversity
- Functional groups (e.g., pollinators, predators, granivores, etc.)
- Pest numbers

Economics

- Gross and net profit