

# Arizona Pistachio Orchard Protocol

Regenerative soil health for established pistachio orchards. Improve water efficiency and nutrient use while building long-term soil function for generational orchards.

# The Pistachio Opportunity

Pistachios are built for arid environments, but orchard performance still depends on infiltration, salt management, and a strong fungal network in the root zone. When soil structure breaks down, you pay with water, stress, and uneven production.

**18–25%**

WATER REDUCTION\*

**75+**

YEAR ORCHARD  
POTENTIAL

**+40%**

INFILTRATION

**Stability**

YIELD CONSISTENCY

\*Targets depend on soil texture, irrigation system, and management. Results vary by site.

## Program Objectives



### Water Efficiency

Increase infiltration and reduce evaporation losses



### Soil Structure

Reduce crusting/compaction and rebuild aggregates



### Nutrient Efficiency

Better uptake with less salt load and waste



### Salt Resilience

Support biology that buffers stress and improves function

## Expected Performance Improvements

Infiltration

+30–45%

Water Efficiency

18–25%

Soil Organic Matter

+1–2 pts

Stress Reduction

Higher stability

**Plain-English Summary:** We build soil structure and biology so the orchard runs smoother: better infiltration, less stress, and more consistent production over time.

# The Biology Protocol

Pistachio orchards respond well to a strong fungal network. The goal is resilience and efficiency — not a vegetative push.

**~1.8:1**

FUNGAL : BACTERIAL

**AMF**

MYCORRHIZAE TYPE

**Efficiency**

NOT FORCE

## Year 1: Three-Step Foundation

1

### Compost Band (Wet Zone)

Stabilized compost to build aggregates and habitat for fungi.

2

### Gypsum (If Soil Test Indicates)

Supports aggregation and helps manage sodium issues. Enabler, not fertilizer.

3

### Extract Program (2-3x / Year)

Fungal-leaning compost extract through drip/micro at key timing.

What This Avoids: Excess nitrogen stimulation, bacterial-heavy teas, and unnecessary tillage/disturbance.

## Expected Outcomes

Reduced Salt Stress

More resilient

Water-Use Efficiency

18–25%

# Program Components



## Implementation Timeline



## Application Rates & Methods

COMPONENT	YEAR 1	MAINTENANCE	APPLICATION METHOD
Compost Blend	½–1"	Top-up	Banded in wet zone under canopy
Woody Carbon	2–4"	Top-up	Mulch for moisture + biology protection
Gypsum	As test	As needed	Applied per soil analysis for Ca:Na balance
Extract Drench	3x	2–3x	Drip/micro: key root timing
Pomona Blend	Targeted	Targeted	Micronutrient support based on tissue/soil tests

**Simple rule:** Pistachios win long-term. This program is designed to build durable soil function that supports consistent production and resilience.

*Rates customized by soil test, irrigation water quality, and orchard conditions.*

# Capital Investment

This is an investment in long-term orchard function: better infiltration, more consistent performance, and reduced stress costs.

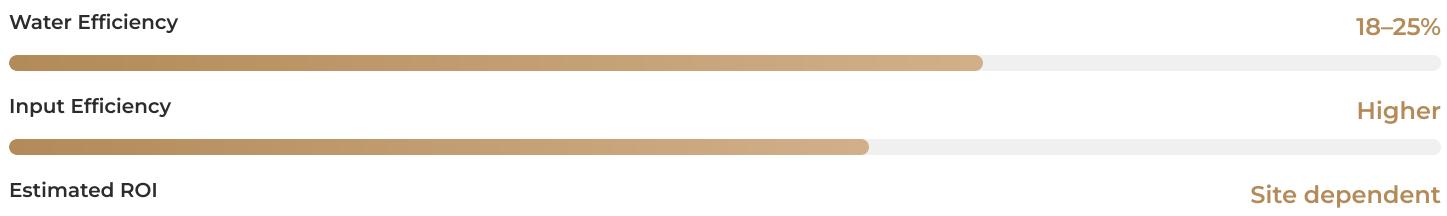
 <b>Soil Asset Value</b> Build fertility that increases land value and productivity.	 <b>Production Capacity</b> Support consistent yield and quality in tough years.
 <b>Water Security</b> Improve infiltration and water-use efficiency over time.	 <b>Generational Orchard</b> Designed for durability and long-term stability.

## Projected 5-Year Snapshot

METRIC	BASELINE	YEAR 3	YEAR 5
Water Use (example)	100%	85–90%	75–82%
Infiltration	Limited	Improving	Higher
Salt Stress	Variable	Reduced	Lower
Yield Stability	Variable	Improving	More consistent

\*Illustrative snapshot. Actual results vary by site conditions, weather, and management.

## Key Performance Indicators



**Management Philosophy:** Pistachios don't want force — they want steady function. This program builds the soil system that supports efficiency and resilience.

## CONTACT

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