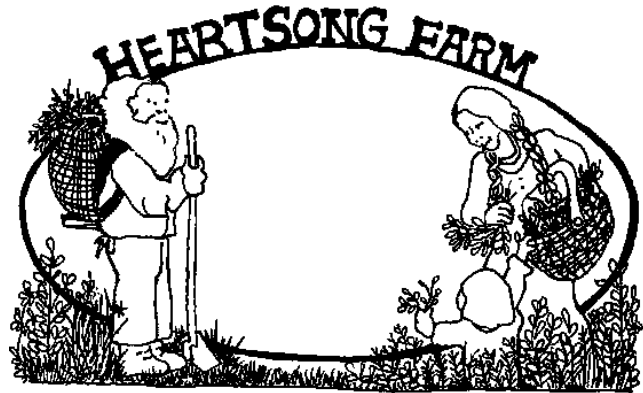


Fungal Consciousness

Soil Life Connections for Healthy Plants

with
Michael Phillips
author of *The Holistic Orchard*
and
Mycorrhizal Planet



This hands-on exploration of soil biology and healthy plant metabolism will rock you. How these mycorrhizal fungi enhance plant health is absolutely stunning. Nutrients are delivered by means of fungus-root+synergy. A boost to green immune function helps keep disease at bay. Expansive fungal networks bring resiliency to ecosystems. Soil aggregate formation addresses carbon flow. Yet for the longest time, we have ignored basic soil biology and instead disturbed ecosystems at our own peril. Time to change all that, and fast!

Mycorrhizal Advantage

- Rumen of the soil
- Biologically-induced immunity
- Networking intelligence
- Moisture for every plant
- Carbon sequestration

Mycorrhizal Types

95% of plants have this fungal affiliation!

Propagule Nuance

- Mycelium outreach
- Root fragments
- Spores and more spores

Nutrient Exchange

- Arbuscules
- Hartig net
- Hyphal lysis
- Bacterial bore

Healthy Plant Metabolism

- Photosynthesis efficiency
- Protein synthesis
- Lipid reserves
- Resistance metabolites

Response to Disease

- Pathogen strategies
- Green immune function
- Beefing up the cuticle

Inducing Systemic Resistance

- Enzyme cofactors
- Holistic elicitors
- Arboreal Food Web
- Fatty acid nutrition

Nondisturbance Techniques

- Applying fungal nuance

Human Health Ramifications

Mycorrhizal Symbiosis Benefits to Plants

NUTRITION

- É Increases surface area of nutrient uptake
- É Unlocks phosphorus for plants
- É Acquires nitrogen from organic matter
- É Improves uptake of trace minerals
- É Enhances nutrient density of crops

SEEDLINGS

- É Prevents damping off disease
- É Reduces transplant shock
- É Supports root initiation on cuttings

FIELD AND FOREST

- É Stabilizes soil aggregates
- É Sequesters carbon
- É Improves plant growth and yield
- É Delivers moisture as needed
- É Augments deeper root penetration
- É Suppresses root pathogens

PRACTICAL ADVANTAGES

- É Mediates heavy metal toxicity
- É Helps plants cope with soil salinity
- É Breaks up subsoil compaction layer
- É Suppresses nonmycorrhizal weeds
- É Cuts fertilizer requirements
- É Improves tolerance of higher soil temperatures

HEALTHY PLANT METABOLISM

- É Improves rate of photosynthesis
- É Provides cofactor role in protein synthesis
- É Provides reserve energy in lipid form
- É Stimulates induced systemic resistance

MYCORRHIZAL NETWORKING

- É Ensures balanced nutrient uptake
- É Ensures healthy forest succession
- É Facilitates plant-to-plant communication
- É Provides the foundation for ecosystem resiliency

Excerpt from *Mycorrhizal Planet: How Fungi and Plants Work Together to Create Dynamic Soils*