

Formulating: CGNF-H Natural Farming Solutions

2015 Natural Farming Symposium in Hilo

Eric Weinert
drakew@gmail.com
www.cgnf-hawaii.org



CGNF-H Natural Farmer Mindset & Methodology

- Observe Nature. Based on pig farm.
- Think “I farm microbes, microbes farm my crop, let me help them do their job”
- Field is always fed to ensure adequate fungal foods to maintain a beneficial microbial environment.
- To envision: think of low heat fire and the plants flick up like flames, which must be fed properly, too much food smothers, not enough food and the fire will not burn properly, a farmer must feed the field just right.
- Warning: Always a cheaper version. CGNF-H = highest quality solutions



Where Can We Use CGNF-H Solutions?

- Family gardens
- Commercial Operations
 - Vegetable ~ \$175/acre/year
 - Orchard ~ \$100/acre/year
- Remediation of damaged land
- Hydroponic/Aqua Systems
- growing in pots
- show balance sheet. yearly production. how, what costs?



Natural Farming Formulated Solutions

- **Life Establishment Formulas**

- Liquid Green Manure
Microbial Foundation
- Indigenous Micro Organism
Field Treatment Solution

- **Plant Maintenance Solution**

- **Maintenance Enhancements**

- Leaf Solution
- Flower/Root Solution
- Fruit Solution



CGNFH

Natural Farming
SOLUTIONS

CGNFH

Natural Farming
SOLUTIONS



Something Everyone Can Afford: Seawater

- Concentrate 1:30 with fresh water. Has same salinity as blood & contains every element
- Saline microbes synergistically effect soil microbes to build soil structure. Two very distinct families multiplies diversity.
- Use 1:15 concentration 3 days before harvest to increase flavor from extra mineral content and induced stress
- Ferment for 24 hours with 1:500 FPJ to increase potency

Concentrated Seawater

Solution Ratio Per Gal			Reason
SEA	30	125mL	minerals
SEA	15	250mL	ripening



Fermented Seawater

Solution Ratio Per Gal			Reason
SEA	30	125mL	minerals
FPJ	500	8mL	food

Liquid Green Manure

Microbial Foundation

- Blended Grass and weeds
- Blended starch source like kalo
- Ferment 48hours
- Dilute 1:500 or 8mL per gallon
- Drench 100 gallons per acre



Liquid Green Manure

Solution Ratio Per Gal			Reason
IMO	1	4mL	microbes
OHN	1	4mL	medicine
FPJ	2	8mL	food
BRV	2	8mL	solvent
LAB	1	4mL	oxygenators
FAA	1	4mL	dna & fuel
Grass	2	8mL	chlorophyl
Starch	2	8mL	alcohol

Indigenous Microbial Field Treatment Solution

- IMO#4 1,200lb per acre ~ \$140
- Incorporate functionalized char 250lb per acre ~ \$125
- Mulch with wood chips adding fungal foods to change and sustain environment. ~ \$100
- Dilute ~ 164mL per gallon in water and drench 100 gallons per acre of Soil Treatment Solution ~ $\$30 \times 4 = \120
- **Total ~\$500 acre / application**

Field Treatment Solution

Solution	Ratio	Per Gal	Reason
OHN	1	4mL	medicine
FPJ	2	8mL	food
BRV	2	8mL	solvent
LAB	1	4mL	oxygenators
FAA	1	4mL	dna & fuel
WCP	1	4mL	structure
SEA	30	125mL	minerals



Plant Maintenance Solution Formula

Solution Ratio Per Gal			Reason
OHN	1	4mL	medicine
FPJ	2	8mL	food
BRV	2	8mL	solvent

- dilute ~ 20mL per gallon
- optimal to apply every 11 days
- spray 25 gallons per acre for \$4 in manufacture cost



CGNF-H Maintenance Formula Enhancements

- **USE:** Dilute ~ 24mL per gallon
- Enhancements are mutually exclusive. Alternate applications instead of combining formulas!

Leaf Enhancement

Solution Ratio Per Gal			Reason
OHN	1	4mL	medicine
FPJ	2	8mL	food
BRV	2	8mL	solvent
FAA	1	4mL	dna & fuel

Flower/Root Enhancement

Solution Ratio Per Gal			Reason
OHN	1	4mL	medicine
FPJ	2	8mL	food
BRV	2	8mL	solvent
WCP	1	4mL	structure

Fruit Enhancement

Solution Ratio Per Gal			Reason
OHN	1	4mL	medicine
FPJ	2	8mL	food
BRV	2	8mL	solvent
WCA	1	4mL	reproduction

CGNF-Hawai'i Label

- Advertise the highest quality
- Get listed on **cgnf-hawaii.org**
- Buy from verified sellers of solutions.
- inputs - smell, taste, trust.
- Warning: Always a cheaper version. CGNF-H = highest quality solutions



CGNFH
Natural Farming
SOLUTIONS

CGNFH
Natural Farming
SOLUTIONS



“microbes. being invisible in their nature, are destined to be forgotten again, as they were less than a decade ago, by the larger society, and when we remember, as we are doing today, the world will once again experience a golden age, in harmony with all levels, big and small, seen and unseen, and experience completely peaceful growth together.”

– Occulture Rex

IMO, LAB, Kombucha, Shwa-Saka-San, EM-1...

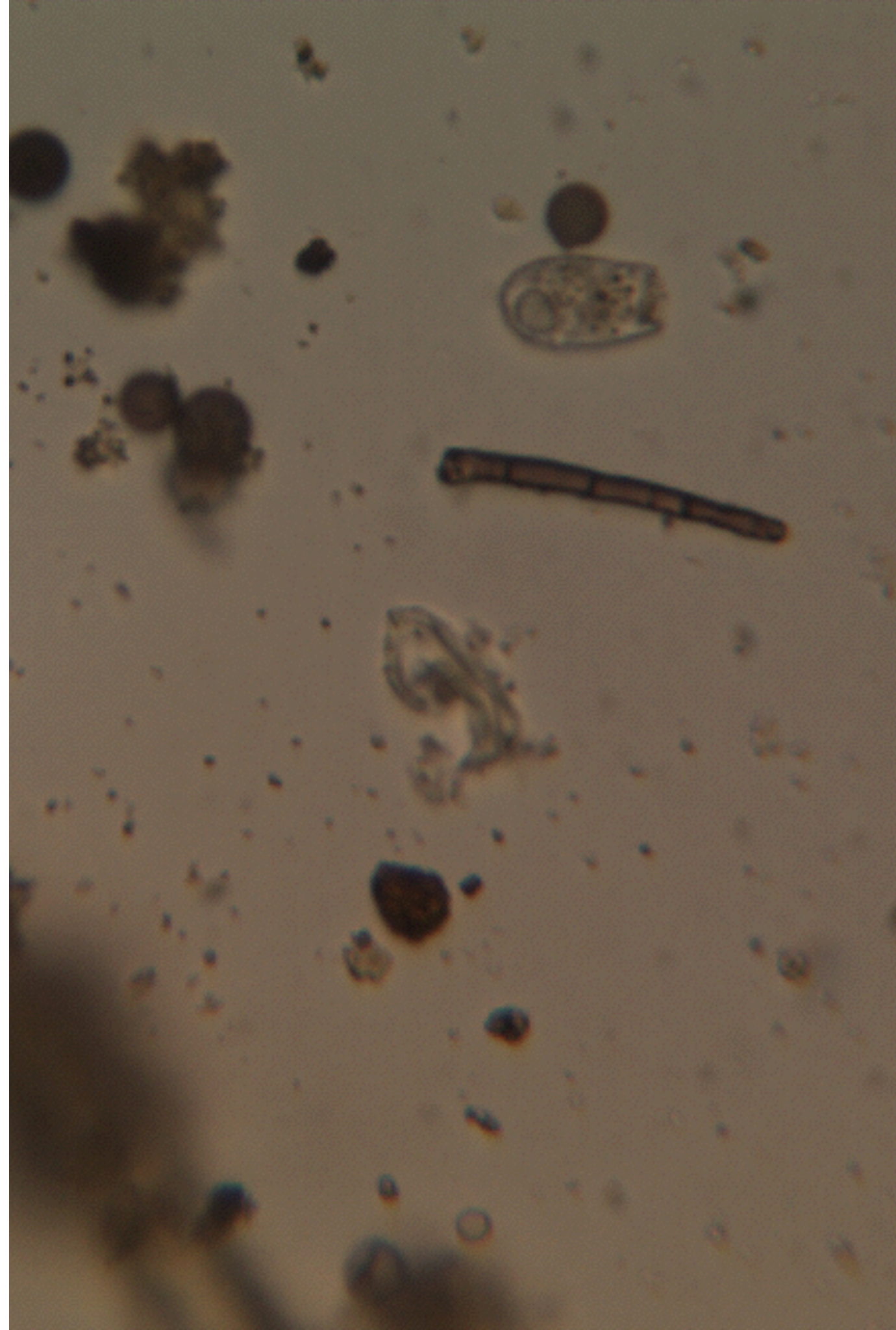
Microscope: See Natural Farming

- 400x is sufficient
- Cost about \$400 w/ camera
- Essential for experimentation
- Quickly and easily check and verify soil biology
- Without microscope, must rely on smell, taste, results.



Beneficial Fungus is Key to IMO System

- Fungus are most important group of microbes to natural farmer, and easy to ID with microscope
- Fungus create electric, water, air lines throughout the soil
- **Every plant** has beneficial fungus **within** the plant enabling soil fungus to join plant roots virtually extend millions of miles
- Fungus aggregate soil into clumps allowing for movement/management of larger beneficial soil life and richer soil structure

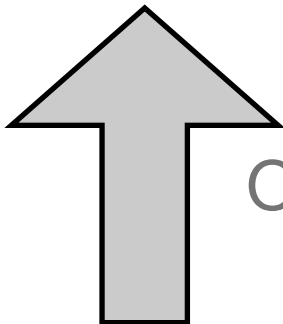
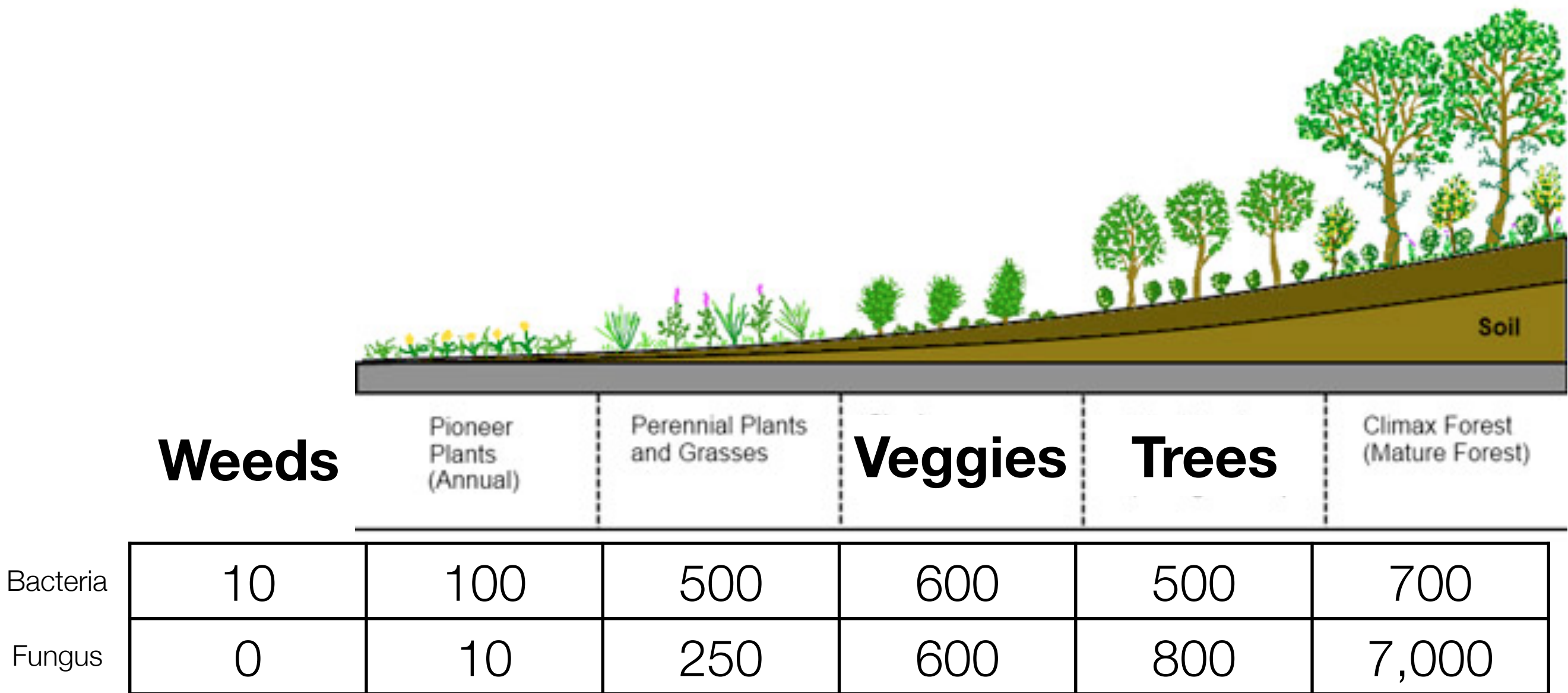


Visually Identifying Beneficial Fungus

1. Uniform width along length
 2. >3.5 micrometers in width
 3. Brown / darker in color
- 1 chunk of fungus per view at 1:5 dilution indicates equal fungus to bacteria ratios
 - Can easily determine if soil microbe levels are ideal for growing most commercial crops by simply counting visible fungus

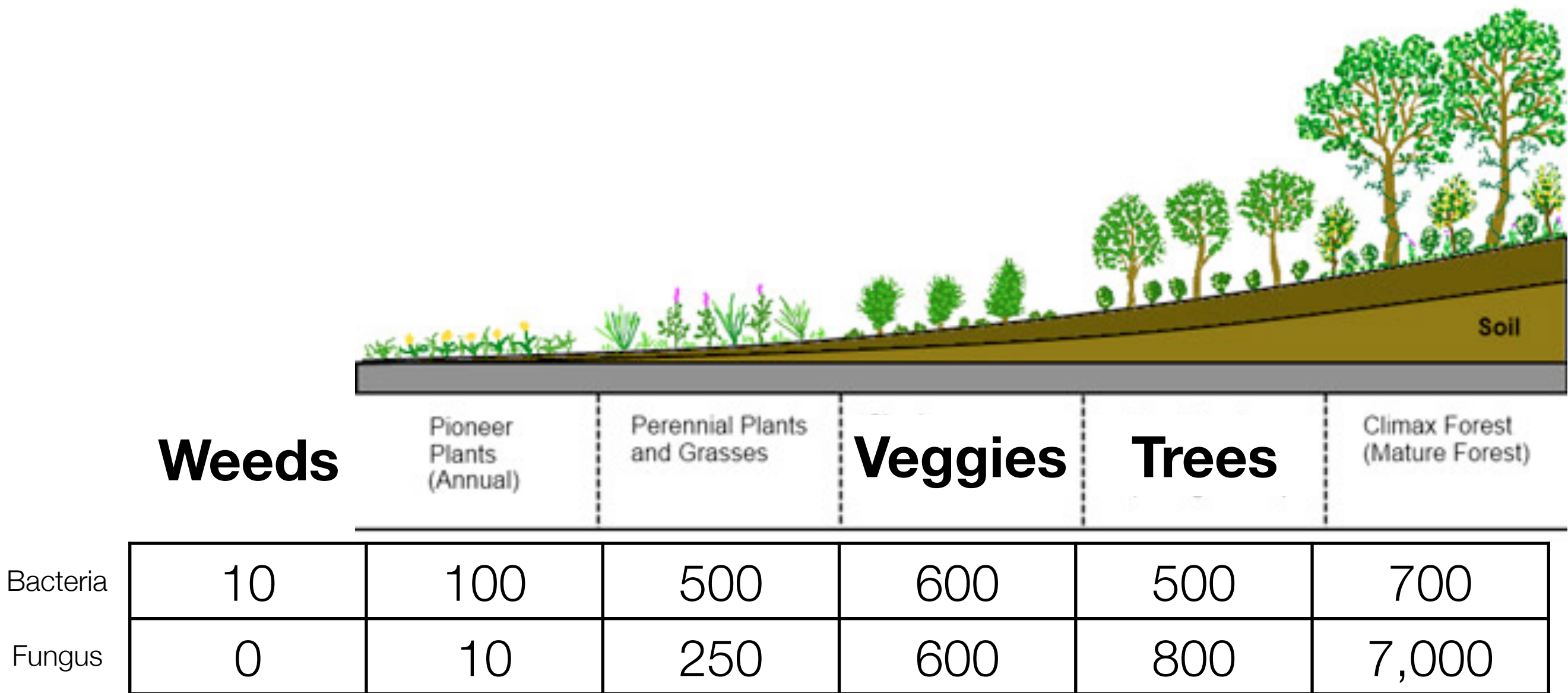


Key: Plant / Biology Relationship

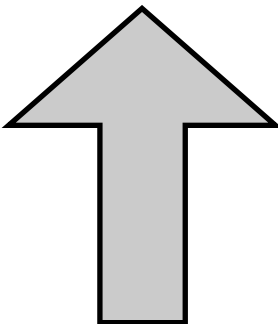


Often, we'll start here with major soil disturbances and toxins

Key: Plant / Biology Relationship



CGNF solutions rapidly get any conventional farm here



Protozoa / **Nematodes** - Recyclers

Fungus - Architects, Engineers

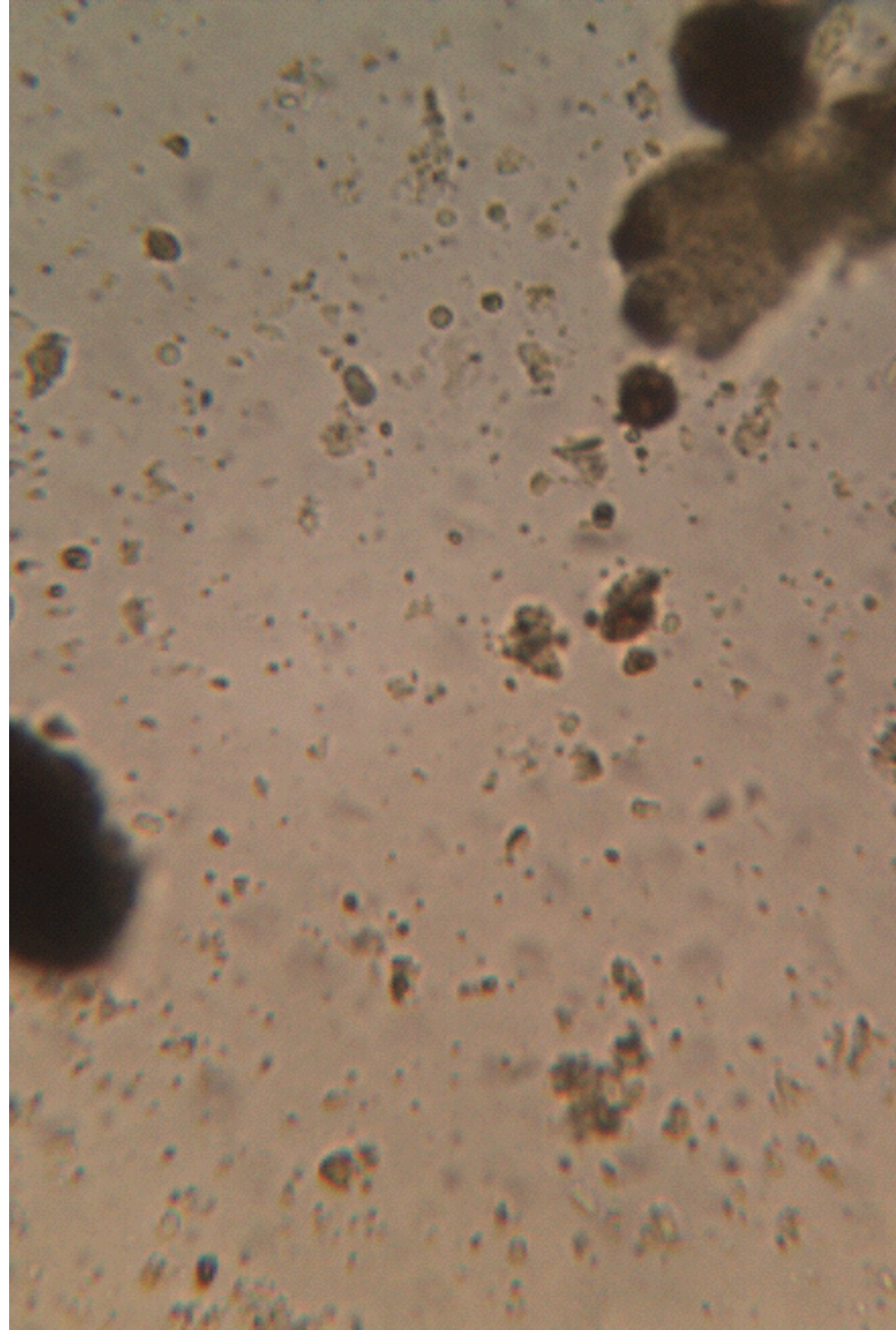
Bacteria - Building Material / Foundation

3 Tier Soil Food Web

Focus on Fungus

Benefits of Rich Diverse Soil Bacteria

- Bacteria are the foundational life, and found everywhere
- Little bodies stabilize and store NPK in soil, much like how you are made of meat and blood
- Bacteria glue to each other and particles to form aggregates creating soil texture / aeration
- Bacteria convert simple sugars into complex life forming substances needed by more complex life forms
- Plants intelligently secrete sugary exudates to naturally alter bacterial populations



Nematodes Complete Nutrient Cycles in Soils

- Nematodes constitute 4 out of every 5 multicellular animals
- Nematodes deposit very rich, plant available food by digesting bacteria and releasing NPK
- Nematodes concentrate NPK in root zone where bacteria are most abundant feeding on sugars
- Nematodes activity aerates the soil for plant root hairs to follow.
- Nematode populations will naturally be in balance in soils with ample beneficial fungus

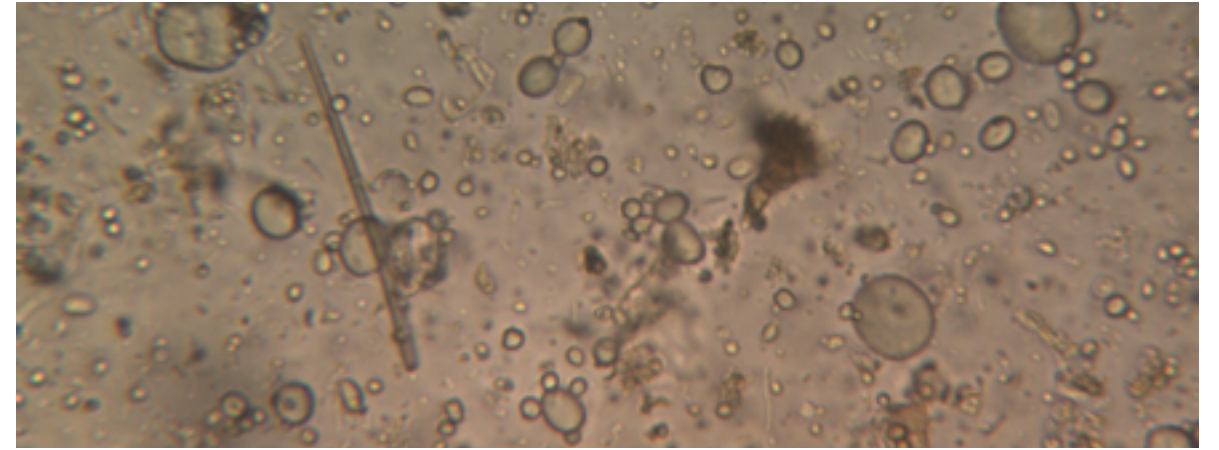




Natural Farming applied in an orchard environment in Korea



Transforming Kamehameha Avenue



we make and study IMO



Liquid inputs are sprayed to feed biology and encourage fungus to expand it's networks feeding trees



Farm Tours in Korea with Master Cho demonstrating success

CGNF-Hawai'i Label

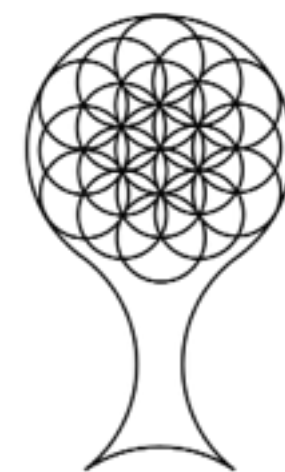
- Advertise the highest quality
- Get listed on **cgnf-hawaii.org**
- Buy from verified sellers of solutions.
- inputs - smell, taste, trust.
- Warning: Always a cheaper version. CGNF-H = highest quality solutions



CGNFH
Natural Farming
SOLUTIONS

CGNFH
Natural Farming
SOLUTIONS





Kalaniana'ole School Garden
drakew@gmail.com