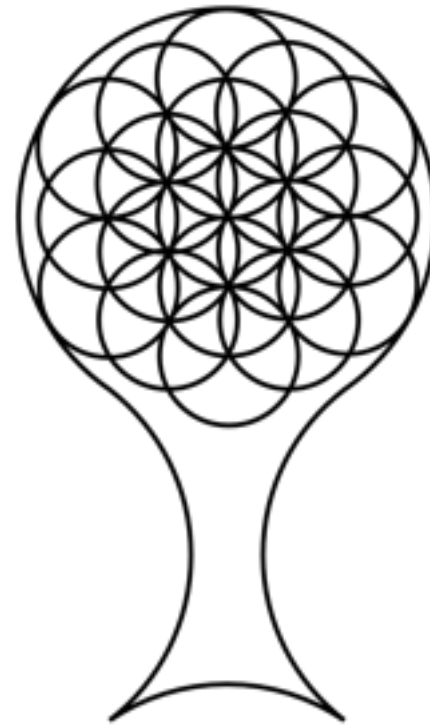


Natural Farming

Growth, Integrity, Health





Humble beginnings in Hawai'i



Experimenting and Learning from Dr. Park









We didn't always know what we were doing;
but We know Natural Farming made us happy.

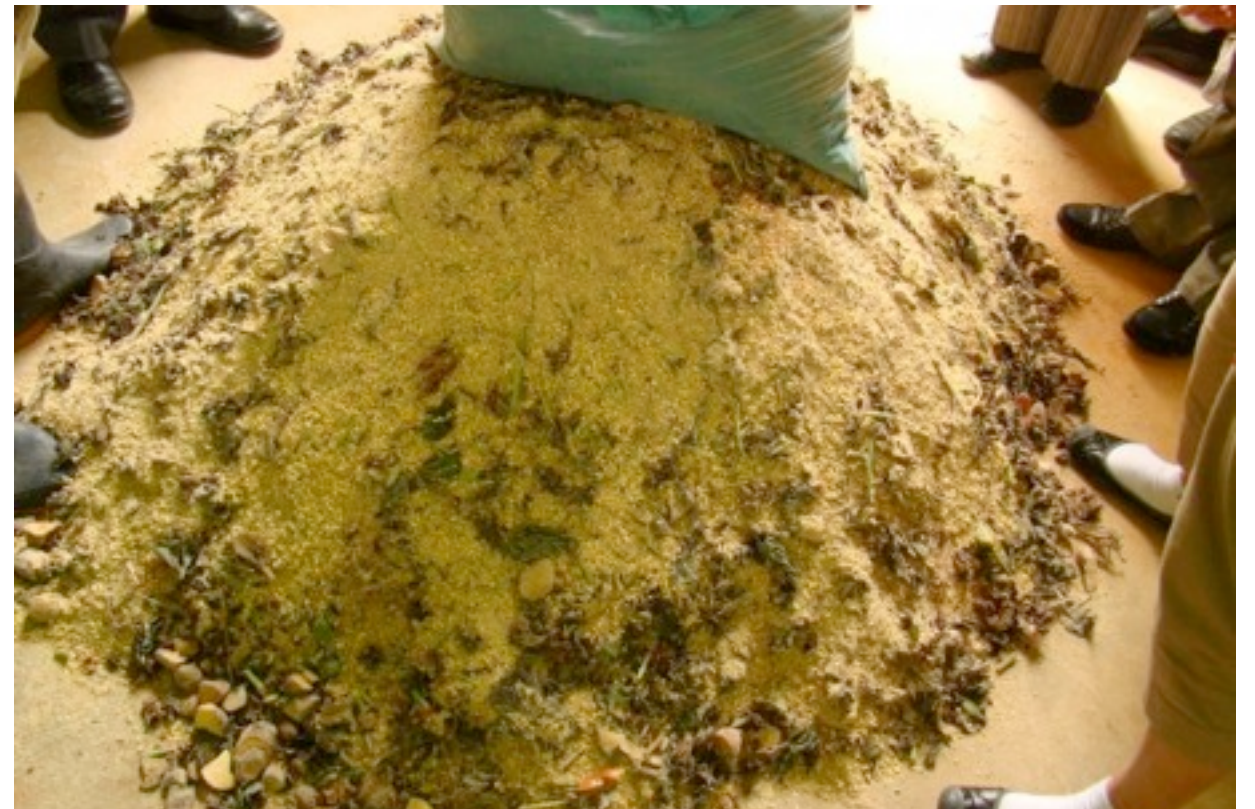


Seeing is believing, a trip to Korea - Farm Tours with Master Cho





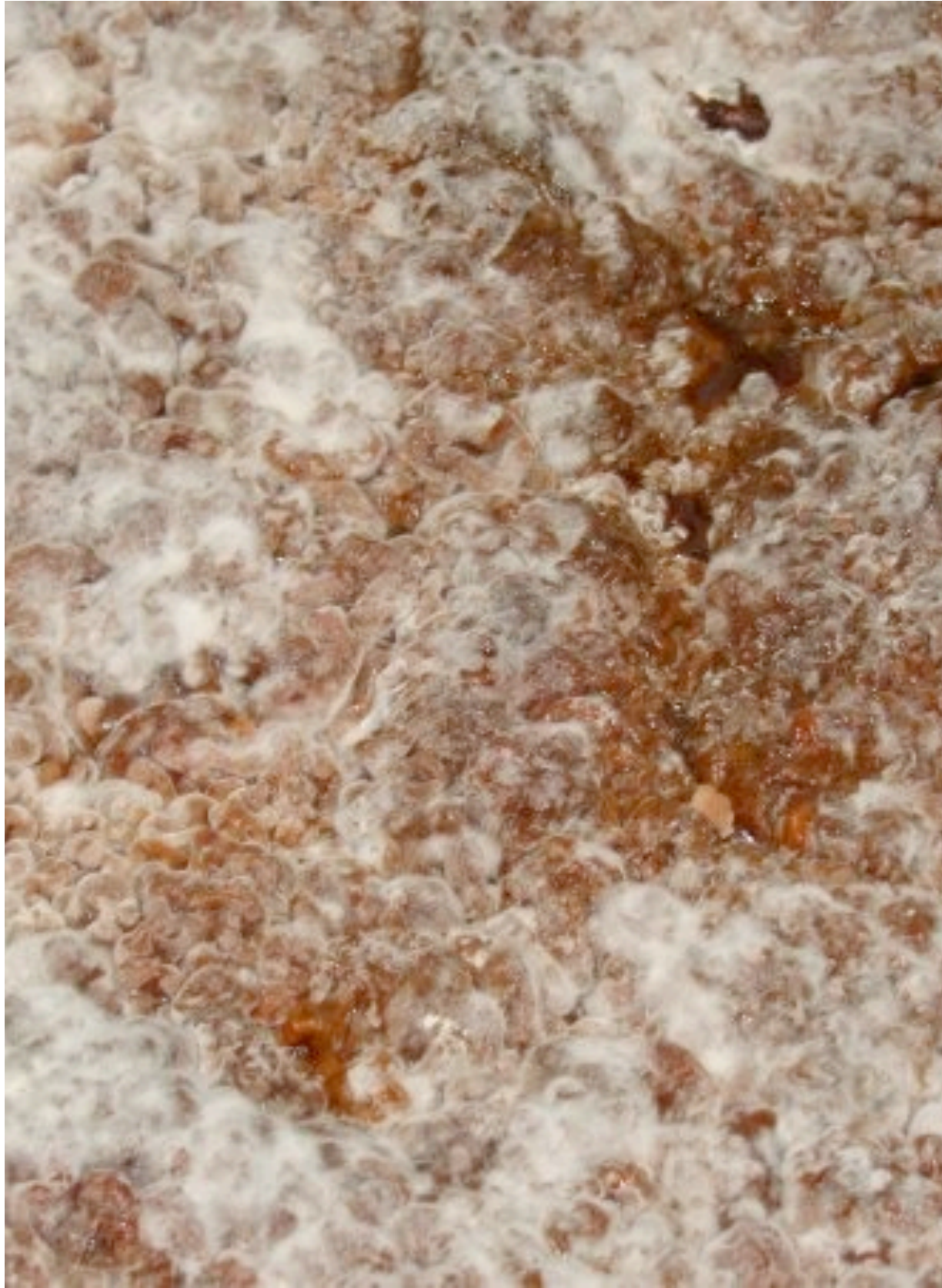
















Integrated Farming. Permaculture. Hi-Tech.



koksong County - Sister City - Officiating the Agreement



Training with Gil Carandang; Master natural farmer in Philippines



Master Cho teaches in Hawai'i April 2010



CGNF Advanced Training 2011



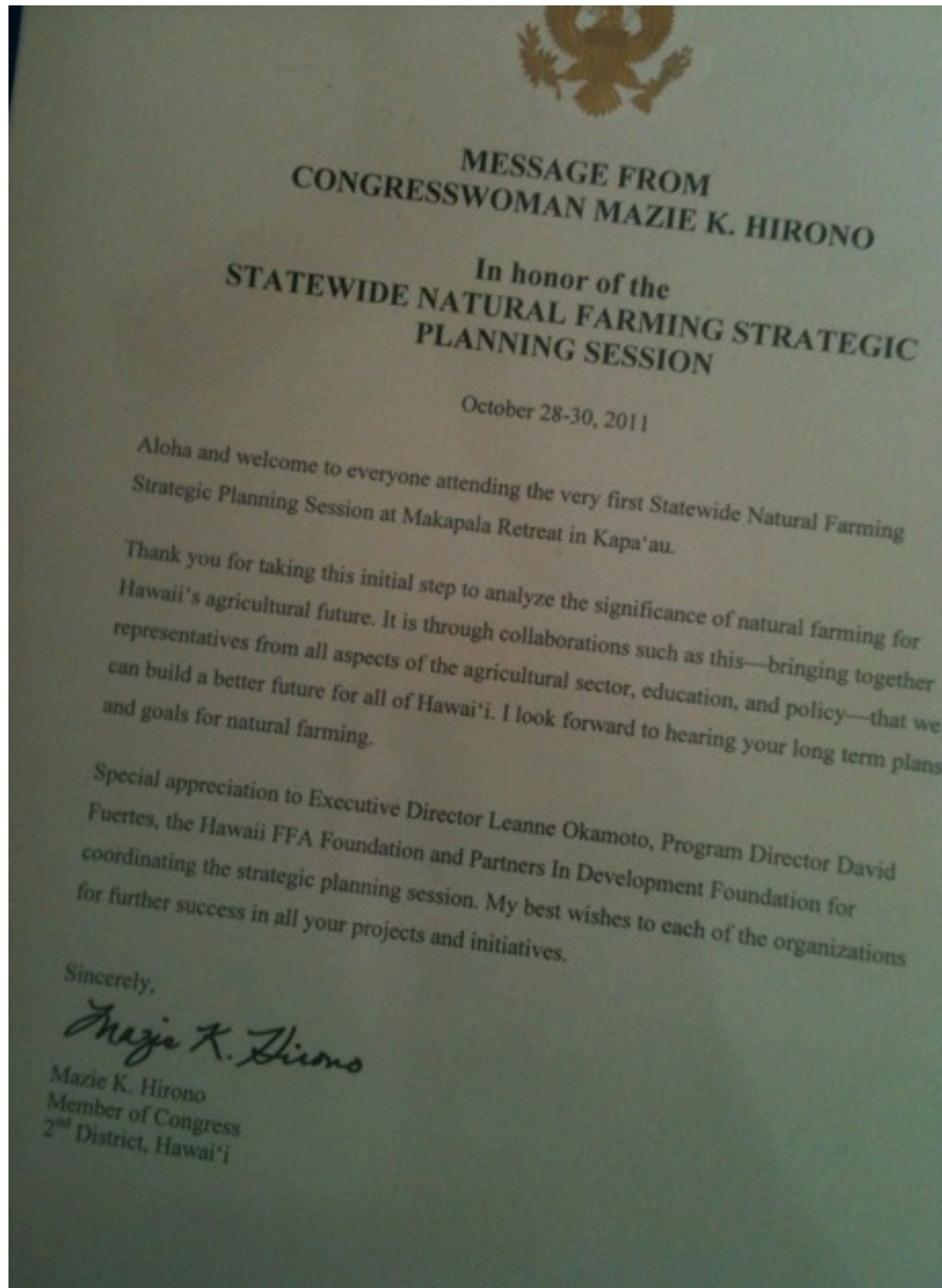
Natural farming in downtown Hilo



Eating off Mamo and Keawe and Kilauea street in Hilo.



Transforming Kamehameha Avenue



Natural Farming Strategic Planning Session

Strategic Planning Session Leaders

- Champion - drake
- Communication - leslie
- Organization - jackie
- Learning Centers - leane
- Research - mike

Our Vision and Mission

- Taking care of the land, soil, and EARTH. Hawai'i will be the model. We serve food producers – backyard farmers and ourselves.
- We focus on family farms, future farmers, and the conversion of traditional commercial farmers to adopt Natural Farming as a means to promote awareness of healthy, prosperous, and sustainable agriculture in the state of Hawai'i, the nation and the world.
- We perpetuate respect and strengthen ourselves and communities through Natural Farming food production through community centered model gardens and farms because Natural Farming improves lives for all life.

Values & Guiding Principles

- Farming for prosperity with respect.
- Live the concept of Natural Farming.
- Improve life for all.
- Sustainability that addresses exponential growth with the context of finite resources – 59 minutes.
- Respect the land for future generations – Malama I Ka ‘Aina
- Interconnectedness – build community.
- Inclusive – Empowerment – Movement
- Humility.

Trend Analysis

- Population growth both locally and globally
- Increasing demand for healthier local foods – increased health and wellness awareness
- Increasing need for food safety
- Increasing oil costs that impact the cost of food.
- Agriculture lands are increasingly more expensive
- Increasing government regulations and oversight related to food safety – ie, need for governmental approval of methods
- Increasing youth issues that can potentially be addressed by Natural Farming
- Increasing use of technology in farming – opportunity to attract young farmers.



THE SOIL FOOD WEB

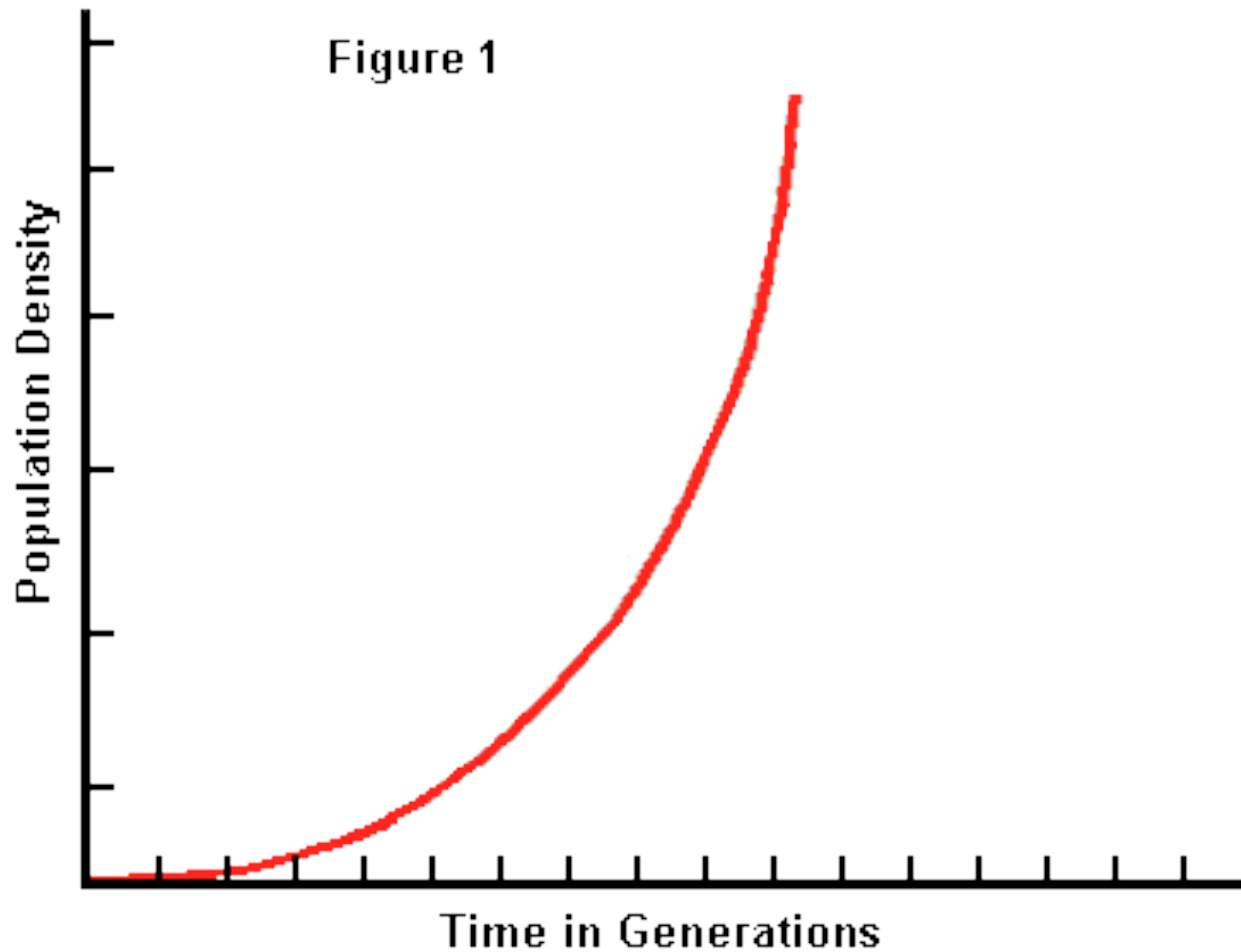


Now, I can biologically explain why the kalo on the right is doing better









Growth; it's exponential

Use caution

The Reality of Current Growth on Today's Children

- HI Island growth rate 24.5%
- 185,000 people as of 2012
- According to usa.com
- 24.5% equates to population **doubling every 3 years**



Age	x	Pop
3 years	2x as many	370,000
6 years	4x as many	740,000
9 years	8x as many	1.4M
18 years	64x as many	~12M
21 years	128x as many	~24M
60 years	1Mx as many	~185B

Oh, AND btw, we expect growth to INCREASE!!!

But wait, there's more...

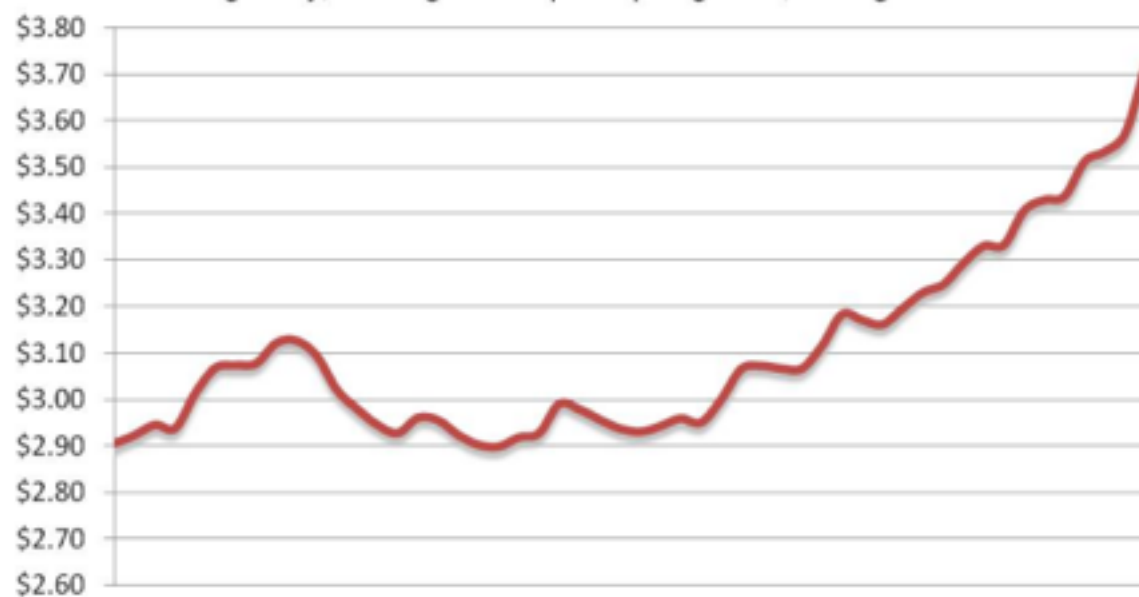
59

Average age farmer in Hawai'i

and the World

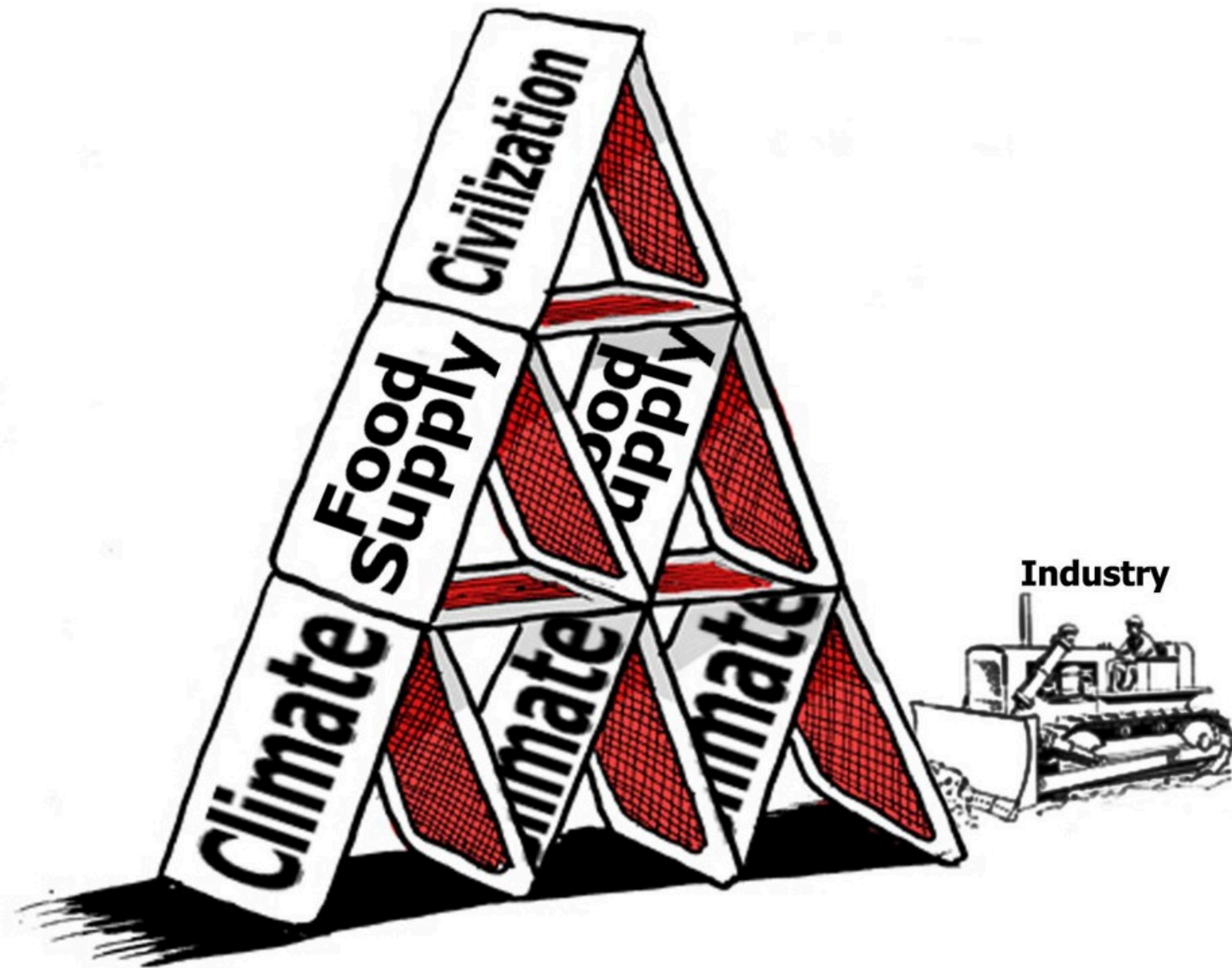
Diesel prices

On-highway, average retail price per gallon, rolling 12 months



Source: Energy Information Administration





Something that irritates me

- I can't get jeans and a t-shirt that isn't grown in an environmentally destructive way, sown by someone who enjoys as good a living as I do, shipped to me without using earth destructive methods, without using energy obtained by murder, without a currency that is being debased by a cabal of central bankers that exploit our labor and divorce us from nature and family.
- If I can't put on my pants sustainably today, when will we welcome a new paradigm?



Gmo

- People are not against gmo.
- A small minority really are
- Farmers grow gmo **not** because they want to. They **need** to grow gmo make farming economical.
- Average farm size 449 acres.
- People are against gmo because they are against industrial farming practices and waking up to the reality of farming





People want to envision a nice family farm where their food comes from



People are waking up to the real reality of industrial farming.

ORGANIC VS CONVENTIONAL

Vegetables Type of Soil Management	Minerals (in milliequivalents)						
	Calcium	Magnesium	Potassium	Sodium	Manganese	Iron	Copper
Snap Beans							
Organic	40.5	60.0	99.7	8.6	60.0	227.0	69.0
Conventional	15.5	14.8	29.1	0.0	2.0	10.0	3.0
Cabbage							
Organic	60.0	43.6	148.3	20.4	13.0	94.0	48.0
Conventional	17.5	15.6	53.7	0.8	2.0	20.0	0.4
Lettuce							
Organic	71.0	49.3	176.5	12.2	169.0	516.0	60.0
Conventional	16.0	13.1	53.7	0.0	1.0	1.0	3.0
Tomatoes							
Organic	23.0	59.2	148.3	6.5	68.0	1938.0	53.0
Conventional	4.5	4.5	58.6	0.0	1.0	1.0	0.0
Spinach							
Organic	96.0	293.9	257.0	69.5	117.0	1584.0	0.0
Conventional	47.5	46.9	84.0	0.8	1.0	19.0	0.5

Research conducted by Firman E. Bear at Rutgers University in the Natural Gardener's Catalog (1995)

People want healthy food. They thought this was the case. We will see a correction in the near future.

The tide is turning

- Why can't I go into a mcdonalds and get uncles cow, aunties lettuce, my special sauce, on a bun that is entirely made up of big island kine food?
- I want to feel good about the framework and infrastructure we have in society.
- I want to eat fast food that is good for me. I want economics that let me live sensibly.





Sweet cane cafe in Hilo



I don't want to be complicit in this



I don't want to be complicit in this



Is my farm “sustainable” now that I use a tractor almost daily?
Can I use a car to get goods and services into Hilo?



Masanobu fukoka: natural farmer



Rudolf Steiner: natural farmer

Korean Natural Farming Solutions

- Master CHO has developed a comprehensive farming system
- Internationally recognized Standard practices
- Proven commercial success
- Environmentally rejuvenating
- Taking root here in Hawai'i
- We can "Save the Whales"



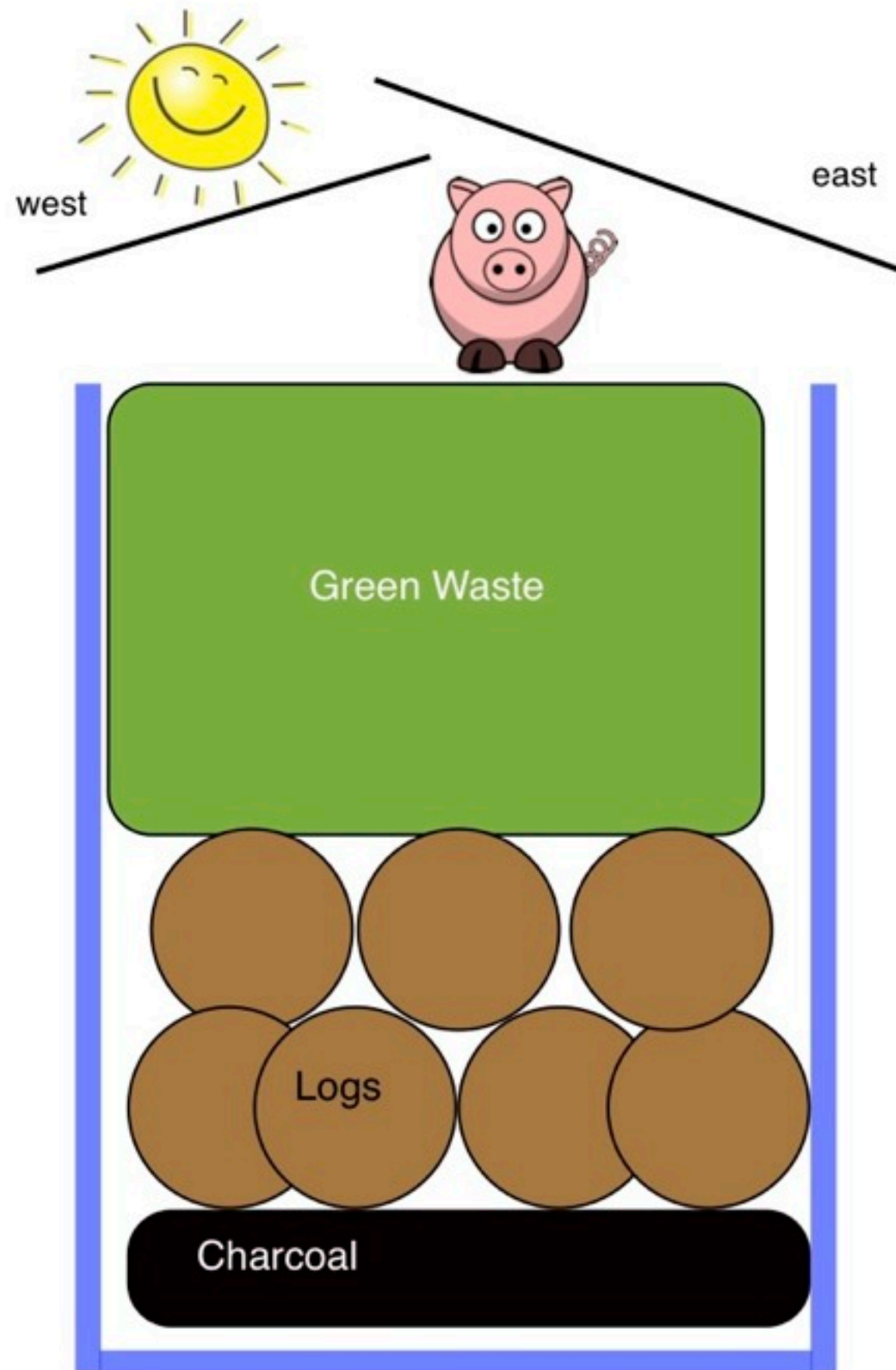


No Smell; No Cleaning



Natural Farming just works!!

Natural Farming “No Smell” Pig Technology



Building Requirements

1. Longer dimension oriented north to south
2. Opening in **top** and east/west **sides** of building to allow air to circulate naturally with heat of sun

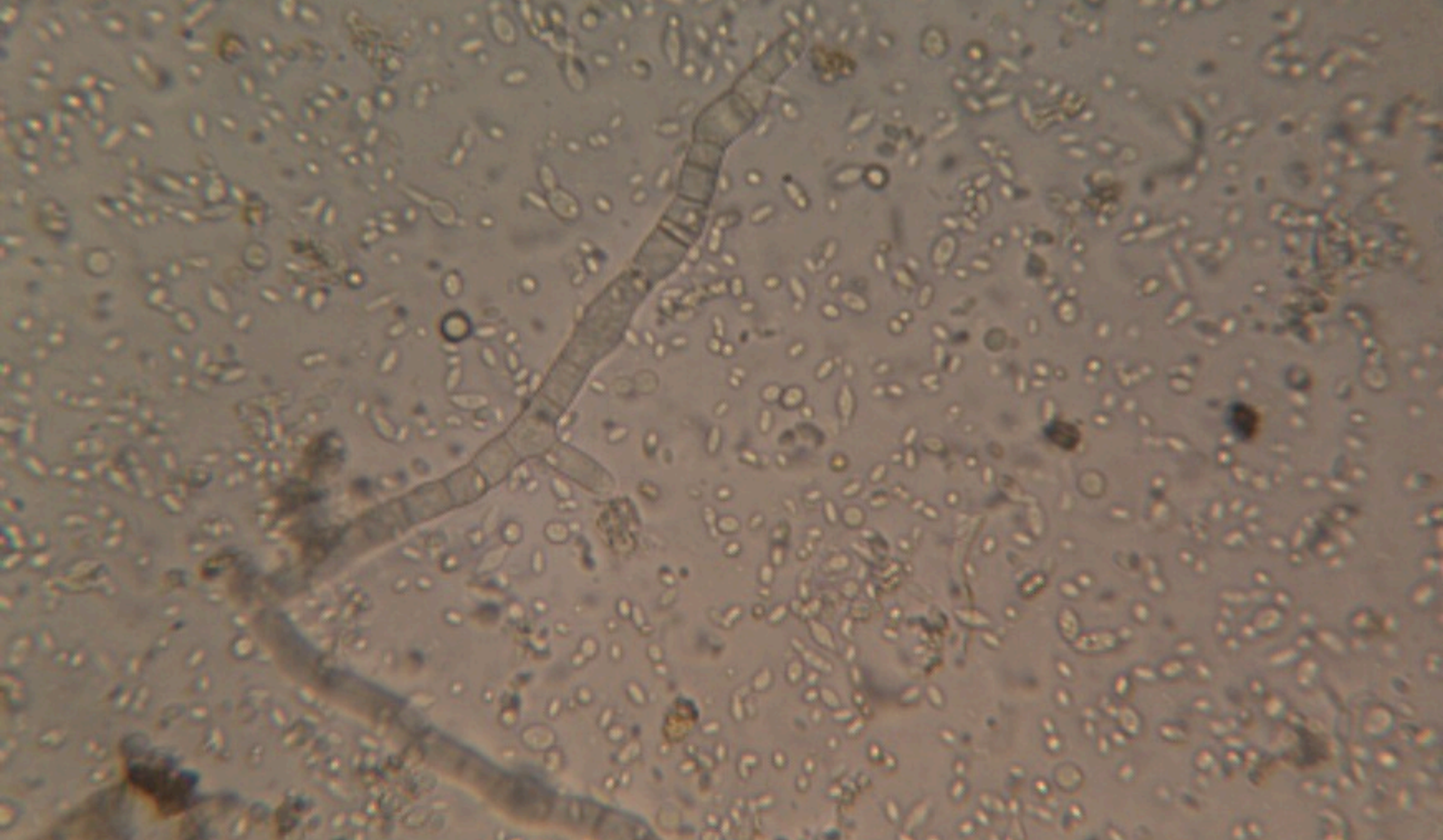
Floor Materials

1. Plastic liner
2. 6 inches depth of Charcoal (not briquets)
3. 2 feet depth of logs greater than 4" diameter and at least 4' long
4. 2.5 feet depth of green waste such as chopped banana stalk or wood chips

For every 100 sqft

- inoculate with 2lb IMO#4
- activate with 3 Tbsp LAB and 3 Tbsp FPJ diluted in 1.5 gallons of water

Activate floor 2 weeks before introducing animals. If smell arises, re-activate. Protect from the rain and do not let floor get excessively wet.



Beneficial Fungus

Most important life in healthy soil



The IMO Process; home made beneficial fungus

IMO Specialized Compost (Bokashi Process)

Stage	Composition	Has power of
IMO#1	Starch exposed to humus	Infants
IMO#2	IMO#1 + Sugar	Elementary School
IMO#3	IMO#2 + carbs & nutrients	High School
IMO#4	IMO#3 + soil & nutrients	College
IMO#5	10% IMO#4 + C:N + manure + nutrients	Alien Technology

Bacteria

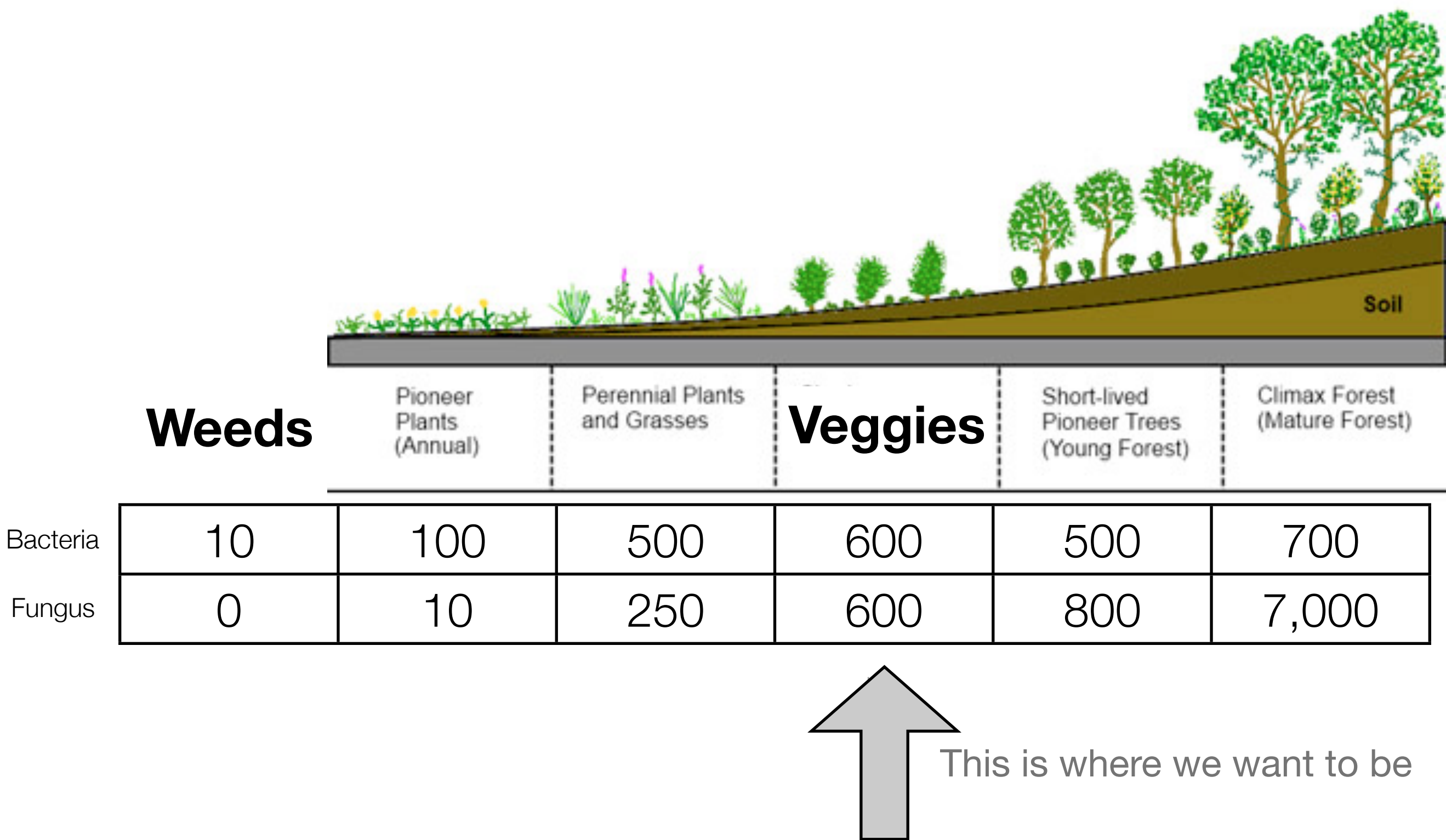
Fungus

Protozoa / Nematodes

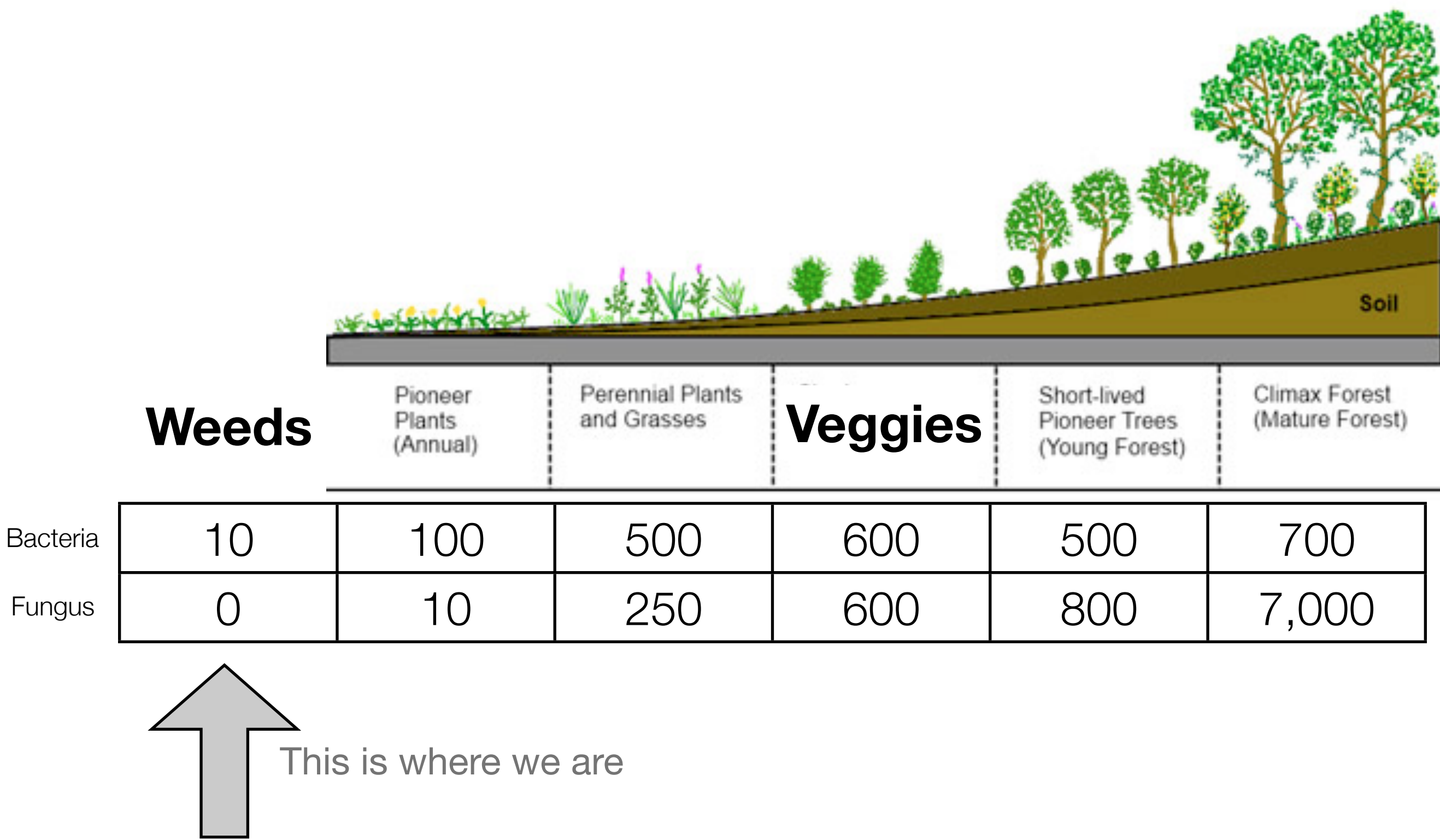
3 Tiers of the Soil Food Web

Drink water out of the air.

Key: Plant / Biology Relationship



Key: Plant / Biology Relationship





Equal parts
Fungus to Bacteria

Veggies naturally thrive



Equal parts
Fungus to Bacteria

No weeds

Nutrient Dense Food

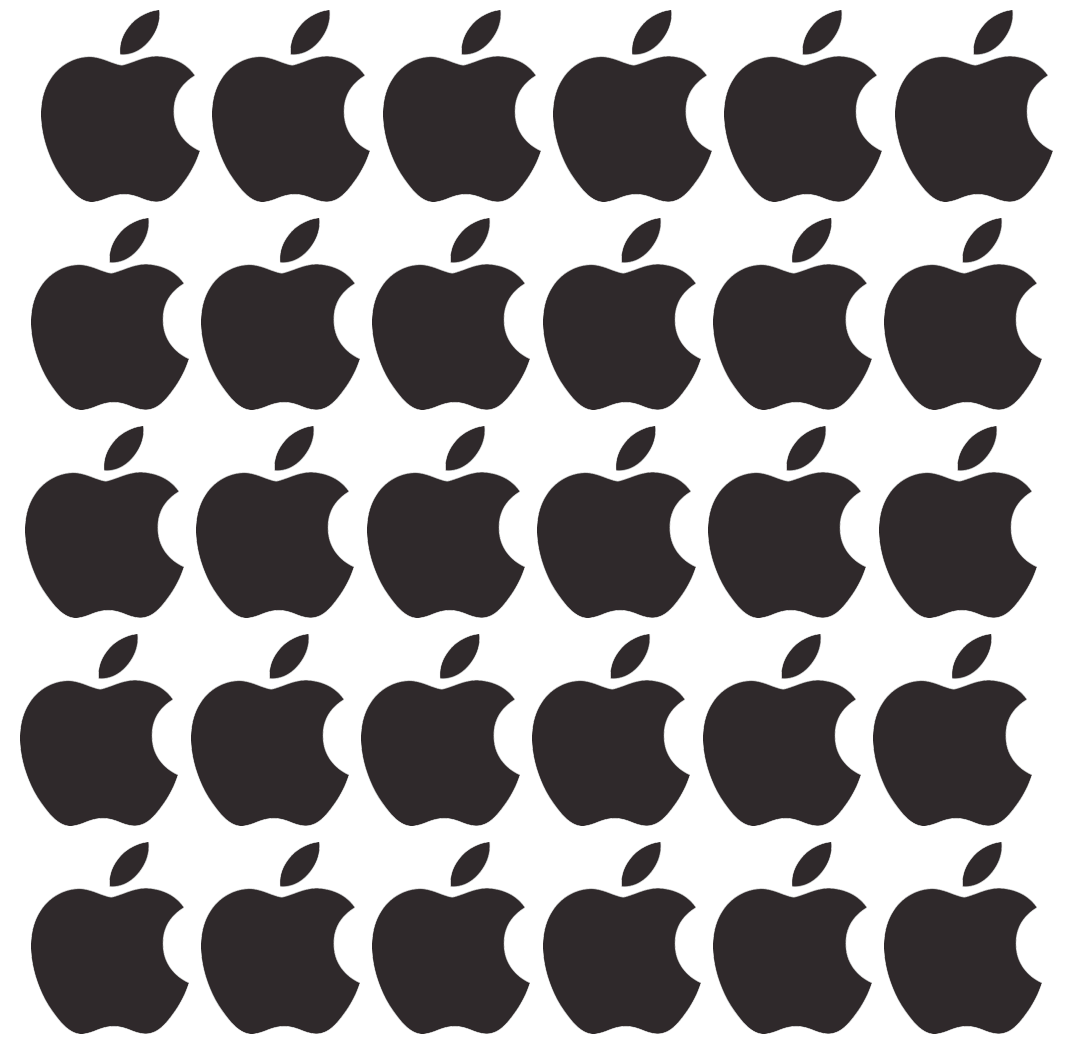
“Let food be thy medicine and
medicine be thy food.”
-Hippocrates



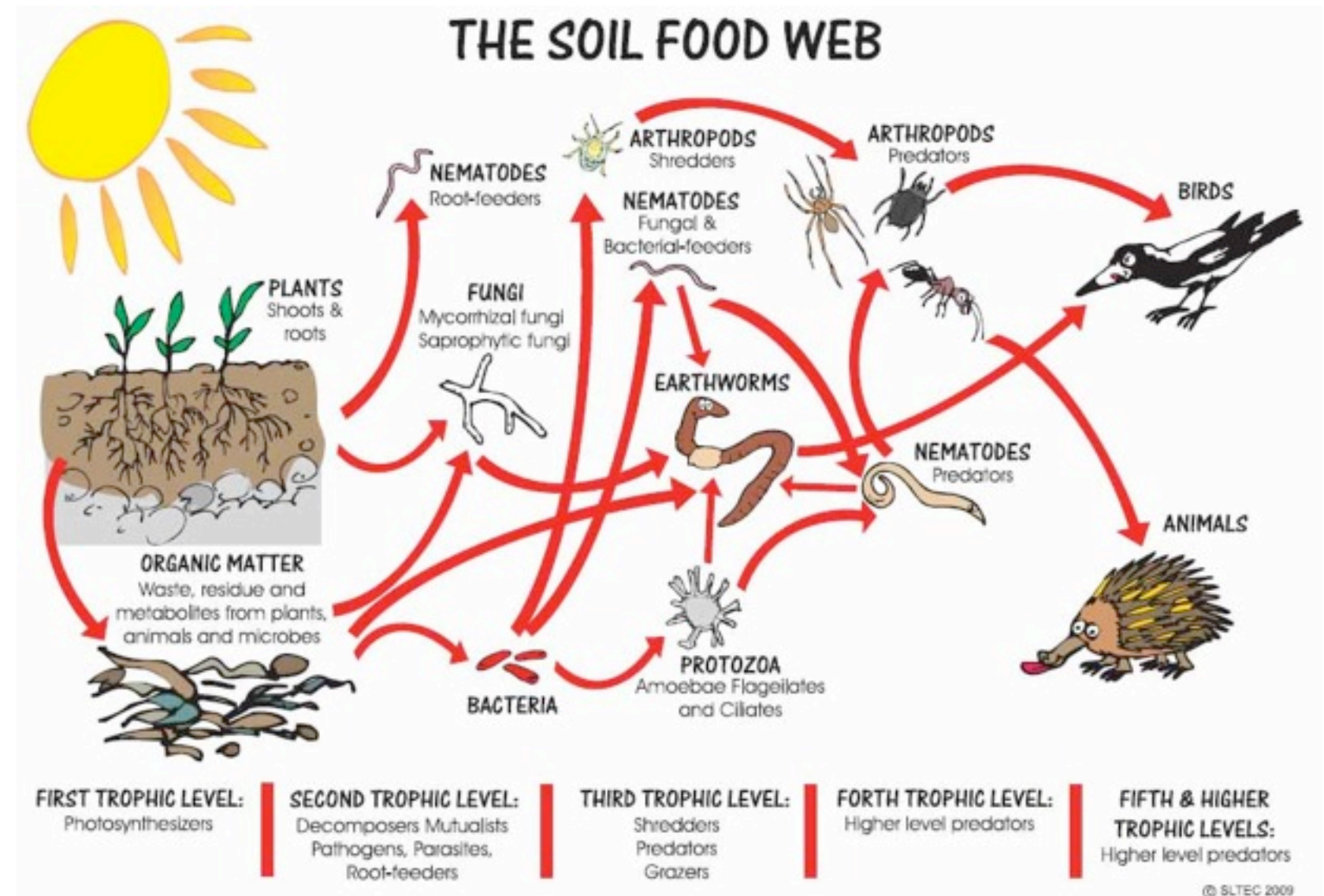
100 Year Conventional Farming Nutrient Decline



1913

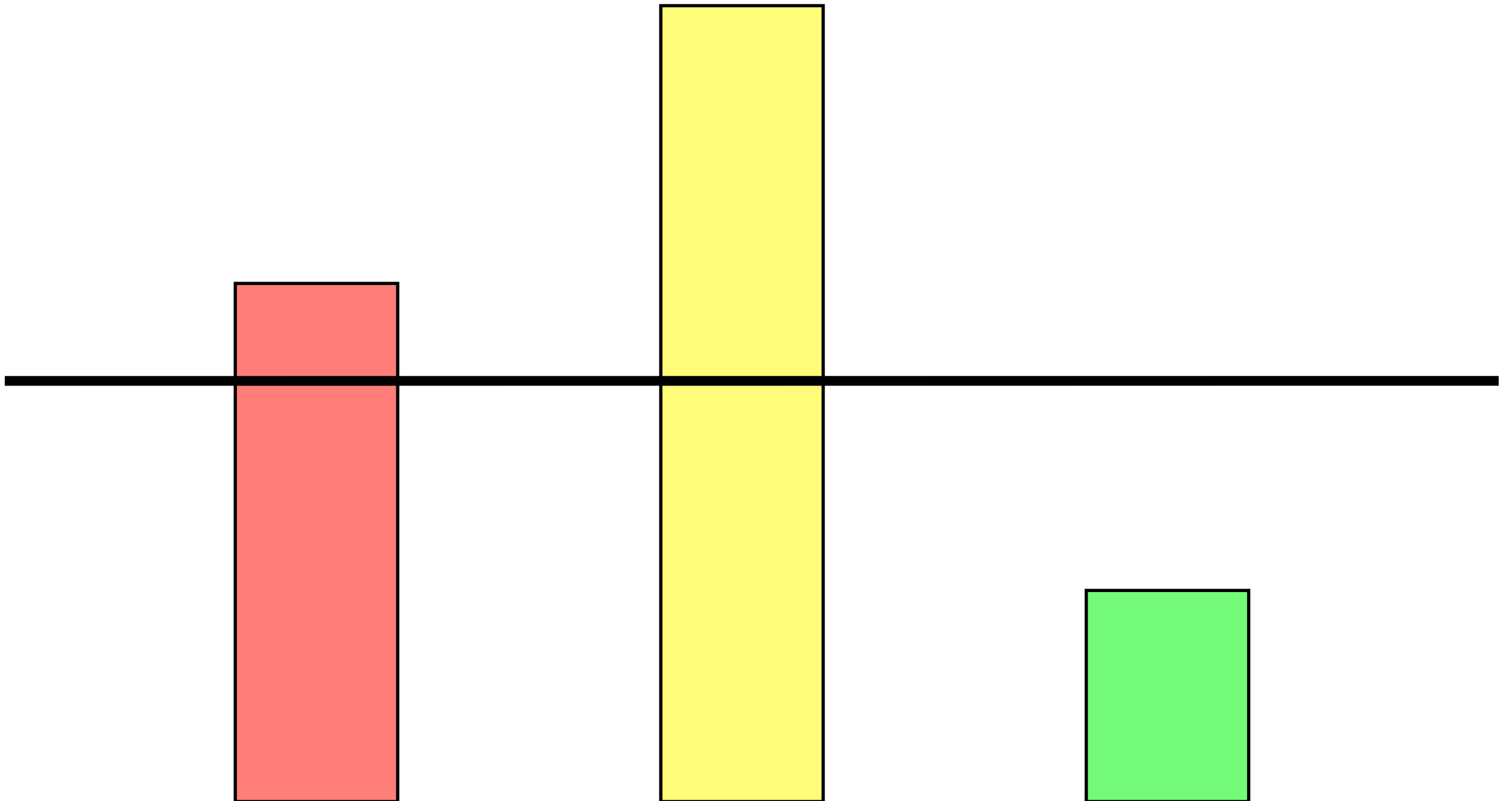


2013

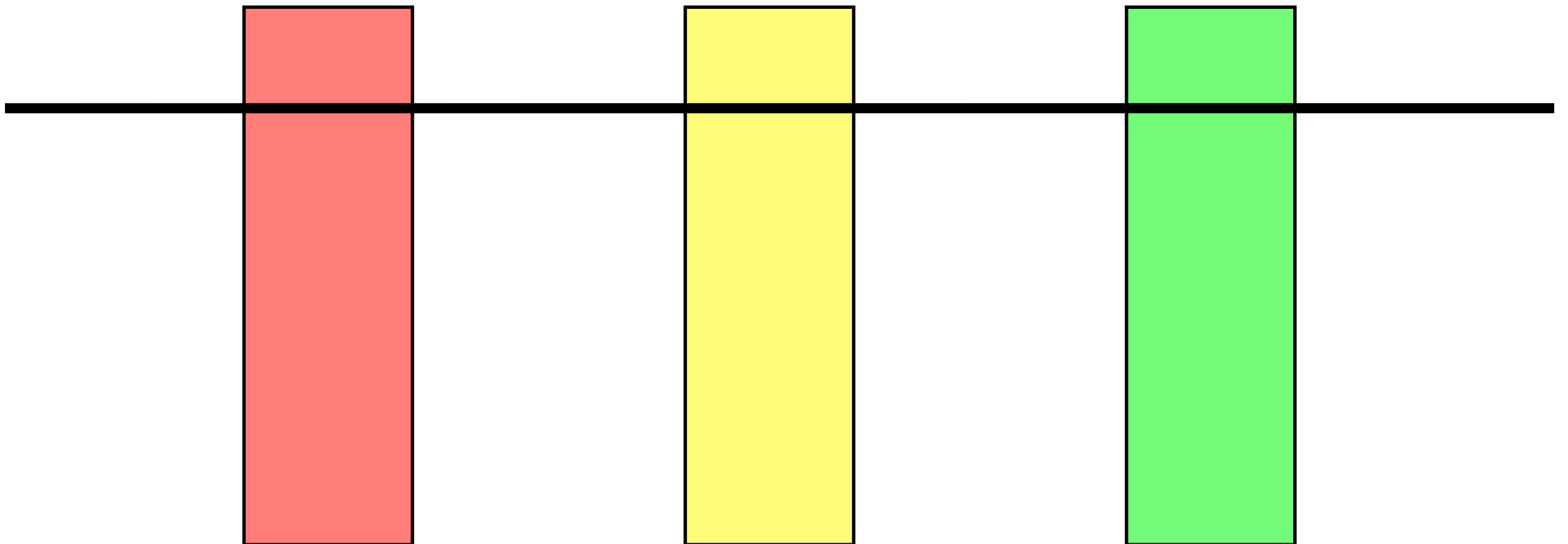


It's more than feeding the plant, it's about a healthy ecosystem to naturally translocate nutrients into our food. **Plant's default is robust!**

Microbes Correct Toxic Imbalances in Soil

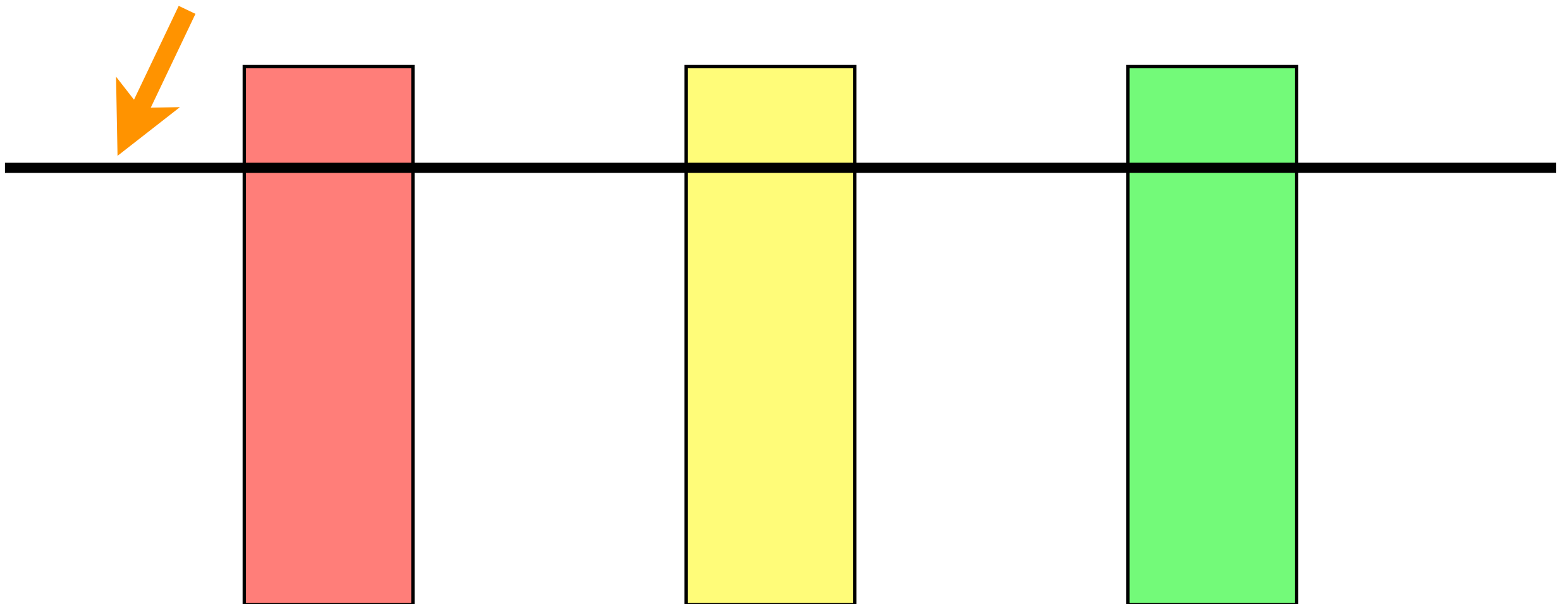


Microbes Correct Toxic Imbalances in Soil



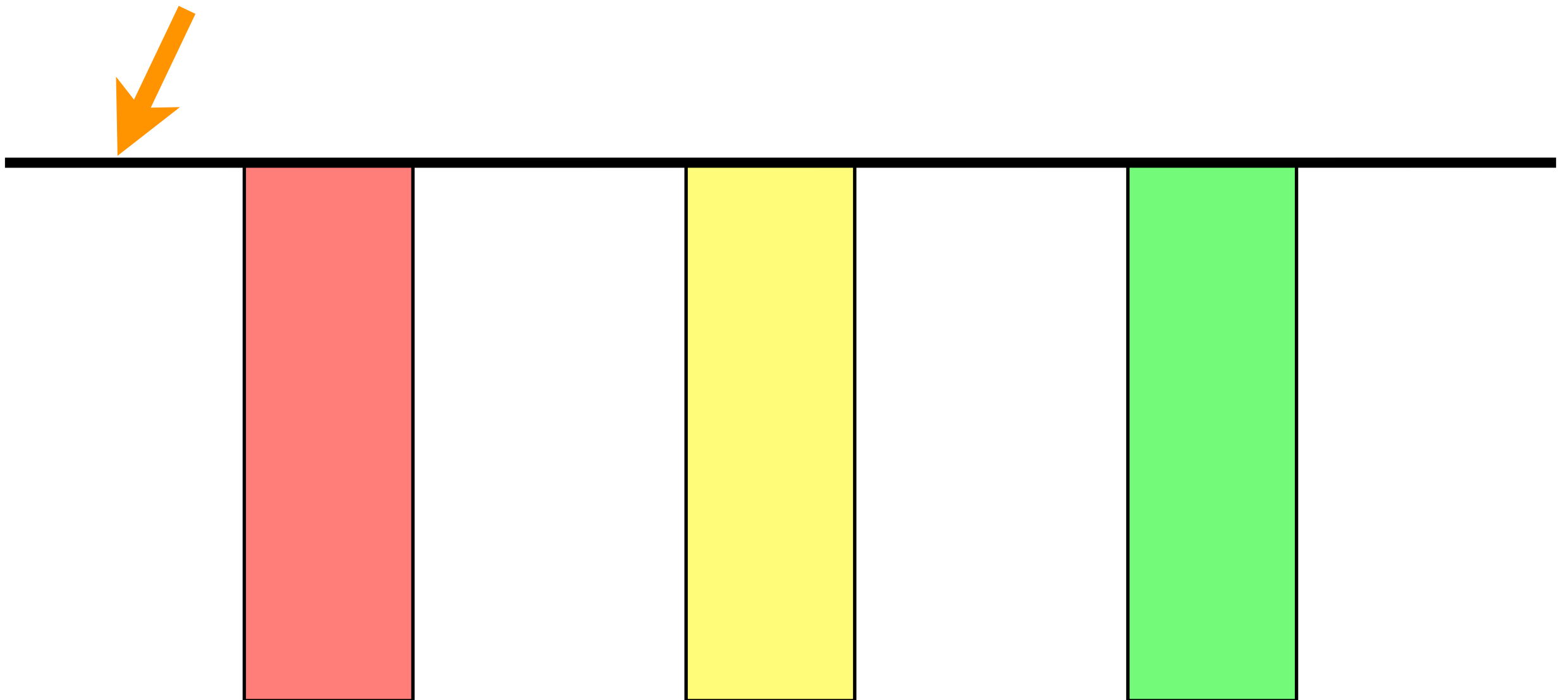
Microbes Correct Toxic Imbalances in Soil

Baseline also fluctuates in Natural System



Microbes Correct Toxic Imbalances in Soil

Baseline also fluctuates in Natural System



How do we get there?

- Indigenous micro organisms - restore soil structure and fertility
- Sugar based plant nutritional supplements - feed plant without destroying the environment
- More farmers





Other tools of the
Natural Farmer

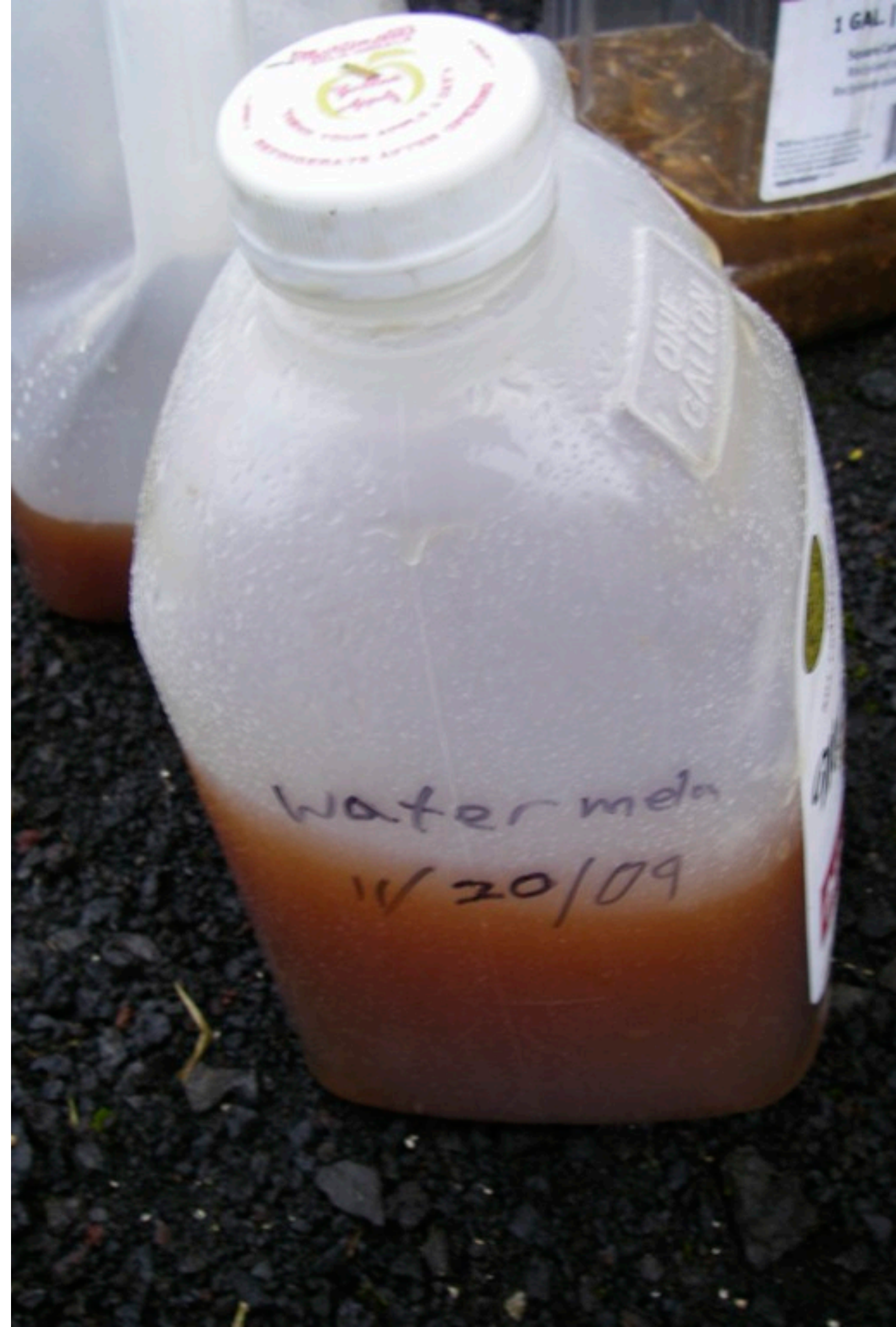
7 inputs made at home

7 Natural Farming Tools

FPJ	Food	Growth/X-over
LAB	Aid workers	Growth/X-over
FAA	Fuel	Growth
WCP	Flower inducer	X-over
WCA	Transfer stimulator	Reproductive
BV	Enhances nutrient absorption	Always
OHN	Medicine	Always

Plant Food

- Made by fermenting growing tips to spray during growth
- Made by fermenting fruits to spray on when fruiting
- Contains various hormones and enzymes in plant available form
- Less direct input needed as soil improves
- Known as FPJ (fermented plant juice) in KNF



EMO:LAB; an Effective Micro Organism

- Provides emergency workers and welcoming crew
- Can live with or without oxygen; enables depth penetrating ability to prepare soil for more sensitive microbes
- Help to balance soil energy field and restore homeostasis
- Friendly with other microbes; can dominate if over applied
- Made from milk



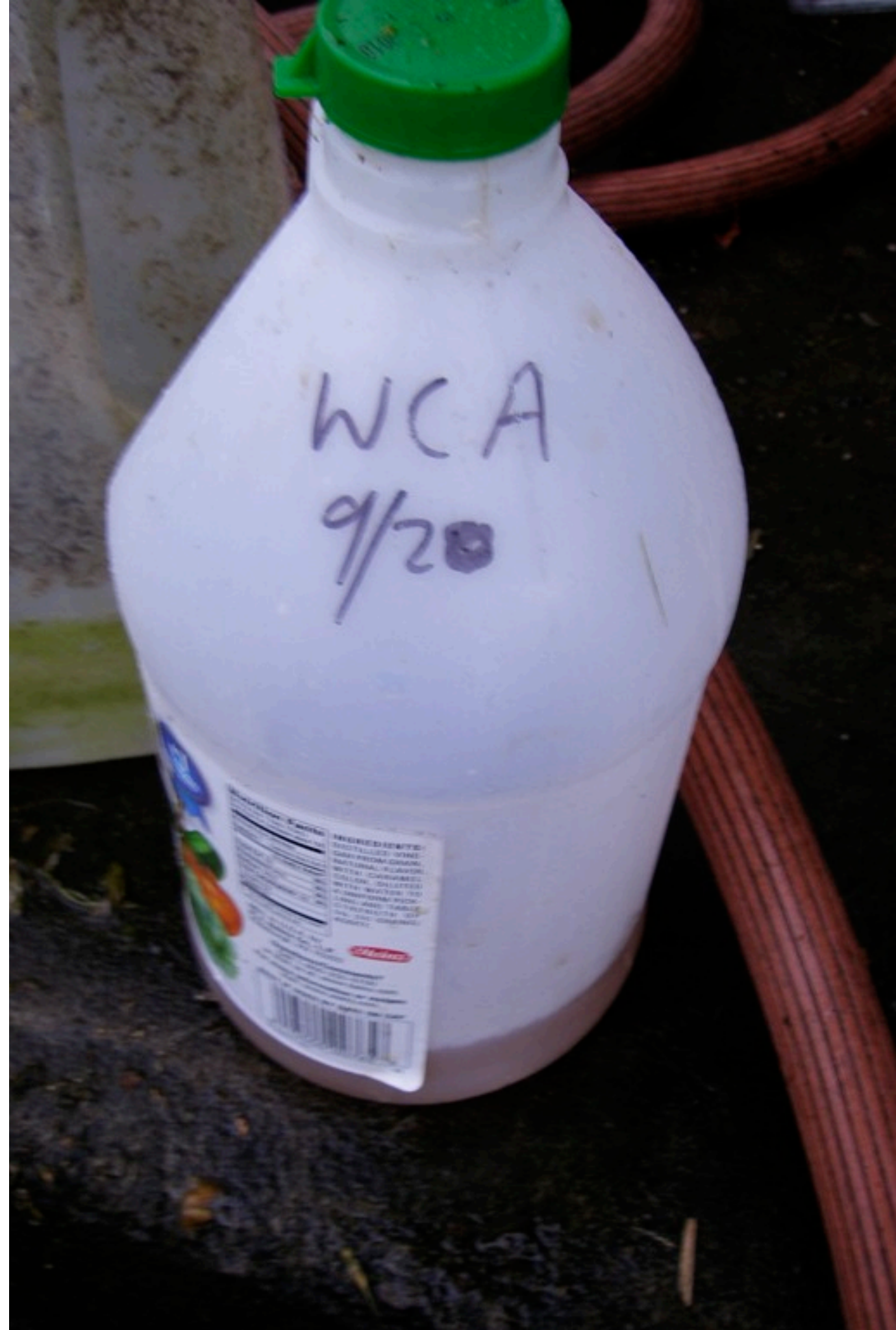
Fish Based Leaf Growth Promoter

- AKA Fish Amino Acid (FAA) in KNF
- Made by fermenting fish waste with sugar
- Promotes rapid growth of “solar panels” IE leaves
- Good in early stages of the plants life cycle



Fruit Growth Promoter Calcium

- Known in KNF as WCA (water soluble calcium)
- Made from egg shells dissolved in vinegar
- Promotes transfer of nutrients into the fruiting body of the plant.
- Will make fruits sweeter.



Flower Growth Promoter Phosphorous

- Known in KNF as WCP (Water soluble calcium phosphate)
- Made from burnt bones dissolved in vinegar
- Phosphorus triggers flower and root growth, both are important during the x-over stage



Medicine

- Known in KNF as OHN (oriental herbal nutrients)
- Garlic, ginger, cinnamon, licorice and angelica tinctured in alcohol.
- Helps digestion and nutrient assimilation by adding heat
- Discourages bad microbes



Ocean water

- Complex mineral solution
- Essential for microbial digestion of lava rock
- Diluted 1:30 will have no negative effect on plants



Rice wine or banana Vinegar

- Most important!
- Has many amino acids
- Enhances effectiveness of other ingredients



How to use the 7

- SOS solution - helps imo application
- Type 2 spray - to grow leaf
- Type 3 spray - to grow fruit
- Full understanding of plant nutritional cycle is helpful



Compost Tea

- Multiply good compost
- Feed nutrients like FPJ
- Grow Beneficial Fungus by feeding ground fish & FAA
- Lots of oxygen - promotes beneficial microorganisms



BMW

- Airlift pump to lift water
- 1 foot drop onto crystals or rocks
- 5 gal/min flow rate
- Microbes + minerals + O₂





First country to fully embrace natural farming will influence the next 200 years.



I am committed to
teaching teachers

www.NaturalFarmingHawaii.net

5 Certifications from CGNF

- **The 7 basic inputs**

- Fpj
- Lab
- Faa
- Ohn
- Wca
- Wcp
- Vinegar

- **IMO and Soil Biology**

- **Plant Nutrient Cycling**

- **Animal Husbandry**

- **Teacher Training**