

# PROTO TERRA

*New Earth. Living Water.*

Hawaiian biochar · Pacific seawater · Living biology

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*A regenerative soil and plant care system made on Kaua'i from Pacific seawater, Hawaiian biochar, and a living microbial brew. Three products covering every step of the growing season.*

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1

## **PROTO TERRA PRETA CONCENTRATE** *the permanent soil installation*

**WHAT** A long-lasting biochar carrier loaded with the full mineral profile of pure Pacific Ocean seawater — calcium and magnesium at the ideal base-cation ratio for plant uptake, plus phosphorus, potassium, silica, and slow-release sulfur, alongside 60+ ocean trace minerals (boron, zinc, manganese, iron, copper, molybdenum, iodine and more). Finished with a living mix of indigenous soil microbes brewed alongside spirulina — the protein/biologically-bound nitrogen source that feeds both the biology and the soil.

**HOW** Biochar is a porous, carbon-rich material that does not break down in soil. The full-spectrum minerals are locked onto its matrix and release slowly over months and years. The living microbes wake up on application, colonize the root zone, feed the soil's natural fungal network, and rebuild the underground food web. One application lays in permanent biological and mineral infrastructure.

**FOR** *Soil remediation, organic transition, regenerative farms, premium specialty crops.*

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**TAILOR-MADE** *Submit your soil lab analysis and we'll dial the blend to your land's exact mineral gaps.*

2

## **PROTO TERRA BIOBOOST FOLIAR** *the active treatment*

**WHAT** A concentrated biostimulant from the same brew that produces the Terra Preta Concentrate. Carries natural plant surfactants that open the leaf for absorption, growth hormones that drive cell division and fruit set, mineral chelators that keep nutrients plant-ready, and immune-signaling compounds that prime the plant's natural defenses. 10× concentrated. Shelf-stable.

**HOW** Sprayed directly on leaves, the surfactants spread the droplet and open the pathway through the waxy leaf surface; the chelated minerals are absorbed within hours; the growth hormones fuel new tissue, stronger flower and fruit set, and bigger yields; the immune signals trigger systemic resistance — the plant fights pests and disease before it gets sick. The above-ground complement to the soil-side installation.

**FOR** *Every spray pass through the growing season. Mid-season nutrition, stress recovery, disease and pest resilience, flower and fruit set.*

3

## **PROTO TERRA CENTIMPEDE ADDITIVE** *the herbicide optimizer*

**WHAT** Named for the Hawaiian centipede — an 'aumakua guardian of the land. Where the centipede defends the soil from invaders, CentImpede defends your fields from weeds. A naturally-derived spray water enhancer. Organic-compatible. The only product in its category not made from ammonium sulfate.

**HOW** Glyphosate, 2,4-D, dicamba, and glufosinate all lose effectiveness in hard water — minerals in the water bind the herbicide and shut it down. The industry-standard fix is ammonium sulfate (AMS), which is acidic, releases ammonia in the heat, and is not approved for organic operations. CentImpede neutralizes hard water minerals, shifts spray water to the right pH, and helps the herbicide spread and stick. Same job as AMS. Organic-compatible. Dose at 0.5–2% by volume.

**FOR** *Conventional and organic herbicide programs. AMS replacement on every tank mix.*

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## **ONE INTEGRATED SYSTEM**

The Terra Preta Concentrate installs the soil biology. The BioBoost Foliar treats the active plant. The CentImpede Additive makes every herbicide pass more effective. *Three products. One unified system. Made on Kaua'i.*

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# THE CHEMISTRY

*For Farmers, Gardeners, and Agronomists*

Composition, sourcing, and what each component does for your soil

*Proto Terra Preta Concentrate delivers the full nutritional spectrum a plant uses, in the ratios soil science has established as optimal, with the living biology that makes those minerals plant-available. Tailor-made blends adjust the proportions to your soil analysis.*

## OUR CORE PHILOSOPHY

***We do the hard work of acquiring every needed resource for optimum biology and deliver them in the most suitable way we can — then we let Nature take it from there...***

This is why Proto Terra does not sell you fungi. Indigenous fungi already live in your soil — dormant, invisible, but present in every ecosystem, adapted over centuries to its specific climate and biology. Shipping foreign fungi in a bottle interrupts that intelligence.

Our work is the upstream half: sourcing minerals from Pacific seawater, binding them to a permanent biochar matrix, locking in the optimal cation ratios, brewing with spirulina and beneficial microbes that feed fungi. The downstream half — what gets fed, what colonizes where, what interconnects — belongs to the intelligence of the soil itself.

Category	What's Inside	What It Does
<b>Primary (NPK)</b>	Biologically-bound nitrogen from spirulina, phosphorus, potassium	<i>Spirulina is added during brewing — its protein and amino acids supply organic-bound nitrogen. P and K released slowly over months for sustained growth.</i>
<b>Secondary</b>	Calcium, magnesium, sulfur	<i>The base-cation backbone of healthy soil structure. Sulfur as slow-release for season-long supply.</i>
<b>Silica</b>	Plant-available silicon	<i>Strengthens cell walls, increases drought tolerance, reduces pest pressure, improves disease resistance.</i>
<b>Trace Minerals</b>	60+ elements from Pacific Ocean water	<i>The full mineral profile of seawater — boron, zinc, manganese, iron, copper, molybdenum, iodine, selenium, and more.</i>
<b>Living Biology</b>	Indigenous beneficial microorganisms	<i>Phosphorus-solubilizers, disease-suppressors, root colonizers. Wake up on application and rebuild the soil food web.</i>
<b>Carrier</b>	Hawaiian biochar matrix	<i>Permanent porous substrate. Does not break down in soil. Holds minerals and microbes in the root zone for years.</i>

## Sourced from the Pacific Ocean

Pacific Ocean water carries every mineral element in the Earth's crust, in proportions refined over billions of years. Proto Terra Preta Concentrate captures that full profile and binds it to a biochar carrier so the minerals stay in your soil instead of leaching away:

**Boron** (flower and fruit set) · **Zinc** (enzyme function) · **Manganese** (photosynthesis) · **Iron** (chlorophyll) · **Copper** (protein synthesis) · **Molybdenum** (enzyme cofactor) · **Iodine** (plant vigor) · **Selenium** (antioxidants) · **Cobalt** (root nodules) · **Chromium, Nickel, Vanadium, Lithium, Strontium** · and 45+ more in trace amounts.

## The 4:1 Calcium-to-Magnesium Ratio

Soil scientists from William Albrecht onward have established that the ratio of calcium to magnesium matters as much as the total amount. Too much magnesium and soil compacts; too little and photosynthesis slows. Proto Terra Preta Concentrate is held to a 4:1 calcium-to-magnesium ratio in every batch — the proportion that consistently produces loose, well-aerated, biologically active soil.

## The Bacterial Consortium We Add

- **Bacillus species** — phosphorus solubilizers, antifungal compound producers, plant growth promoters
- **Pseudomonas species** — root colonizers, iron-mobilizers, disease suppressors
- **Streptomyces actinomycetes** — antibiotic producers that suppress soil-borne pathogens
- **Hawaiian volcanic-soil natives** — diverse local microbes that feed your soil's dormant mycelial network

*Submit your soil lab analysis at [prototerrapreta.com](http://prototerrapreta.com) and we will dial the blend to your land's exact mineral needs.*

**PROTO TERRA** · Kaula'i, Hawai'i · [PROTOTERRAPRETA.COM](http://PROTOTERRAPRETA.COM)