Soil, Planting Medium & Irrigation System

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Main Functions of Planting Medium

• Supply roots with nutrients, air, and water
• Allow for maximum root growth
• Physically support the plant.
Soil Profile

- Humus
- Topsoil
- Subsoil
- Weathered rock fragments
- Bedrock
Typical Soil Mix

• 3 parts top soil
• 1 part sand
• 1 part organic matter
Ideal Planting Medium

• Supply roots with nutrients, air, and water
• Allow for maximum root growth
• Physically support the plant.
• SAVE THE PLANET
• & SAVE $$$ and headache in the long term
Terra Preta Soil Profile
Terra Preta Soil Profile
What is Biochar?

• Biochar is pyrolized biomass, or biomass that has been burned in the absence of oxygen.

• Biochar is produced with the purpose of soil amendment whereas charcoal is produced with the purpose of heat production.
Biochar
Benefits of Biochar

• Improves cation exchange capacity for greater mineral delivery to plant roots
• Increases soil pH level
• Increases microbial populations
• Increases aeration
• Increases the water holding capacity of the soil.
Benefits of Biochar

Biochar Ion Exchange

(Negative charge balance in biochar attracts positively charged ions)

- Mg$^{+2}$
- Ca$^{+2}$
- Al$^{+3}$
- H$^{+}$
- K$^{+}$
“Over 800 m³ of soil was required for the garden with an average depth of 300mm. The average volumetric application rate of biochar was about 50%, many times current accepted practices for biochar soil mix.”

~ Dr Francis Ng
“I needed something long-lasting, yet natural and able to hold nutrients, Biochar was the best option. On the rooftop, biochar has the added advantage that it is half the weight of soil of equivalent volume.”

~ Dr Francis Ng
Just in time on Saturday evening, I used BioCharSoil to revived a 'dying' Lemon Basil back to life! 😊
Summary

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Thank You

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