



SAMGA simposium

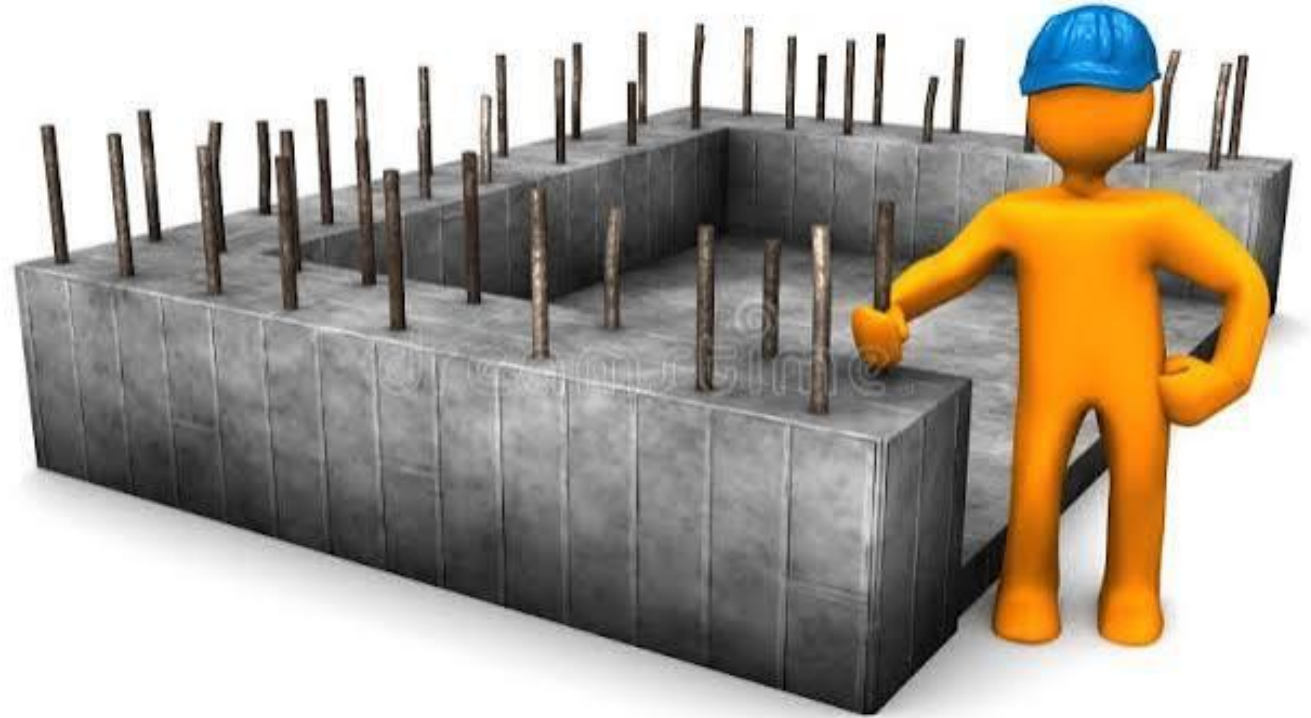
23 July 2026

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Auxano



Introduction – foundation to the session





A RESILIENT MANGO TREE THRIVING WITH GOOD WATER INFILTRATION AND NUTRIENT UPTAKE

- ✓ Ample rainfall received
- ✓ Excellent soil infiltration and drainage
- ✓ Deep, healthy root system
- ✓ Efficient nutrient uptake
- ✓ Manages water stress and remains productive

RAINFALL & INFILTRATION

- Ample rainfall received
- Water infiltrates quickly into the soil
- No surface pooling – good structure and porosity
- Deep moisture available to roots

WATER INFILTRATION & STORAGE

- Rainwater penetrates deep into the soil profile
- Replenishes soil moisture reserves
- Reduces runoff and erosion risk
- Water stored in soil for longer availability



SIGNS OF A HEALTHY WATER-WISE MANGO TREE

- Glossy, green leaves with good turgor
- Strong growth with balanced canopy
- High fruit set and quality
- Resilient to water stress, pests and diseases

EFFICIENT NUTRIENT UPTAKE

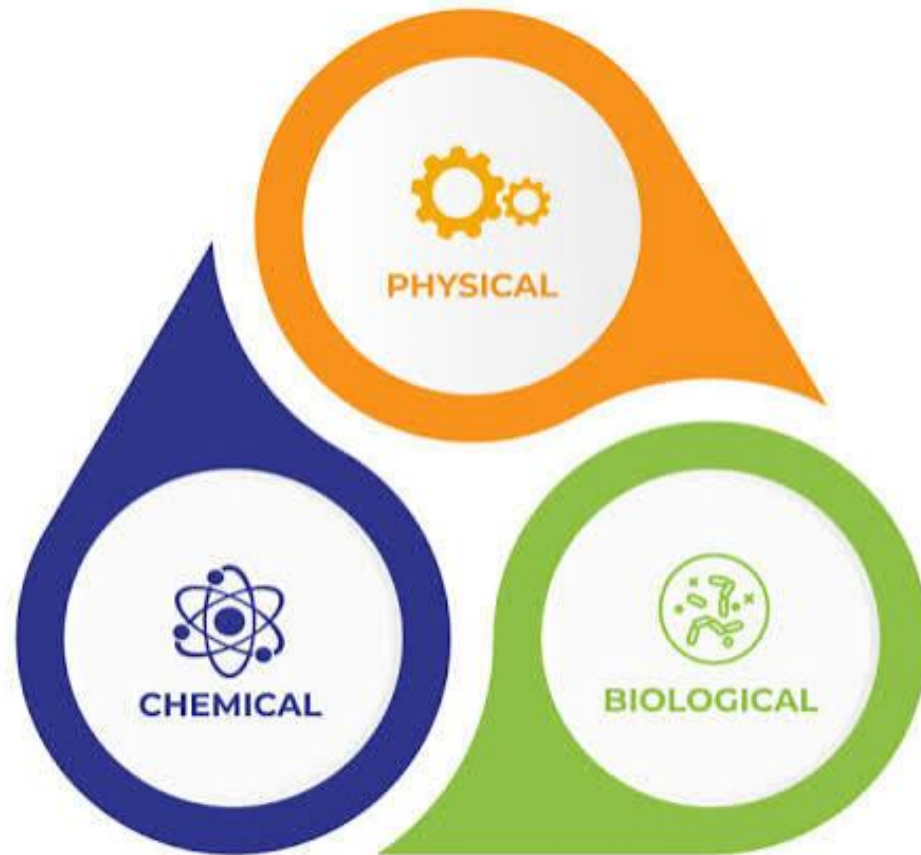
- Extensive root system explores deep and wide
- Beneficial soil biology enhances nutrient availability
- Essential nutrients absorbed for optimal growth and fruiting

DEEPLY ESTABLISHED ROOT SYSTEM

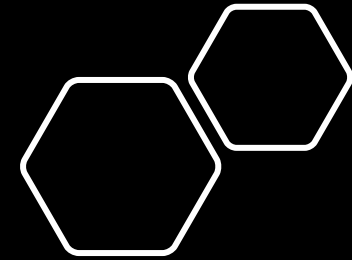
- Deep tap roots access subsoil moisture
- Lateral roots capture surface nutrients
- Mycorrhizal associations improve water and nutrient uptake
- Improved drought resistance and stability

WELL-INFILTRATED SOIL • STRONG ROOTS • EFFICIENT NUTRITION • WATER STRESS RESILIENCE • SUSTAINABLE PRODUCTION

3 ASPECTS OF SOIL HEALTH

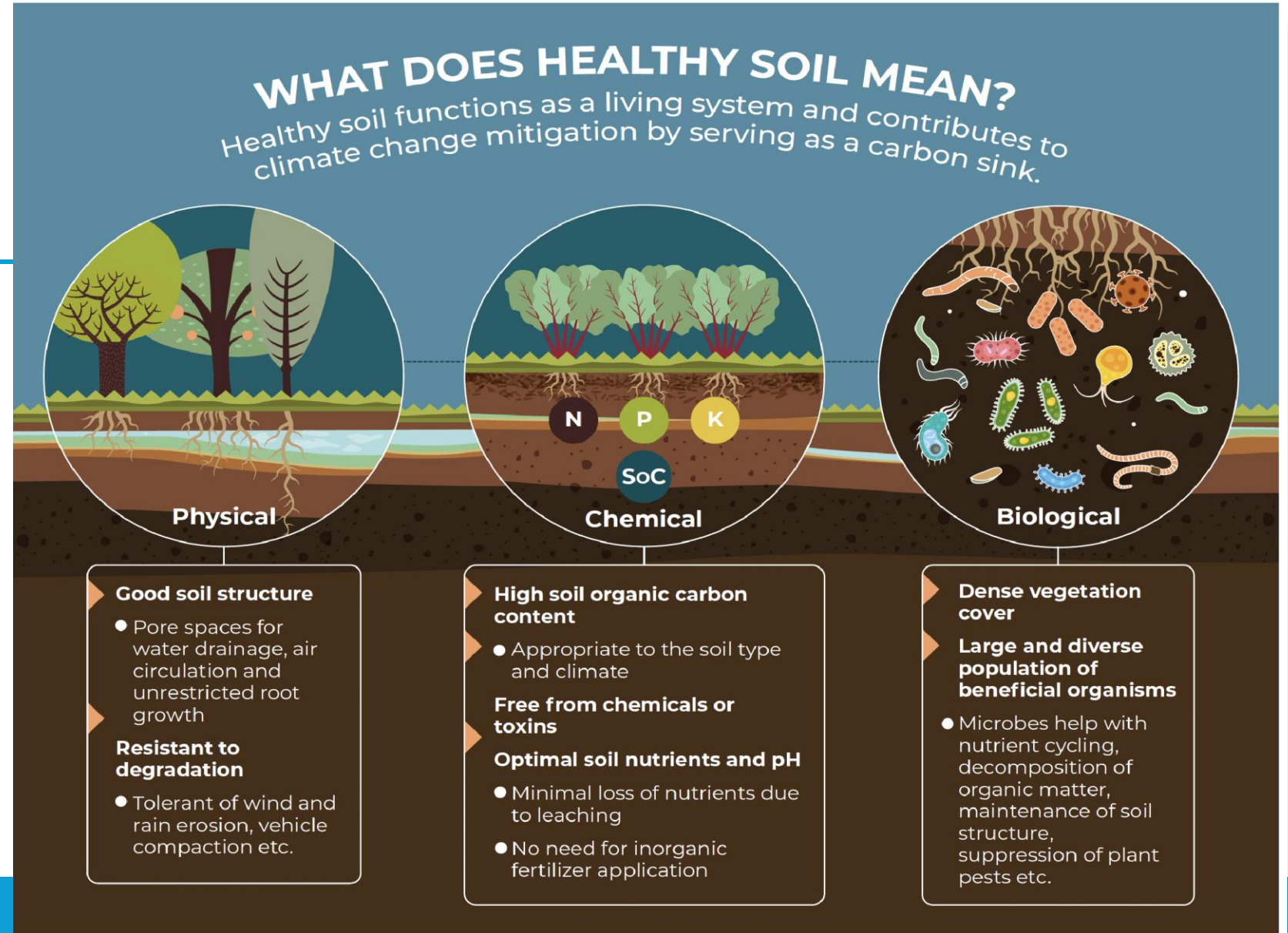


SLURRY_{FOR}SOIL

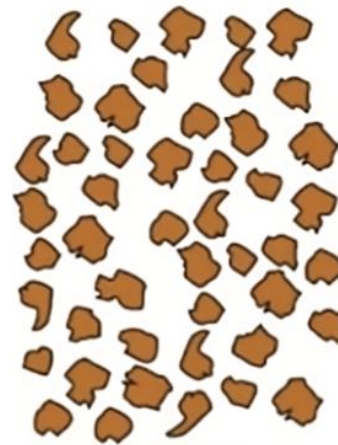
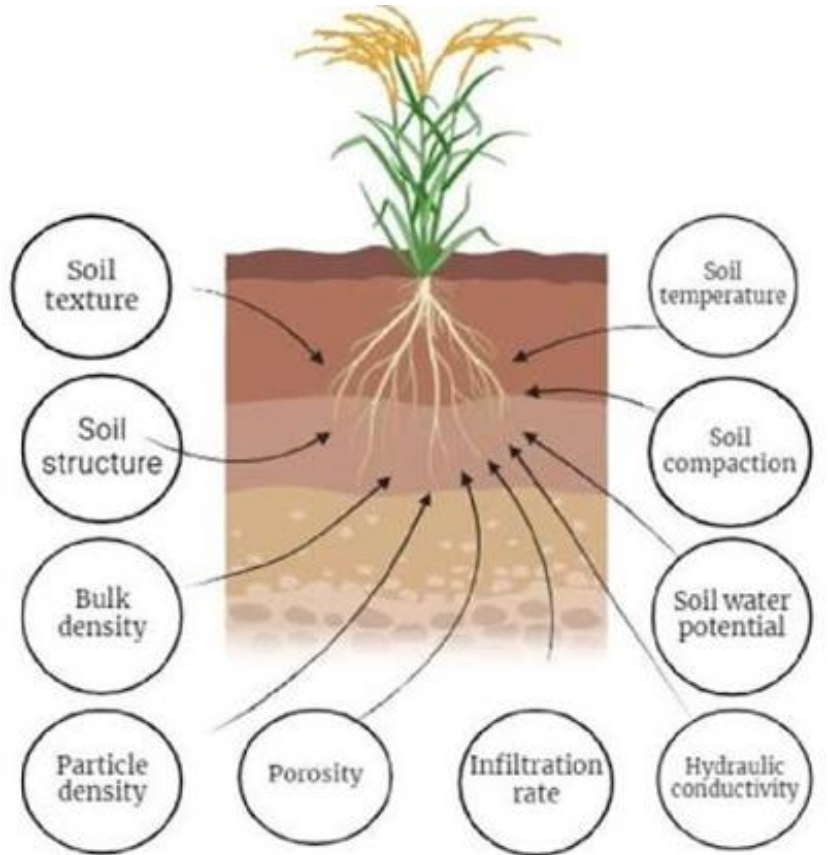


Soil health

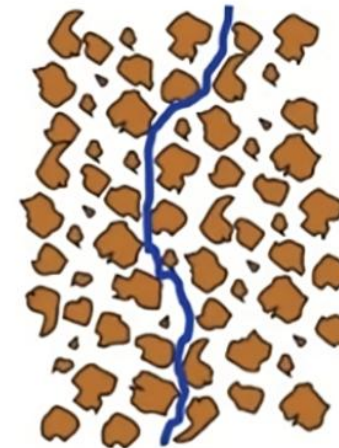
- **What is soil health?**
- Soil health is the **continuous capacity** of soil to function as a **vital living ecosystem** that **sustains** plants, animals, and humans



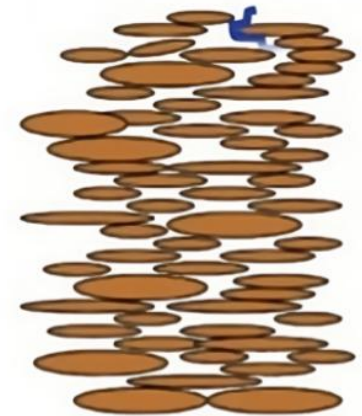
Physical properties



Sand
Coarse texture



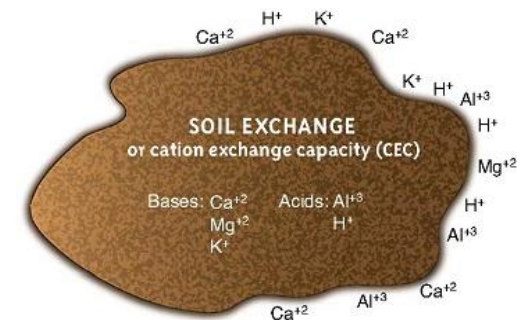
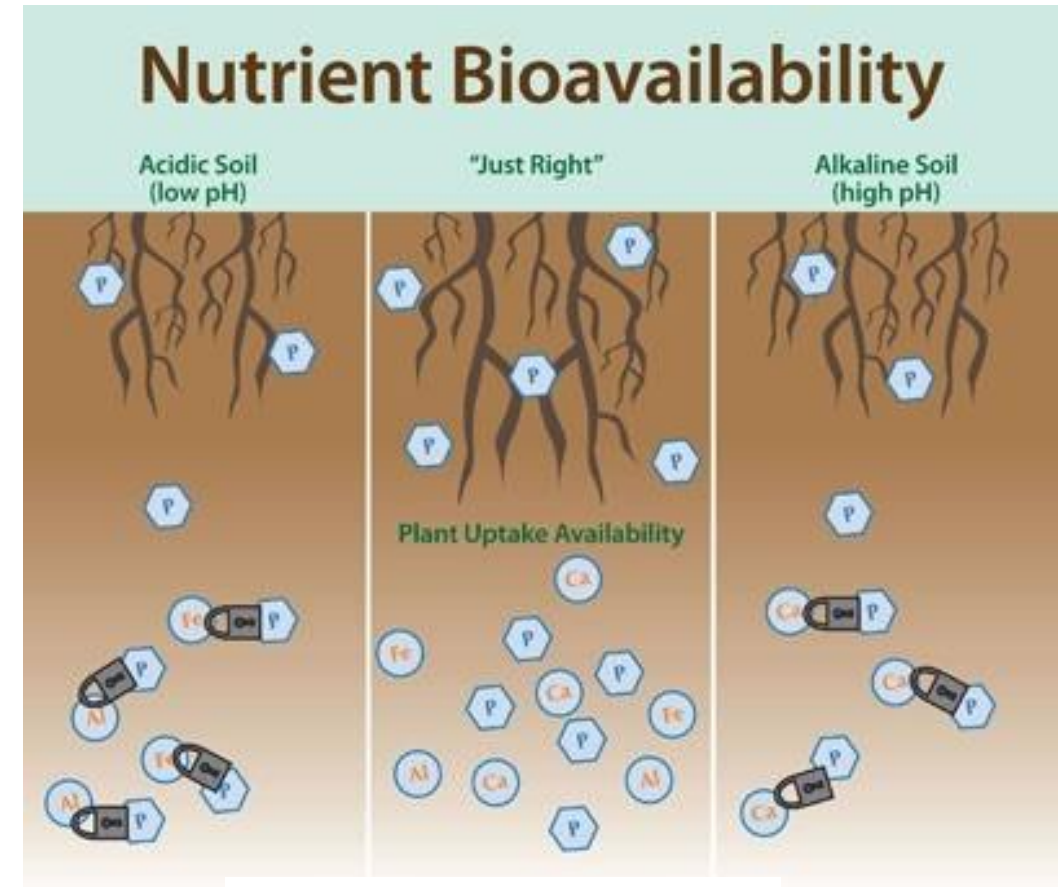
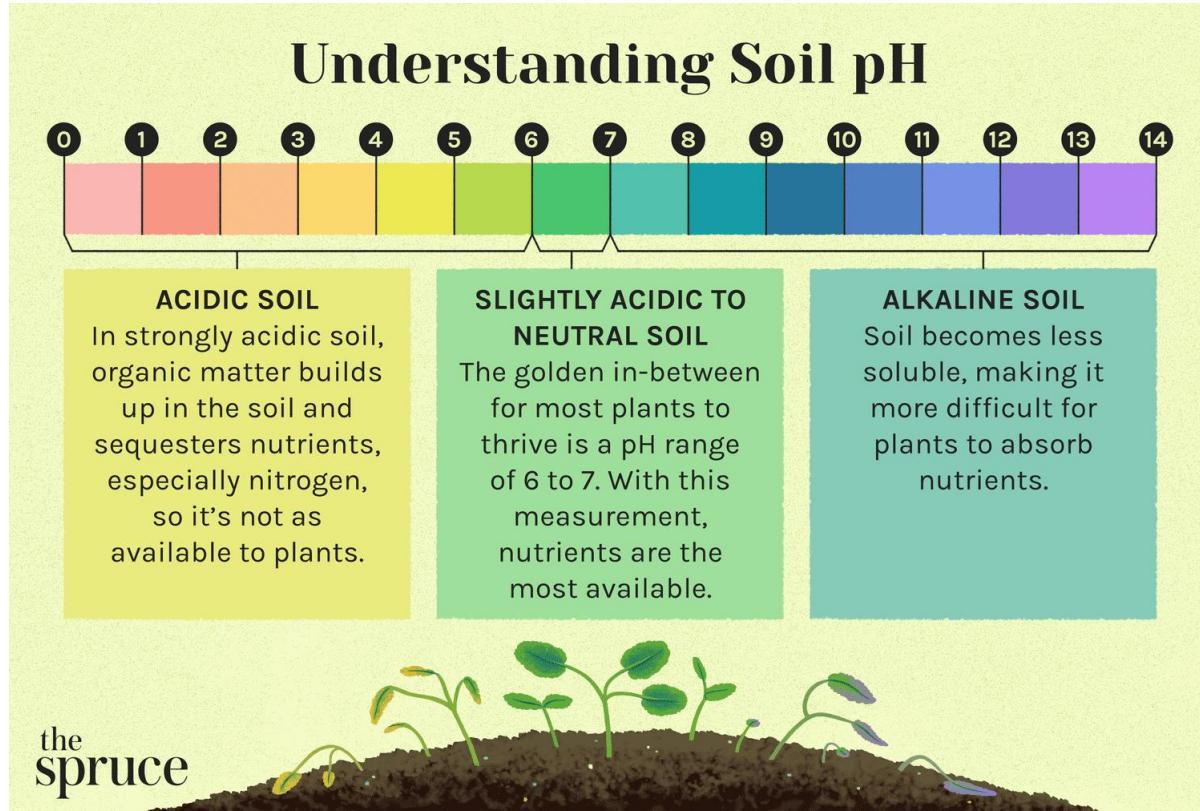
Loam
Medium texture



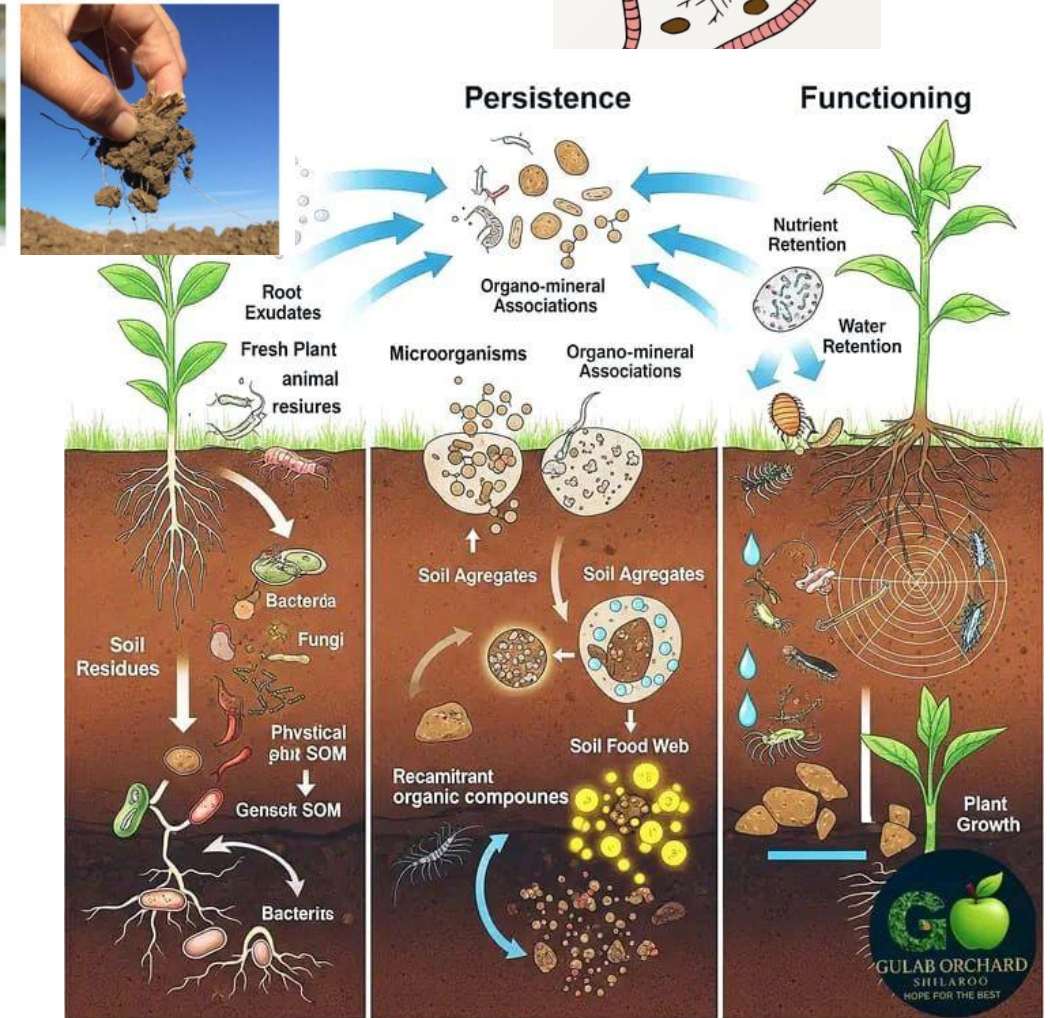
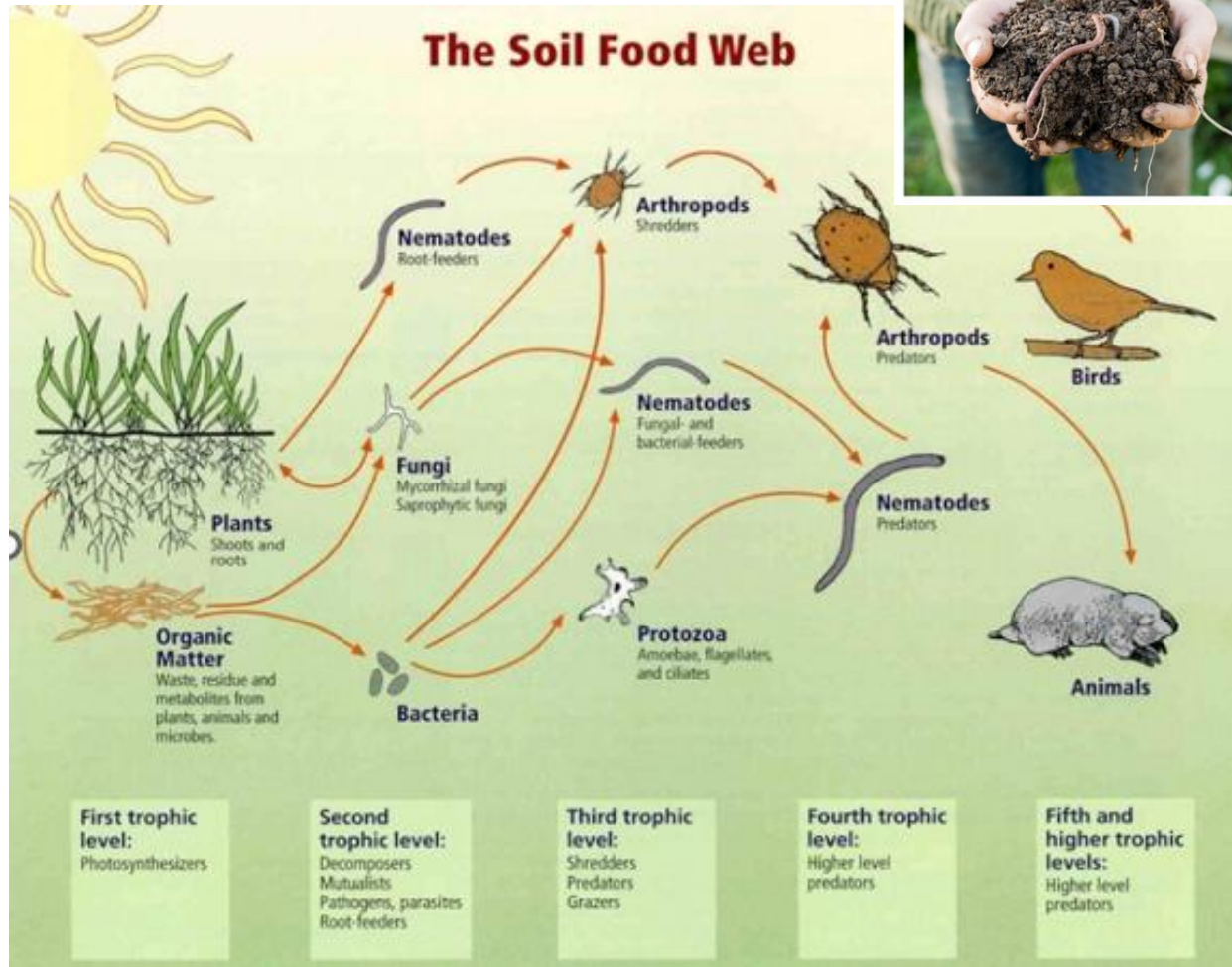
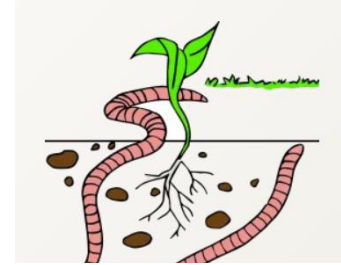
Clay (Compacted)
Fine texture

Good structure and water retention

Chemical properties



Biological properties



Why is soil health NB – *What do I get in return?*

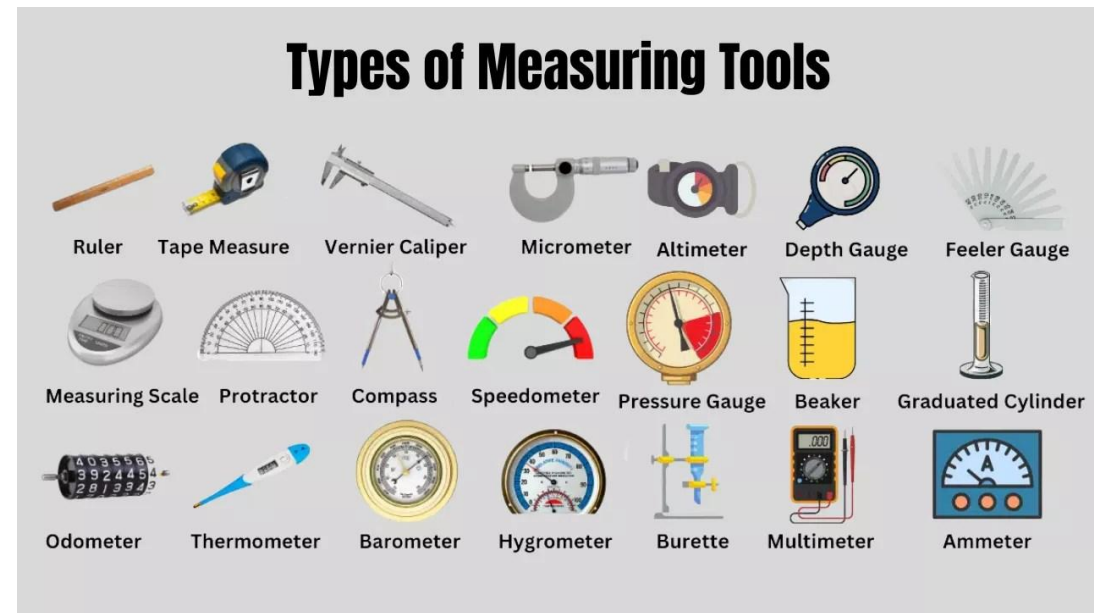
- **Holistic approach** to sustainable ecosystems (micro & macro) – ***assisting stress conditions***
- Micro and macro ***nutrient balances*** (soil & in tree)
- Soil ***aeration***
- Summer season – excess of rain
 - Waterlogging
 - Temperatures & humidity changes
 - Spraying conditions & timing
- Soil compaction
- Endophytic pathogen susceptibility



How do we measure it?

- *Is it the same for each crop ?*
- Labserve
- Melior

- *Leave it for the pro's*



What happens to crops in adverse climatic conditions?



Drought



Heat/ cold stress



Flooding



Nutrient losses

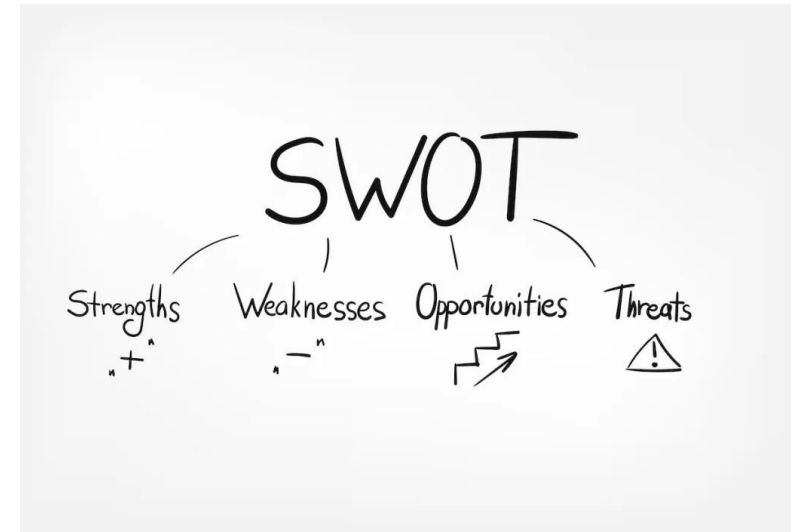


Microbial/tree/nutrient
uptake reactions?

What is the responses to these conditions in compacted soil vs loose viable soil

Where do I start?

- **SWOT** analysis – Identify!
- Soil quality, tree strengths, water quality, environmental factors
- **Know your struggles** inns & outs
- Search for **options** and products that **fit into the gaps** – scientifically and practically
- Bio stimulants /PGPRs/optimal water & nutrition/balanced ecosystems



And this is my end...for today

