Training Curriculum

INTERMEDIATE

2022/2023

SOILLESS FARM LAB

Technology | Business | Opportunities

Soilless Farm Lab
TECHNOLOGY | BUSINESS | OPPORTUNITY

Intermediate Boot camp Training

This is best suited for those already farming or with basic farming experience and want to transition to CSA, Soilless Farming or ML/AI in their agricultural journey. The class is for 10 days or 8 weekends, cost is One million naira only **(#1,000,000.00).** Below is the syllabus;

Introduction to soilless technology

- Why soilless culture differs from conventional agriculture.
- Methods used in soilless culture.
- Future of soilless technology.

Biotic factors (The Plant)

- The plant physiology
- Plant parts and function, water, its role and nutrients mobilization.
- Root-zone.
- Vegetative and productive stages.
- Pollination (Flower and fruit).
- Photosynthesis.
- The chemistry of nutrients.
- Plant metabolism and enzymes

Abiotic factors

- Light
- The effect of light on plant development.
- Light effect on plants (seasons, photoperiods)
- Water pH and its implication on plant chemical balance
- Oxygen
- Carbon dioxide
- Temperature

Nutrients

- Electrical conductivity (EC)
- pH and its relation to nutrients.
- Water quality and water toxicity.
- Understanding nutrients chemistry.
- Nutrients deficiencies- guideline.

Growing media

- Properties &Characteristics of growing media
- Water holding capacity (WHC)
- Porosity.
- Sources (Organic versus Non-Organic)
- Cat-ion exchange capacity. (CEC)
- Organic media - Coir, Sawdust (wood shavings), Tree Bark, Charcoal

- Non-organic media – Perlite, Vermiculite, Rock-Wool, Sand, Gravel.
- Working with various growing media.
- Consideration of chosen media.
- Choosing the prefer irrigation system due to growing media.
- Preparations of various growing media.
- Maintaining various growing media.

Drip irrigation

- General Principles.
- Various drip irrigation options.
- Irrigation strategies.
- Control and maintenance.

Soilless growing technology (pick one system)

- Trough, bag, gutter & container culture
- Flood and drain
- Passive hydroponics
- Fodder
- Aeroponics
- Aquaponics

Practical classes (based on system and crop chosen above)

- Irrigation and nutrients program
- Plant growing stage.
- Consulting parameters (EC & pH)
- Nature of crop and specific crop requirements. (Cultivar & Variety)
- Greenhouse technology and analysis
- Build a functional soilless system