



OP204A

UNDERSTANDING DEGRADED OIL PALM SOILS

Nutrient Lock-Up, Root Health & Biological Restoration



HRD CORP CLAIMABLE	INDUSTRY SPECIFIC (IS)	1 DAY (7 HOURS)	PROGRAMME NO. 10001760440
--------------------	------------------------	-----------------	------------------------------

WHY OP204A?

Oil palm performance can decline even where fertilizer is routinely applied because the underlying constraint may be degraded soil rather than insufficient fertilizer alone. OP204A helps plantation teams diagnose physical, chemical and biological limitations such as compaction, acidity, low organic matter, nutrient fixation or leaching, weak biological activity and impaired roots. Participants connect soil condition, nutrient availability, root health and biology before selecting corrective or regenerative actions. Biological approaches complement sound agronomic and fertilizer management; they do not replace appropriate nutrient diagnosis and plantation management.

WHO SHOULD ATTEND?

Estate / Plantation Managers • Assistant Managers • Agronomists • Plantation Technical Teams • Plantation / Field Executives • Sustainability Managers • Plantation Supervisors • Technical Officers (soil, nutrition, crop health or field management) • Plantation Owners • Smallholder Cooperative Leaders

EXPECTED OUTCOMES — WHAT PARTICIPANTS WILL LEAVE WITH

- Identify major physical, chemical and biological indicators of degraded oil palm soils and explain their implications for plantation performance.
- Explain how soil pH, organic matter, CEC, compaction, moisture and biological activity influence nutrient retention, availability and root uptake.
- Explain common nutrient lock-up and loss mechanisms affecting phosphorus, potassium and other plant nutrients in oil palm soils.
- Assess field and root-zone indicators and interpret basic soil information to identify likely constraints affecting nutrient efficiency and root health.
- Explain Soil Food Web functions and evaluate biological restoration approaches involving organic matter, beneficial microorganisms, AMF, biochar and biological inputs.
- Develop a controlled soil-restoration pilot and a practical 90-Day Workplace Soil Health Improvement Plan using baseline observations and measurable indicators.

OBSERVE → DIAGNOSE → UNDERSTAND NUTRIENT LOCK-UP → RESTORE FUNCTION → PILOT → MONITOR → IMPROVE

ONE DAY OF DIAGNOSIS, INTERPRETATION, RESTORATION & ACTION PLANNING

1 Understanding Soil Degradation in Oil Palm Plantations	Physical, chemical and biological dimensions of soil health; common causes of degradation; links to fertilizer efficiency and palm performance.
2 Soil Chemistry, Nutrient Availability & Nutrient Lock-Up	Soil pH; phosphorus fixation; potassium retention/leaching; CEC and nutrient-holding capacity; deficiency versus nutrient inaccessibility.
3 Root Health & the Oil Palm Root Zone	Active root zone; structure, compaction and aeration; moisture and drainage; healthy versus stressed roots; links to nutrient uptake and palm performance.
4 Soil Food Web & Biological Nutrient Cycling	Bacteria, fungi, protozoa, nematodes and other organisms; organic matter and mineralisation; beneficial microorganisms; AMF; fertilizer efficiency and resilience.
5 Diagnosing Degraded Soil: From Symptoms to Root Causes	Field indicators; simple soil/root observations; basic soil-test interpretation; nutrient lock-up/root-health case diagnosis; establish a practical baseline.
6 Biological & Regenerative Soil Restoration Approaches	Organic matter; beneficial microbial inputs; AMF; biochar; biologically active inputs; integrate restoration with fertilizer and plantation management.
7 Designing a Controlled Soil-Restoration Pilot	Define the problem and objective; baseline/comparison areas; interventions and treatment protocols; soil/root/palm/operational indicators; monitor before deciding whether to scale.
8 Workplace Soil Health & Restoration Action Planning	Prioritise blocks and constraints; immediate/medium-term actions; responsibilities/resources; develop a 90-Day Soil Health Improvement Plan; management review and continuous improvement.

FROM SYMPTOMS TO ROOT CAUSES

Participants use soil and root observation, basic soil-test interpretation and plantation scenarios to distinguish visible symptoms from likely underlying causes affecting nutrient efficiency and root health.

The programme then connects diagnosis to integrated biological and regenerative restoration options, a controlled soil-restoration pilot, measurable monitoring indicators and a 90-Day Workplace Soil Health Improvement Plan.

INDUSTRY SPECIFIC (IS) • 1 DAY / 7 HOURS • DIAGNOSIS + PILOT DESIGN + 90-DAY ACTION PLAN

TRAINER & ORGANISATION



Nip Wing Kan

Chairman, Persatuan Petani Organik dan Regeneratif Sabah (SORFA)
SORFA Lead Trainer • Regenerative Agriculture Practitioner • Soil Biology & Nutrient Management • Field Practitioner

Training draws on SORFA's practical work in soil restoration, biological inputs, biochar, nutrient cycling and monitored oil-palm field application in Sabah.

COURSE ENQUIRY & REGISTRATION

SORFA — Sabah Organic & Regenerative Farmers Association

www.sorfa.org | chairman@sorfa.org | +60 11 1537 8622

HRD Corp Training Programme No. 10001760440 • Industry Specific (IS) • 1 Day / 7 Hours



HRD CORP REGISTERED
TRAINING PROVIDER



ORGANISATION
REGISTRATION



HRD CORP ACCREDITED
TRAINER