

COURSE OUTLINE

PROGRAMME TITLE	Integrated Ganoderma & Basal Stem Rot (BSR) Management in Oil Palm: Assessment, Prevention, Biological Approaches & Field Action Planning
OVERVIEW (Brief introduction Of the topic)	Ganoderma-associated Basal Stem Rot (BSR) is a serious plantation management challenge in oil palm. Once disease becomes established within a block, the effects can extend beyond individual symptomatic palms to productive stand, field operations, replanting decisions and the long-term performance of the next planting cycle. Effective management therefore requires more than responding to visible symptoms; it requires systematic field assessment, risk mapping, appropriate sanitation and cultural practices, consideration of available biological and other management approaches, and continued monitoring. This one-day Industry Specific programme provides plantation managers and technical personnel with a practical framework for assessing and managing Ganoderma/BSR risk in oil palm operations. Participants will learn to recognise field indicators and risk factors, organise BSR field observations, classify and map affected areas, compare major management approaches, and understand how soil condition, root health and biological processes can be incorporated into an integrated management strategy. The programme gives particular attention to replanting and new establishment as important opportunities to reduce inherited risk and improve the conditions in which the next generation of palms develops. Participants will examine site preparation, management of infected material, soil and root-zone considerations, healthy planting material, beneficial biological inputs, organic matter and biochar concepts, and post-planting monitoring. Biological and regenerative approaches are presented as components of integrated risk management and not as a guaranteed cure for Ganoderma. Through case studies, field scenarios, risk-mapping exercises and workplace action planning, participants will develop a practical BSR management and regenerative replanting action plan that can be adapted to their estate or plantation operation.
LEARNING OUTCOME	Upon completion of this course, participants will be able to: 1. Identify common field indicators, disease-development patterns and operational risk factors associated with Ganoderma and BSR in oil palm. 2. Conduct a structured BSR field assessment and classify plantation areas according to observed risk and management priority. 3. Compare prevention, monitoring, sanitation, cultural, replanting, chemical and biological management approaches and explain their roles and limitations within integrated BSR management. 4. Explain how soil condition, root health, organic matter, beneficial microorganisms, AMF and biological competition may support plantation resilience as part of an integrated strategy. 5. Develop practical regenerative replanting and new-establishment measures for BSR-affected or higher-risk blocks.

	6. Develop a workplace BSR management action plan incorporating monitoring indicators, responsibilities, intervention priorities and follow-up actions.
DURATION (days)	1 day (8 hours)
TARGET PARTICIPANTS (position/level)	• Plantation Managers • Estate Managers • Assistant Managers • Agronomists • Plantation Executives • Field Executives • Sustainability Managers • Replanting / Development Managers • Plantation Supervisors • Technical Officers involved in crop health, replanting or BSR management • Plantation Owners • Smallholder Cooperative Leaders
COURSE CONTENT (with submodules)	Module 1 – Understanding Ganoderma & BSR in Oil Palm • 1.1 Ganoderma and Basal Stem Rot: Plantation Context • 1.2 Disease Development and Common Field Indicators • 1.3 BSR Risk Factors and Plantation Conditions • 1.4 Operational, Productivity and Replanting Implications Module 2 – Field Assessment, Detection & BSR Risk Mapping • 2.1 Field Observation and Symptom Recognition • 2.2 Recording Palm and Block-Level BSR Information • 2.3 BSR Incidence, Severity and Risk Classification • 2.4 Mapping Hotspots and Management Zones • 2.5 Establishing a Practical Baseline for Monitoring Module 3 – Integrated BSR Management Approaches • 3.1 Prevention and Good Plantation Practices • 3.2 Sanitation and Management of Affected Palms / Residues • 3.3 Cultural and Replanting Practices • 3.4 Chemical and Other Available Management Approaches • 3.5 Biological Control Approaches • 3.6 Matching Management Responses to Field Risk Module 4 – Soil, Root Health & Biological Management • 4.1 Soil Condition and the Oil Palm Root Zone • 4.2 Organic Matter, Soil Biology and Nutrient Cycling • 4.3 Beneficial Microorganisms and Biological Competition • 4.4 Arbuscular Mycorrhizal Fungi (AMF) and Root Establishment • 4.5 Biochar and Organic Inputs as Soil / Microbial Habitat Concepts • 4.6 Integrating Biological Approaches with Plantation Management Module 5 – Regenerative Replanting: Resetting the Next Planting Cycle • 5.1 Using BSR Risk Maps to Prioritise Replanting Areas • 5.2 Site Preparation and Management of Infected Biomass • 5.3 Soil and Root-Zone Rehabilitation Before Replanting • 5.4 Planting Material and Healthy Root Establishment • 5.5 Biological Support During Establishment • 5.6 Post-Planting Monitoring and Early Intervention

	Module 6 – Designing a Controlled BSR / Replanting Pilot • 6.1 Defining the Management Problem and Pilot Objective • 6.2 Establishing Baseline and Comparison Areas • 6.3 Selecting Interventions and Practical Treatment Protocols • 6.4 Defining Field, Soil, Root and Operational Indicators • 6.5 Data Recording, Review and Adaptive Management Module 7 – Monitoring, KPIs & Continuous BSR Management • 7.1 BSR Incidence and Palm Survival Indicators • 7.2 Palm Health, Growth and Productivity Indicators • 7.3 Soil / Root Health and Management Indicators • 7.4 Monitoring Frequency, Responsibilities and Records • 7.5 Evaluating Results and Deciding Whether to Scale Module 8 – Workplace BSR Management Action Planning • 8.1 Identifying Priority BSR Problems and Blocks • 8.2 Selecting Immediate, Medium-Term and Replanting Actions • 8.3 Assigning Responsibilities and Resources • 8.4 Developing a 90-Day BSR Management Improvement Plan • 8.5 Management Review and Continuous Improvement
LEARNING METHODOLOGIES	Learning Methodologies 1. Interactive Icebreaker and Participant Experience Sharing 2. Interactive Instructor-led Presentations 3. Visual Field Symptom and Plantation Scenario Review 4. Industry Case Studies and BSR Management Examples 5. Guided Group Discussions 6. BSR Risk-Mapping and Management-Zoning Exercise 7. Scenario-Based Problem Solving and Management Response Selection 8. Regenerative Replanting / Controlled Pilot Design Exercise 9. Workplace BSR Management Action Planning 10. Knowledge Checks, Reflection and Question & Answer (Q&A)