

1. Record Nr.	UNINA9910294551703321
Titolo	2018 International Conference on Virtual Reality and Intelligent Systems : 10-11 August 2018, Changsha, China // Institute of Electrical and Electronics Engineers
Pubbl/distr/stampa	Piscataway, New Jersey : , : Institute of Electrical and Electronics Engineers, , 2018
ISBN	1-5386-8031-9
Descrizione fisica	1 online resource (74 pages)
Disciplina	617
Soggetti	Rehabilitation technology Virtual reality - Industrial applications Virtual reality in medicine
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia

2. Record Nr.	UNINA9910774725303321
Autore	Dubos Bernard
Titolo	Oil Palm Fertilization Guide / / Bernard Dubos, Xavier Bonneau, Albert Flori
Pubbl/distr/stampa	Versailles : , : editions Quae, , 2022
ISBN	2-7592-3676-5
Descrizione fisica	1 online resource (82 pages)
Collana	Savoir-faire
Disciplina	631.52
Soggetti	Plant breeding Plantations
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Acknowledgements. .5 -- Preface . .7 -- Introduction: context and purpose of this guide 9 -- 1. Understanding oil palm mineral nutrition and diagnosing nutritional needs. 13 -- Why fertilize oil palm plantations?13 -- Can deficiency symptoms be trusted to recommend fertilizer applications?.16 -- Nitrogen (N) deficiency.16 -- Potassium (K) deficiency .16 -- Magnesium (Mg) deficiency.18 -- Boron (B) deficiency.19 -- Copper (Cu) deficiency .19 -- Manganese (Mn) deficiency 20 -- Other nutrients. 20 -- Conclusion . 20 -- Analysing leaf samples to establish a diagnosis. 20 -- Ascertaining variability in leaf nutrient contents. 23 -- Nitrogen (N). . 23 -- Phosphorus (P). . 27 -- Potassium (K). . 30 -- Calcium (Ca). . 31 -- Magnesium (Mg). . 32 -- Chlorine (Cl). 35 -- Sulphur (S). 35 -- Trace elements: boron, copper, iron, manganese. 35 -- Interpreting leaf contents considering the specific characteristics of a plantation . 37 -- 2. Plantation sampling for ongoing mineral nutrition monitoring . 39 -- Dividing the plantation into several leaf sampling units 39 -- Planning the leaf sampling schedule 40 -- Choosing the palms of the reference sample inside the LSU 41 -- Restricting reference sampling to a uniform section of the LSU. 41 -- When and how to select the palms used for leaf sampling 44 -- Taking special leaf samples to check specific zones in the LSU 45 -- 3. Adapting the decision-support tool to local conditions: taking the specificities of each site into account. 47 -- Fertilization trial principles 47 -- Choice of treatments and experimental designs 47 --

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Sommario/riassunto

Intended as guide for designing the fertilization system in oil palm plantations, this book explains in clear language how to define fertilizer recommendations for each plantation, considering the specific characteristics of each site. The authors present the principles for interpreting the results of plant tissue analysis, mainly leaflets, taking into account the influence of factors specific to each plantation (age, plant material, climate, soil). They detail how to experimentally determine site-specific reference levels of mineral elements and sampling rules for monitoring the nutritional status of the plantation. Priority is given to the most specific facies (soil, plant material) of the planted areas rather than to an average representation of the plots. This guide explains how to create fertilization schedules to achieve optimal leaf contents from experimentation, and to compare these data with information from geographic information systems. This decision support system is designed to be valid in all situations. In addition to the economic optimization of fertilization, environmental concerns are considered: soil health and absorption efficiency must be integrated into the fertilization strategy by optimizing cultivation practices for fertilizer application and organic matter management. This guide is illustrated by numerous examples from trials in various soil, climate and plant material conditions in Africa and Latin America.