

SPRINGER BRIEFS IN AGRICULTURE

Khim Phin Chong
Jedol Dayou
Arnnyitte Alexander

Detection
and Control
of *Ganoderma*
boninense in Oil
Palm Crop



Springer

SpringerBriefs in Agriculture

More information about this series at <http://www.springer.com/series/10183>

Khim Phin Chong · Jedol Dayou
Arnyitte Alexander

Detection and Control
of *Ganoderma boninense*
in Oil Palm Crop

Khim Phin Chong
Faculty of Science and Natural Resources
Universiti Malaysia Sabah
Kota Kinabalu, Sabah
Malaysia

Arnyitte Alexander
Faculty of Science and Natural Resources
Universiti Malaysia Sabah
Kota Kinabalu, Sabah
Malaysia

Jedol Dayou
Faculty of Science and Natural Resources
Universiti Malaysia Sabah
Kota Kinabalu, Sabah
Malaysia

ISSN 2211-808X
SpringerBriefs in Agriculture
ISBN 978-3-319-54968-2
DOI 10.1007/978-3-319-54969-9

ISSN 2211-8098 (electronic)
ISBN 978-3-319-54969-9 (eBook)

Library of Congress Control Number: 2017937115

© The Author(s) 2017

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, express or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Printed on acid-free paper

This Springer imprint is published by Springer Nature
The registered company is Springer International Publishing AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Preface

Oil palm is the world's highest oil crops' producer with potential yield capacity 10–15 times higher compared to other oil crops planted on the same size of land. Increases in global demand for edible oil and biofuel, driven by the increasing population, remain the main factors driving up the expansion of oil palm cultivation in South East Asia (SEA) and other regions of the world. Currently, Malaysia and Indonesia are the two countries that contribute up to 90% of world's palm oil export. Unfortunately, the oil palm industry in SEA is under threat of a devastating disease. This disease is known as basal stem rot (BSR) which is caused by a fungus known as *Ganoderma boninense*. With no known remedy at present, BSR disease continues to erode the profitability of the oil palm industry and created a significant concern globally.

This book is a joint effort by the authors who are currently working actively on finding suitable detection and management methods for BSR disease in oil palm. With immense experience in the field, this book provides good information with backup data covering both detection and management strategies of *Ganoderma*. The six chapters in this book address many current issues in tackling the pathogen and the development of sustainable disease management programs of BSR. There are including; an introduction to the oil palm industry in global perspective and its future potential (Chap. 1), The pathogenic nature of *Ganoderma* (Chap. 2), Some of the current detection methods of *G. boninense* (Chap. 3), Control methods of the pathogen, which cover cultural practices, chemical control, development of disease resistance and biological control (Chap. 4) and more in-depth review of latter subject in control of *G. boninense* using combination of biocontrol agents (Chap. 5). This chapter gives an in-depth information on the use of biological approaches in controlling *G. boninense* to meet the current oil palm–environmental dilemmas and demands for more eco-friendly practices in the field. The last chapter (Chap. 6) concludes the contents of this book and summarizes the discussed matters as well as suggests several recommendations for future research or further improvements.

This book serves as an exclusive source of information on BSR caused by *G. boninense*. This book will make an essential contribution to the oil palm industry and will be a valuable reference and guide for planters, agricultural students,