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Sustainable Management of Soil in Oil Palm Plantings

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Sustainable Management of Soil in Oil Palm Plantings

**Proceedings of a workshop held in Medan,
Indonesia, 7–8 November 2013**

Editors: Michael J. Webb, Paul N. Nelson, Cécile Bessou,
Jean-Pierre Caliman, Edy S. Sutarta



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2015

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Webb M.J., Nelson P.N., Bessou C., Caliman, J.-P. and Sutarta E.S. (eds). Sustainable Management of Soil in Oil Palm Plantings. Proceedings of a workshop held in Medan, Indonesia, 7–8 November 2013. ACIAR Proceedings No. 144. Australian Centre for International Agricultural Research: Canberra. 70 pp.

ACIAR Proceedings – ISSN 1038-6920 (print), ISSN 1447-0837 (online)

ISBN 978 1 925133 64 6 (print)

ISBN 978 1 925133 63 9 (PDF)

Design by Peter Nolan, Canberra

Printing by CanPrint

Cover: Technical advisors and a smallholder oil palm grower examining a recent volcanic ash soil on his oil palm block in West New Britain, Papua New Guinea (Photo: Paul Nelson).

Foreword

Oil palm is a globally important source of vegetable oil, being used in a wide variety of foods and other products. For many tropical countries it is an economically important crop, fulfilling local demand for vegetable oil and generating large export incomes. It is grown by plantation companies and smallholder families; often in a nucleus or plasma system where the smallholders supply oil palm fruit to a centralised mill. As demand for vegetable oil increases, due to growing and increasingly wealthy populations, the industry is expanding rapidly onto new land and there is an increasing need for ecological intensification of production.

To ensure continuous production into the future and to safeguard the condition of the broader environment it is crucial that the condition of the soil in oil palm plantations be maintained or improved. In our rapidly changing environment, new management approaches will be needed to optimise production and sustainability. Such advances will rely heavily on science- and system-based understanding of oil palm agroecosystems. This workshop brought together 41 scientists from 10 countries to discuss and advance sustainability of soil management in oil palm production systems.

The workshop and subsequent proceedings covered a broad range of topics: soil types and properties; water and nutrient cycling; effects of organic residues; biogeochemical processes; biological processes; monitoring, modelling and assessment, and; synthesis and discussion. The papers produced during the workshop will be useful to scientists and managers throughout the tropics. I hope that the information and approaches discussed in this volume will be used widely, stimulating better understanding and care of vital soil resources.



Nick Austin
Chief Executive Officer
ACIAR

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Introduction

**Paul Nelson¹, Cécile Bessou², Jean-Pierre Caliman³,
Michael Webb⁴, Edy Sigit Sutarta⁵**

The workshop on ‘Sustainable management of soil in oil palm plantings’, held in Medan, Indonesia, on 7–8 November 2013, brought together 41 scientists from 10 countries, under the auspices of PalmINet (www.palminet.com) and the International Conference on Oil Palm and the Environment (ICOPE, www.icope-series.com).

The overall objective of the workshop was to improve the management of soil in oil palm agro-ecosystems through generation of better (more holistic and site-specific) information and advice to growers. The workshop focused on synthesis of knowledge and identification of research gaps by scientists working in oil palm systems, with particular emphasis on indicators of sustainability to help growers underpin certification of the Roundtable on Sustainable Palm Oil (RSPO).

The aims of the workshop were to:

1. Create and strengthen links and facilitate exchange of ideas between scientists working on sustainable soil management in oil palm.
2. Synthesise the challenges and approaches for improving sustainability of soil management under oil palm and chart a way forward for collaborative research and production of decision-support materials for managers.

It is appropriate that the workshop was held in Medan, where the oldest commercial oil palm plantations, established around 1911, are still producing, now into their fifth generation of palms. Medan is also the place of initial discussions that led to the formation of the RSPO. The RSPO held its 11th annual meeting and 10th General Assembly in Medan in the week following the workshop.

In these proceedings, we present the papers (mostly as abstracts only) given at the workshop and summaries of discussions that were held. Copies of slide presentations given during the workshop are accessible at the PalmINet website (community.plantnet-project.org/pg/groups/2879/palminet/).

We gratefully acknowledge the workshop sponsors—the International Conference on Oil Palm and the Environment (ICOPE, www.icope-series.com), the Australian Centre for International Agricultural Research (ACIAR, www.aciar.gov.au), the Crawford Fund (www.crawfordfund.org), the International Plant Nutrition Institute – Southeast Asia Program (IPNI-SEAP, www.ipni.net), PalmINet (www.palminet.com) and the organisations employing the participants.

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