

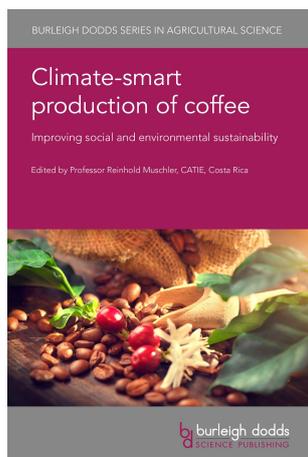
Book review

Climate-smart production of coffee Improving social and environmental sustainability

Prof Reinhold Muschler (ed.)

480 p., 2022, Burleigh Dodds Science Publishing Limited, ISBN: 978-1-78676-483-6

Coffee production changed dramatically over the years. Through mass marketing, coffee consumption increased exponentially until the 1970s. Speciality coffees emerged to satisfy a specific group of consumers, and such segmentation of the market continues until today based on refined gradations in quality and taste, along with a greater focus on social and environmental responsibility. Especially the latter trend in coffee consumption also highlights the need for coffee growers to shift their production system to a climate-friendly approach. Not only to meet the respective demand in the coffee market, but also to contribute their part to reduce the environmental impact of the coffee industry. How this can be done is outlined in this highly interesting and easy to read publication. The book is divided into two parts, of which the first comprises seven chapters and starts with a description of the environmental sustainability of growing coffee and the farmers' income - why do (small-holder) coffee producers earn so little? It clearly shows how the livelihoods of these producers can be improved and how a more sustainable coffee sector can be created. The challenges faced by small- and medium-scale coffee growers are presented and ways forward are identified. The environmental services that coffee farmers can provide, such as carbon sequestration and storage, biodiversity protection, watershed protection, and cultural and recreational benefits, are also detailed.



ample, the carbon footprint of a cup of coffee as well as the greenhouse gas emissions on coffee farms are elaborated. Relevant factors that reduce environmental impacts, such as shade management and biodiversity management options, are presented to. The book also introduces the reader to the fair trade coffee market by asking the question “How fair is fair?”. It shows that an important aspect of fair trade should be the price paid to the producer. It should enable farmers to lead a decent life and finance additional investments to enable them shifting to more sustainable production methods and adjusting to climate change.

Coffee breeding aspects are also covered in this publication, with a separate chapter on advances in Arabica coffee breeding. This chapter describes, among other things, the genetic resources of Arabica varieties, available germplasm banks, and variety selection criteria, such as yield, resistance to coffee leaf rust, as well as to other pest and diseases. Like most chapters in this book, this one also ends with a list of addresses where further information can be obtained. This extra information can be very helpful to practitioners and researchers alike. The last chapter of the book's first part deals with post-harvest practices; here the steps and processes are discussed that ensure that a maximum amount of raw coffee beans is converted into a final, saleable product with maximum taste.

The second part deals in depth with sustainable pest and disease management. It describes the insect pests and diseases that affect coffee production in different agroecosystems, as well as alternative pest control methods. Two diseases have their own chapter: coffee leaf rust and coffee wilt disease. The last three chapters of the second part present integrated management approaches towards control of nematodes, soil-borne insect and fungal pests, and weeds in coffee production systems.

Overall, this book that is based on extensive research by a wide range of internationally recognised experts, is of interest to all stakeholders in the coffee value chain, including extension workers and their organisations.

In the chapter on accessing and managing the environmental and social impacts of coffee production, for ex-

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