

1. Record Nr.	UNINA9910409704803321
Titolo	Mixed Plantations of Eucalyptus and Leguminous Trees : Soil, Microbiology and Ecosystem Services // edited by Elke Jurandy Bran Nogueira Cardoso, José Leonardo de Moraes Gonçalves, Fabiano de Carvalho Balieiro, Avílio Antônio Franco
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2020
ISBN	3-030-32365-X
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (XVI, 280 p. 41 illus., 24 illus. in color.)
Disciplina	634.950912
Soggetti	Forestry Microbiology Soil science Soil conservation Plant ecology Soil Science & Conservation Plant Ecology Ecologia forestal Silvicultura Eucaliptus Lleguminoses Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Preface -- 1. Why mixed plantations? -- 2. Growth patterns at different sites and forest management systems -- 3. Nutrient cycling in mixed forest plantations -- 4. Litter Decomposition and Soil Carbon Stocks in Mixed Plantations of Eucalyptus and Nitrogen Fixing Trees -- 5. Soil bacterial structure and composition in pure and mixed plantations of Eucalyptus spp. and leguminous trees -- 6. Biological Nitrogen Fixation (BNF) in Mixed Forest Plantations -- 7. Mycorrhiza in mixed plantations -- 8. Mesofauna and macrofauna in soil and litter of mixed plantations

-- 9. Bioindicators of soil quality in mixed Eucalyptus spp. plantations and leguminous trees -- 10. Ecosystem services in planted eucalypt forests and mixed and multifunctional planted forests -- 11. The risk of invasions when using Acacia sp. in forestry -- 12. Multifunctional mixed forest plantations: the use of Brazilian native leguminous tree species for sustainable rural development -- 13. The Brazilian legal framework on mixed planted forests -- Index -- .

---

## Sommario/riassunto

The aim of this book is to present, in depth, updated information on soil and microbial processes involved in mixed plantations of Eucalyptus and N<sub>2</sub>-fixing species, especially *Acacia mangium*, focusing on Forestry, Soils, Biology, Ecosystem Services and Sustainability. The potential of substituting chemical N fertilizer by a consortium of leguminous species that fix atmospheric nitrogen is an interesting solution for a more sustainable, economically and environmentally sound forest system. Among the main topics, we present reference topics on soil microbiology, as biological nitrogen fixation, the role of mycorrhiza in mixed plantations, bio-indicators of soil quality, and plantgrowth promoting bacteria with biotechnological potential. Here we discuss Ecosystem services and ecological benefits of these systems, the invasive potential of *A.mangium*, as well as the regulations and perspectives of land use policies for mixed forests and their role in the sustainability of the system.

---