1. Record Nr. UNINA9910906192403321

Autore	Edrisi Sheikh Adil
Titolo	Sustainable Plant Nutrition and Soil Carbon Sequestration / / edited by Sheikh Adil Edrisi, Pradeep Kumar Dubey, Ch. Srinivasa Rao, Himlal Baral, Rajiv Kumar Chaturvedi, Purushothaman Chirakkuzhyil Abhilash
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2024
ISBN	9783031535901 3031535901
Edizione	[1st ed. 2024.]
Descrizione fisica	1 online resource (374 pages)
Collana	Sustainable Plant Nutrition in a Changing World, , 2662-2408
Altri autori (Persone)	DubeyPradeep Kumar RaoCh. Srinivasa BaralHimlal ChaturvediRajiv Kumar AbhilashPurushothaman Chirakkuzhyil
Disciplina	575.76
Soggetti	Plant ecology Biodiversity Forestry Plant physiology Plant Ecology Plant Physiology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Preface -- Carbon sequestration via plant nutrition management: Processes and mechanisms -- Drivers of soil organic carbon loss under changing climate -- Exploring nexus between soil carbon sequestration and plant growth -- Role of carbon sequestration in maintaining ecosystem services -- Remote sensing and modelling soil organic carbon sequestration: A regime in global climate change -- Models for soil carbon and nutrient turnover: current status, trends and future prospects -- Modelling plant growth, nutrition and dynamics of soil organic carbon under changing climate and land use change -- Carbon footprinting and life cycle assessment under various plant growth models -- Ecological perturbations and loss of soil organic carbon:

Impacts and challenges of mitigation strategies -- Unravelling the carbon capture potential of degraded lands via tree plantations and land restoration -- Comparative role of topsoil and subsoil organic carbon in plant nutrition under climate change -- Enhanced soil carbon storage for improved crop productivity assuring sustainable food and nutritional security -- Enhancing plant nutrition and carbon sequestration via different agroforestry approaches -- Impact of various agronomic approaches on nutrient use efficiency -- Exploring root engineering technologies for efficient nutrient uptake in plant systems -- Role of novel microorganisms for maintaining soil carbon pool and plant health -- Advanced molecular approaches for sustainable soil nutrient management and improving ecosystem services -- Linking plant nutrition to ‘zero hunger’ (SDG# 2) and other associated SDGs -- Linking carbon sequestration to UN-SDGs -- Global and regional sustainability challenges and undertaken initiatives for plant and soil nutrient management -- Bibliography -- Index.

Sommario/riassunto

Terrestrial plant systems are an integral part of Earth’s land resources. Resources are mutually connected via the nutrient exchange phenomena. Thus, plant nutrition is crucial in managing soil fertility and land productivity. Soil organic carbon is one of the critical indicators for assessing the viability of land, and hence soil carbon sequestration, which is a burgeoning issue regarding changing climatic conditions. In this context, the present book provides an essential linkage between sustainable plant nutrition and soil carbon sequestration and their management strategies that lead to multidimensional benefits for environmental sustainability. The primary purpose of this book is to explore the nexus between carbon sequestration and plant growth, its role in maintaining ecosystem services and modeling aspects of soil carbon and nutrient dynamics. Moreover, it aims to address the growing challenges of ecological perturbations, unraveling the potential of degraded lands for food, fuel, and nutritional security and accounting for meeting various UN SDGs.