

Preface

The global consensus to reduce inputs of agrochemicals, which are perceived as being hazardous in nature, has provided opportunity for the development of novel benign sustainable crop management strategies. One of the strategies is the application of effective microbial product in the form of 'Compost', beneficial for both farmers and ecosystem.

Microorganisms are able to degrade solid waste organic material into compost, which is a mixture of decayed organic matter, manure etc. Incomplete microbial degradation of organic waste involving both aerobic and anaerobic process lead to compost formation. If such products is incorporated in to soil, increases soil fertility and enhances plant growth and development. The beneficial activities bestowed upon plants by compost utilization are multifaceted, hence most promising alternatives for achieving sustainable agricultural production.

The present book entitled "Composting for Sustainable Agriculture" comprises 13 chapters contributed by leading experts having authoritative experience both in teaching and research on fundamental and applied aspects of compost science. The intensification through nutrient cycling, aerobic-anaerobic processing of organic waste, lignocellulosic bioconversion including both terrestrial and aquatic biomass residue into compost, its amendment into soil ensure farmers to obtain better crop productivity are suitably described. A due account is provided with respect to physio-chemical and biological parameters and their analysis in mature compost for quality assessment. The application of metabolites enzymes of cellulolytic thermophiles has also been focused. Compost tea is a watery extract of microorganisms and nutrients acts as potential source for the management of foliar and fruit diseases besides municipal solid waste, oil palm waste. Compost proved efficient in improvement of agricultural soil fertility have also been included.

The book provides adequate new insights to students, teachers, NGO's and other professionals interested to enrich the subject of knowledge of compost process, analysis and application particularly in the context of Environmental studies, Biotechnology, Microbiology, Agriculture, Plant protection, Agronomy and field practices in crop ecosystem.

I would like to express my sincere thanks to all the contributors for their contribution for mutual co-operation of scientific benefits. I acknowledge with thanks the assistance rendered by my research students Mohit and Shrivardhan. I owe my sincere thanks to Dr. Valeria Rinaudo and Dr. Ineke from the publisher Springer for their valuable support. Last but not the least, I owe thanks to my wife Dr. Sadhana and my children Dr. Charul and Ashish for taking care of me during this project.