

Contents

1 Probiotics for Plants: Importance of Rhizobacteria on Aboveground Fitness in Plants	1
Carla Spence, Emily Alff, Deepak Shantharaj, and Harsh Bais	
2 Bacterial Inoculants for Field Applications Under Mountain Ecosystem: Present Initiatives and Future Prospects	15
Pankaj Trivedi, Anita Pandey, and Lok Man S. Palni	
3 Potential Use of Soil Microbial Community in Agriculture	45
Noshin Ilyas and Asghari Bano	
4 Impact of Application of Biofertilizers on Soil Structure and Resident Microbial Community Structure and Function	65
Shilpi Sharma, Rashi Gupta, Gaurav Dugar, and Ashok K. Srivastava	
5 The Impact of Mycorrhizosphere Bacterial Communities on Soil Biofunctioning in Tropical and Mediterranean Forest Ecosystems	79
Robin Duponnois, Ezékiel Baudoin, Jean Thioulouse, Mohamed Hafidi, Antoine Galiana, Michel Lebrun, and Yves Prin	
6 Ecology of Bacterial Endophytes in Sustainable Agriculture	97
Pablo Hardoim, Riitta Nissinen, and Jan Dirk van Elsas	
7 Strategies for the Exploration and Development of Biofertilizer	127
Chiu-Chung Young, Fo-Ting Shen, and Sonu Singh	
8 Endophytic Bacteria and Their Role in Legumes Growth Promotion	141
Tania Taurian, Fernando Ibáñez, Jorge Angelini, María Laura Tonelli, and Adriana Fabra	

9	Role of PGPR Under Different Agroclimatic Conditions	169
	Anju Rani and Reeta Goel	
10	Consortium of Plant-Growth-Promoting Bacteria: Future Perspective in Agriculture	185
	Piyush Pandey, Sandeep Bisht, Anchal Sood, Abhinav Aeron, G.D. Sharma, and D.K. Maheshwari	
11	Signals in the Rhizosphere and Their Effects on the Interactions Between Microorganisms and Plants	201
	N.S. Paulucci, J.C. Vicario, A.B. Cesari, M.B. García, M.S. Dardanelli, and W.F. Giordano	
12	Role of Plant: Microbe Interactions in the Sustainable Development of Muga Sericulture	213
	Bala Gopalan Unni, Basabrani Devi, Yelena Kakoty, Sawlang Borsingh Wann, Archana Borah, and Pallavi Dowarah	
13	<i>Arabidopsis</i> as a Model System to Decipher the Diversity and Complexity of Plant Responses to Plant-Growth-Promoting Rhizobacteria	227
	Guilhem Desbrosses, Fabrice Varoquaux, and Bruno Touraine	
14	Interactions of Plant-Parasitic Nematodes and Plant-Pathogenic Bacteria	251
	Zaki A. Siddiqui, Rukshima Nesha, Neelu Singh, and Subha Alam	
15	PGPR-Mediated Systemic Resistance for Sustainable Agriculture	269
	B. Meena	
16	Potential of Plant Growth-Promoting Rhizobacteria for Sustainable Agriculture	287
	R.Z. Sayyed, M.S. Reddy, K. Vijay Kumar, S.K.R. Yellareddygar, A.M. Deshmukh, P.R. Patel, and N.S. Gangurde	
17	Contribution of N₂ Fixation for the World Agriculture	315
	André Luís Braghini Sá, Armando Cavalcante Franco Dias, Manoel de Araújo Teixeira, and Rosana Faria Vieira	
18	Plant Probiotics in Phosphorus Nutrition in Crops, with Special Reference to Rice	325
	Md. Tofazzal Islam and Md. Motaher Hossain	
	Index	365

Bacteria in Agrobiolology: Plant Probiotics

Maheshwari, D.K. (Ed.)

2012, XIV, 374 p., Hardcover

ISBN: 978-3-642-27514-2