Contents

Preface ix

CHEMISTRY AND BIOCHEMISTRY
OF MICROBIAL–PLANT INTERACTIONS

1. **Microbes and Microbial Products as Herbicides: An Overview** 2
   Robert E. Hoagland

2. **Maculosin: A Host-Specific Phytotoxin from *Alternaria alternata* on Spotted Knapweed** 53
   Gary Strobel, Andrea Stierle, Sang Ho Park, and John Cardellina

3. **Biochemistry of Non-Host-Selective Phytotoxins** 63
   Richard D. Durbin

4. **Satellite Metabolites and Synthetic Derivatives of Abscisic Acid as Potential Microbial Product Herbicides** 72
   Horace G. Cutler

5. **Biochemical Responses of Plants to Pathogens** 87
   Robert E. Hoagland

6. **Phytoalexins and Their Elicitors** 114
   N. T. Keen

PATHOGENS WITH POTENTIAL AS BIOHERBICIDES

7. **Pathogens with Potential for Weed Control** 132
   R. Charudattan

8. **Biological Control of Aquatic Weeds with Plant Pathogens** 155
   Gary F. Joye

GENETIC ASPECTS OF PATHOGENS FOR WEED CONTROL

9. **Genetic Variability of Fungal Pathogens and Their Weed Hosts** 176
G. J. Weidemann and D. O. TeBeest

10. **Biotechnological Approaches to Control of Weeds with Pathogens** 184
D. C. Sands, R. V. Miller, and E. J. Ford

PHYLLOPLANE–PATHOGEN INTERACTIONS

11. **Interactions of Pathogens on Plant Leaf Surfaces** 192
C. M. Kenerley and J. H. Andrews

12. **Functional Significance of Adhesion to the Preparation of the Infection Court by Plant Pathogenic Fungi** 218
Ralph L. Nicholson

ASPECTS OF SOIL MICROBES IN WEED CONTROL

13. **Herbicide–Pathogen Interactions and Mycoherbicides as Alternative Strategies for Weed Control** 240
Jack Altman, Stephen Neate, and Albert D. Rovira

14. **Synergistic Role of Soil Fungi in the Herbicidal Efficacy of Glyphosate** 260
James E. Rahe, C. André Lévesque, and Guri S. Johal

15. **Soilborne Fungi for Biological Control of Weeds** 276
Richard W. Jones and Joseph G. Hancock

FORMULATION AND COMMERCIALIZATION OF MICROBES AS BIOHERBICIDES

16. **Formulation and Application Technology for Microbial Weed Control** 288
Donald J. Daigle and William J. Connick, Jr.

17. **Bioherbicide Technology: An Industrial Perspective** 305
James S. Bannon, James C. White, D. Long, J. A. Riley, J. Baragona, M. Atkins, and R. H. Crowley

18. Weed Control with Pathogens: Future Needs and Directions **320**
George E. Templeton

Author Index **330**

Affiliation Index **330**

Subject Index **330**