Preface

The development of fungi for the biocontrol of pests, weeds and diseases has received a significant amount of interest in recent years. We have seen the progression of scientific wisdom from reports of potential biocontrol agents (BCAs) under optimized laboratory bioassay conditions (often a naïve and tenuous link) followed by disappointing field trials, to an advanced understanding of the important concepts required to produce a reliable and effective BCA. It is thus surprising that, while research directed to these major targets has a number of common goals, very little attention has previously been given to the integration of research effort. Disciplines such as pathology, genetics, physiology, mass production, formulation and application strategies are essential components in all three targets in making the necessary advances to enable fungal BCAs to become registered and commercialized.

Our aim in organizing the International Symposia at the University of Southampton in 1998 and the University of Wales Swansea in 1999, from which this book emerged, was to attempt to bring together scientists, industry and government agencies involved in all aspects of fungal BCAs for the first time. We believe that these meetings were timely and highly successful. Together they attracted over 700 participants from more than 36 countries to interact, identify common bottlenecks and suggest ways in which these can be overcome to enable progress to be achieved more rapidly. Common themes such as production, formulation and application technologies, biosafety, risk assessment and registration requirements were all covered.

This book has thus adopted a multidisciplinary approach to integrate the state-of-the-art knowledge in key areas of common interest in the development of fungal BCAs of pests, weeds and diseases. We hope that this will encourage further integration and focus on common hurdles that need to be overcome to enable more fungal BCAs to be commercialized and registered. With the significant pressure from consumers and the growing organic market requirements for fungal BCAs, we hope that this book will be beneficial in stimulating the required advances for this to be achieved.

This book is a timely attempt to link scientists from different and complementary disciplines to achieve a unified synthesis. No equivalent has been published for 10 years; the last notable work was that of Whipps and Lumsden (1989, *Biotechnology*

of Fungi for Improving Plant Growth, Cambridge University Press). The work offers an update of progress in the development of fungal BCAs, as well as drawing attention to potential and associated problems, and will integrate theory and practice.

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It is our goal that this book will serve as the current, most comprehensive treatise on the rapidly emerging field of fungal biocontrol and as a useful resource for practitioners, students, regulators, and industrial planners and marketeers.

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