Knowledge and Technology Transfer for Plant Pathology

Plant Pathology in the 21st Century

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Editors

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Springer

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Preface

This book contains fuller versions of the papers and posters presented in the Knowledge and Technology Transfer and Teaching Plant Pathology sessions at the 9th International Congress of Plant Pathology held in Turin, Italy in 2008.

Communication is an essential area for plant pathologists and it is not just the publication of results in the scientific press that is important. In a world where there is a major shortage of food and where a significant amount of it is destroyed by pests and diseases before it ever reaches the consumer, it is important to provide support to those who produce the food in order to reduce the losses. Reducing crop losses not only has an impact on health, but also wealth and, therefore, the ability to survive. With an ever-increasing demand on food supplies due to increases in population, and changes in life-style associated with rising incomes in certain parts of the world, plant pathologists have a pivotal role to play in contributing to global food security.

Aspects of crop protection have lost favour with the general public because of concerns about environmental pollution and genetic modification of crops. This has had a 'knock on' effect in the recruitment and training of crop protectionist in general and a concomitant impact on courses available at universities. However, it has never been more important to train people with good communication skills and an ability to solve problems to tackle the complexities of pathogen and plant interactions.

Extension/advisory plant pathology and teaching are about relationships: the relationship between the advisor and grower and the teacher and student. It is about the building up of trust in the advice given and the enthusiasm of, and methods used by, the teacher. Extension plant pathology has been described as 'plant pathology with a human face'. It is aspects of these personal relationships that are explored in this book.

Plant pathology is an applied science – or should be. It is about solving problems in a practical way. There is no point in being able to unravel a gene sequence of, for example, *Phytophthora infestans*, if farmers do not receive advice on how this pathogen can be controlled economically and in their own, and the best interests of the community. Farmers are not generally interested in the nuances of the cause of a disease; they want solutions that are easy to apply and are economic. They may be content to do what they are advised or they may wish to see the advice

demonstrated. Each farmer is different. They have their own aspirations. A farmer on a rented farm may need to maximise profit in order to pay the rent, an owner occupier may forgo profit to have a more relaxing life style. Farmers in less developed countries need to protect the crops they grow for their very survival. So the aspirations of farmers vary according to circumstances. Advisers/extension workers at the field gate have to bear all this in mind in their interpretation of the advice they give, for what will suit one farmer may not suit another.

Plant pathologists have always taken the lead in establishing plant clinics, a major resource for identifying crop problems. While entomologists, agronomists and soil scientists play their part, in my experience, it is generally left to the plant pathologist to interpret the result of a diagnosis. It is here that vital training and teaching plays its part. The understanding of the basic biology, the interactions between the disease, its host and context are important but so is experience. Plant pathologists also seem imbued with a sixth sense. They often have to make recommendations and provide advice, not only on the basis of the science but on an understanding, gained over several years of experience of the level of disease present, the growth stage of the crop, the general conditions affecting the crop, local topography and likely future weather. Not forgetting the market and general aspirations of the farmer/grower.

The teaching of those who are to become advisors and technicians in the control of crop diseases and the means of working with farmers and growers to increase production and the benefits this will accrue, are all explored in the following chapters.

N. V. Hardwick

Contents

1 Plant Healthcare for Poor Farmers Around the World: Gathering Demand and Innovative Responses 1
E. Boa

2 Participatory Approaches and Plant Diseases in Less Developed Countries 17
J.G.M. Vos, S.L.J. Page, and U. Krauss

3 Technology Adoption: Classroom in the Cocoa Block 33
D.I. Guest, R. Daniel, Y. Namaliu, and J.K. Konam

4 Scholarship of Teaching and Learning (SoTL) Projects in Plant Pathology 45
D.M. Eastburn and C.J. D'Arcy

5 Technology Transfer in Extension: Experience in the United States of America 55
P. Vincelli

6 Diagnostic Networks for Plant Biosecurity 59
J.P. Stack

7 Plant Clinics and Phytopathology Training 75
H. Maraite, C. Bragard, and A. Legrève

8 Training in Plant Pathology from an Industry Perspective 91
U. Gisi

9 Sustainable Crop Protection and Environment Protection: Eight Years of Technology Transfer Between China and Italy 101
M.L. Gullino, M. Pugliese, N. Capodagli, and A. Garibaldi

Index 119

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