

Plant Health Clinics

A training manual for plant health doctors in Pacific island countries



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Plant health clinics

A training manual for Plant Health Doctors in Pacific island countries

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Dedication

We dedicate this second edition of the manual to Osanti Luda, from Takwa village, north Malaita, Solomon Islands. He was a remarkable man, growing watermelon, and a variety of root crops on soils depleted by overuse in an area of high population. As an organic farmer, his answer was to incorporate a legume fallow into the system. He was generous to show us his farm and explain how he grew taro with yam intercrops following *Pueraria* fallows. Figures 3.44-3.46 in the soil Chapter 3 illustrate his technique. We are thankful to have known him, and for being part of the team trialling PHCs.

Foreword

This Foreword to the Second Edition of the Plant Health Clinics (PHC) manual is an opportunity for heads of agriculture and national universities of countries involved in PHCs to take stock of the program. We are pleased to do this, to look back on the last three years since the First Edition, to assess progress, and to contemplate the future.

Looking back, we recall that the launch of the manual in January 2020 coincided with the arrival of the COVID-19 pandemic. However, national agricultural agencies, universities, regional organisations and implementing agencies kept the project on track, notwithstanding the major economic and social upheavals caused by the virus. The manual was put to use: national trainer teams were trained to train extension staff who, in turn, provided farmers with the information they needed to grow healthy crops. We can all be very proud of this outstanding achievement.

At the same time, the project welcomed new members. The University of Goroka, Papua New Guinea, and the Department of Agriculture and Rural Development, Vanuatu, joined to work alongside the agricultural agencies of the original countries (Fiji, Samoa, Solomon Islands and Tonga). This was significant progress, signalling to development assistance agencies that PHCs were gaining traction in the Pacific. We understand that this expansion is likely to continue, with indication that several other countries wish to take up PHCs in the near future.

Going forward, major challenges remain as national agricultural agencies scale up PHCs from their pilot phases, and universities embed PHCs in their curricula. More immediately there are requirements to: further train extension staff, improving diagnostic and managerial capabilities, especially in those newly recruited to the service; to build confidence in extension departments to lead PHC programs, drawing support from research and biosecurity, civil society and the private sector; and to monitor the impact of PHCs in the farming community.

As for universities, we have already seen their excellent response to their role in the development of PHCs. They have opened their courses to include PHCs, not only to take on the role of training recruits and carry out research into pests and diseases, but also by offering policy directions on plant protection. We expect consolidation of these aspects in the years to come. We also anticipate that a consortium of universities, led by those where PHCs have been established, will provide guidance and support to those wishing to offer PHC courses for the first time.


Finally, we note that this Second Edition has a chapter on soils and a rewritten introductory chapter telling the story of PHCs as they developed across the world, including in the Pacific region. For soils, and in keeping with the other chapters, there is an introduction to the subject with a wealth of technical information, as well as exercises and quizzes to reinforce theory. We are pleased to see both these additions.

We commend the commitment of all those involved in the production of this Second Edition and look forward to seeing our staff using it to benefit our farmers.

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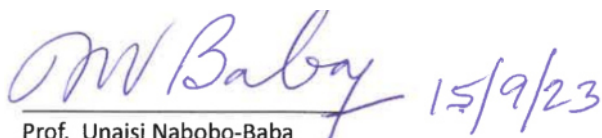







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Abbreviations

| | |
|-------|---|
| ACIAR | Australian Centre for International Agricultural Research |
| AM | Arbuscular mycorrhizae |
| ATP | Adenosine triphosphate |
| Bt | <i>Bacillus thuringiensis</i> |
| CRP | Cardiopulmonary resuscitation |
| DBM | Diamondback moth |
| DNA | Deoxyribonucleic acid |
| FAW | Fall armyworm |
| FNU | Fiji National University, Fiji |
| ICM | Integrated Crop Management |
| IPDM | Integrated Pest and Disease Management |
| IPM | Integrated Pest Management |
| KGA | Kastom Gaden Association |
| MAF | Ministry of Agriculture & Fisheries, Samoa |
| MAFF | Ministry of Agriculture, Food & Forests, Tonga |
| MAL | Ministry of Agriculture & Lands, Solomon Islands |
| MoA | Mode of action (of pesticides) |
| MoAW | Ministry of Agriculture & Waterways, Fiji |
| NARI | National Agriculture Research Institute |
| NGO | Non-Government Organisations |
| PHC | Plant health clinic |
| PHS | Plant health system |
| PICs | Pacific island countries |
| PNG | Papua New Guinea |
| PPE | Personal Protective Equipment |
| PPM | Parts per million |
| RNA | Ribonucleic acid |
| SINU | Solomon Islands National University, Solomon Islands |
| SPC | Pacific Community |
| SROS | Scientific Research Organisation of Samoa |
| UoG | University of Goroka, Papua New Guinea |
| USDA | United States Department of Agriculture |
| WHO | World Health Organization |

Units of measurement

Volume

- L: litre
- ml: millilitre
- Liquids are often measured using bottle tops (lids):
 - Coca-Cola top = 5 ml
 - beer top = 4 ml
- Powders are often measured using bottle tops (lids):
 - Coca-Cola top = 2.5 g
 - beer top = 2 g

Weight

- g: gram
- kg: kilogram

Length/area

- m: metre
- m²: square metre
- ha: hectare (1 ha = 10,000 m²)

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This manual was produced with support from *ACIAR HORT/2016/185: Responding to emerging pest and disease threats to horticulture in the Pacific islands*. We thank the many farmers in Fiji, Samoa, Solomon Islands and Tonga who have contributed to the testing of this manual. We acknowledge the work and inspiration of CABI Plantwise in developing plant health clinics worldwide.

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Content

| | |
|---|-----------|
| Dedication | iii |
| Foreword | iv |
| Authors | vi |
| Abbreviations | vii |
| Units of measurement | vii |
| Acknowledgement | viii |
| CHAPTER 1 | 1 |
| Plant Health Clinics | 1 |
| 1.1 An Introduction | 1 |
| 1.2 Plant health clinics in the Pacific – a start | 3 |
| 1.3 Plant health clinics take shape | 6 |
| 1.3.1 A medical model for PHCs | 8 |
| 1.3.2 Integrated pest and disease management | 10 |
| 1.4 PHC Resources | 11 |
| 1.4.1 The manual | 11 |
| 1.4.2 Layout of the manual | 12 |
| 1.4.3 The Pacific Pests, Pathogens & Weeds app | 12 |
| CHAPTER 2 | 13 |
| Identification and Diagnosis of Plant Pests and Diseases | 13 |
| 2.1 Introduction to diagnosis | 14 |
| 2.1.1 Diagnosing using A, B or C | 14 |
| 2.2 Abiotic factors | 28 |
| 2.3 Biotic causes | 35 |
| 2.3.1 What is a pest? | 35 |
| 2.3.2 Insect life cycles | 37 |
| 2.4 Symptoms of insects and mites – what can they tell us? | 54 |
| 2.4.1 Chewing pests | 56 |
| 2.4.2 Sucking pests | 65 |
| 2.4.3 Piercing pests | 70 |
| 2.4.4 Similar symptoms, different groups | 71 |
| 2.5 What is a disease? | 75 |
| 2.5.1 Most pathogens are small | 77 |
| 2.5.2 Pathogens reproduce very quickly | 77 |
| 2.5.3 Fungi and bacteria need water for infection | 78 |
| 2.5.4 Pathogens have many ways of spreading | 79 |
| 2.5.5 Pathogens have many ways of surviving | 80 |
| 2.6 Symptoms of pathogens – what can they tell us? | 81 |
| 2.7 Most common crops, pests and diseases in your region | 92 |
| 2.8 Making a diagnosis: symptoms, possibilities and probabilities | 95 |
| 2.8.1 Using the possibilities and probabilities process to diagnose a problem | 95 |

| | |
|--|-----|
| CHAPTER 3 | 105 |
| Soils | 105 |
| 3.1 What do we already know about soil? | 106 |
| 3.2 The importance of soils to humans | 108 |
| 3.2.1 Regulation of water | 108 |
| 3.2.2 Importance of soil microbes | 109 |
| 3.2.3 Soil is a carbon sink | 110 |
| 3.3 Where does soil come from? | 111 |
| 3.4 Components of soil | 112 |
| 3.4.1 Soil component 1: Minerals | 113 |
| 3.4.2 Soil component 2: Organic matter | 120 |
| 3.4.3 Soil component 3: Air and water | 123 |
| 3.4.4 Soil component 3: Living organisms | 124 |
| 3.5 Structure of soils | 131 |
| 3.5.1 Soil structure | 131 |
| 3.5.2 Movement of water through soils | 133 |
| 3.6 Soil profile and horizons | 137 |
| 3.7 Soil pH and nutrient availability | 140 |
| 3.8 Common types of soil & Pacific soils | 143 |
| 3.8.1 Comparison of soil types | 143 |
| 3.8.2 Pacific soils | 143 |
| 3.8.3 Sampling soil | 144 |
| 3.9 Plant nutrient deficiencies and their symptoms | 145 |
| 3.9.1 Nutrients: Role and sources | 145 |
| 3.9.2 Deficiency symptoms | 145 |
| 3.9.3 Deficiency remedies: macronutrients | 152 |
| 3.9.4 Deficiency remedies: micronutrients | 152 |
| 3.10 The plant microbiome | 157 |
| 3.10.1 The rhizosphere | 157 |
| 3.10.2 The endosphere and mycorrhizae | 158 |
| 3.10.3 The plant microbiome and soil-borne plant pathogens | 162 |
| 3.10.4 Climate change and the plant microbiome | 164 |
| 3.11 Degraded or unhealthy soils | 166 |
| 3.11.1 Causes of soil degradation | 166 |
| 3.12 Soil health management – improving and maintaining soil health | 169 |
| 3.12.1 Low or no cultivation or tilling | 170 |
| 3.12.2 Composts | 171 |
| 3.12.3 Animal manures | 177 |
| 3.12.4 Mulch | 177 |
| 3.12.5 Cover crops and green manures | 177 |
| 3.12.6 Fertilisers | 181 |
| 3.12.7 Biochar | 183 |
| 3.12.8 Crop rotation | 184 |
| 3.12.9 Soil fumigants | 185 |
| 3.13 The soil microbiome and the 'One Health' concept | 188 |

| | |
|--|-----|
| CHAPTER 4 | 199 |
| Diagnosing Unknowns Using Digital Platforms | 199 |
| 4.1 Country plant doctor networks | 200 |
| 4.1.1 How to send a photograph and information for diagnosis | 201 |
| 4.2 PestNet | 203 |
| 4.2.1 Accessing PestNet from a computer | 204 |
| 4.2.2 Accessing fact sheets via PestNet using a computer..... | 211 |
| 4.2.3 Accessing PestNet on mobile devices: tablets and phones | 218 |
| 4.2.4 Accessing fact sheets via mobile devices: tablets and phones..... | 225 |
| 4.3 KoboToolbox and KoboCollect | 230 |
| CHAPTER 5 | 233 |
| Integrated Pest and Disease Management Options 1: Cultural and Biological Control | 233 |
| 5.1 Introduction to using integrated pest and disease management (IPDM) | 233 |
| 5.2 What is IPDM? | 234 |
| 5.3 Working through an example of using IPDM | 236 |
| 5.4 Cultural control options for IPDM | 240 |
| 5.5 Genetic control | 247 |
| 5.5.1 Resistant varieties | 247 |
| 5.6 Biological control | 248 |
| 5.7 Pesticides and IPDM | 249 |
| 5.7.1 Biocontrol and biological pesticides | 249 |
| CHAPTER 6 | 255 |
| Integrated Pest and Disease Management Options 2: Using pesticides | 255 |
| 6.1 Introduction to using pesticides | 255 |
| 6.2 Homemade pesticides | 256 |
| 6.2.1 Safe handling of home-made pesticides..... | 256 |
| 6.2.2 Preparing home-made pesticides..... | 258 |
| 6.3 Commercial pesticides | 262 |
| 6.3.1 The pesticide label — an important document..... | 262 |
| 6.3.2 Pesticide labels | 270 |
| 6.4 Applying pesticides — the important steps in spraying | 276 |
| 6.4.1 Before spraying..... | 276 |
| 6.4.2 During spraying..... | 282 |
| 6.4.3 After spraying | 283 |
| 6.5 Pesticides and organic farming | 285 |
| 6.6 Pesticide resistance management | 287 |

| | |
|--|-----|
| CHAPTER 7 | 301 |
| Running a Plant Health Clinic (PHC) | 301 |
| 7.1 Introduction to running a plant health clinic (PHC) | 302 |
| 7.2 Checklists for running a plant health clinic (PHC) | 310 |
| 7.2.1 General preparation for plant health clinics | 312 |
| 7.2.2 Before the clinic | 312 |
| 7.2.3 At the clinics — steps to ensure success | 313 |
| 7.2.4 What to do with unknowns | 314 |
| 7.2.5 After the clinic | 315 |
| 7.4 The Big Quiz | 325 |
| CHAPTER 8 | 333 |
| Resources for Trainers | 333 |
| 8.1 Being a good plant health clinic trainer | 333 |
| 8.1.1 Become confident about what to teach | 333 |
| 8.1.2 Become confident about how to teach | 333 |
| 8.2 Developing a non-threatening and stimulating learning environment | 334 |
| 8.3 Reflecting on your work | 335 |
| 8.4 What trainers say about the qualities of a good trainer | 336 |
| 8.5 Teaching strategies for effective learning | 336 |
| 8.5.1 Small group discussion | 337 |
| 8.5.2 Brainstorming | 337 |
| 8.5.3 Drawing and writing | 337 |
| 8.5.4 Concept/mind mapping | 338 |
| 8.5.5 Filling in a table | 339 |
| 8.5.6 Practical work | 339 |
| 8.5.7 Role-play and simulation | 339 |
| 8.5.8 Cause and effects diagram | 340 |
| CHAPTER 9 | 341 |
| Guide to Exercises and Answers to Quizzes | 341 |
| 9.1 Guide to exercises | 341 |
| 9.2 PHC trainer planning and preparation checklist | 342 |
| 9.3 Chapter 2 answers | 342 |
| 9.4 Chapter 3 answers | 356 |
| 9.5 Chapter 4 answers | 372 |
| 9.6 Chapter 5 answers | 372 |
| 9.6 Chapter 6 answers | 378 |
| 9.7 Chapter 7 answers | 388 |
| APPENDIX | 403 |
| Running a Plant Health Clinic (PHC) | 403 |
| Appendix 1: The Plant Health Clinic Prescription Form | 404 |
| Appendix 2: Farmer Feedback Form | 405 |
| Appendix 3: Photosheet template | 406 |
| Appendix 4: Plant health doctor self-evaluation form | 407 |
| Appendix 5: Plant health clinic procedure checklist | 408 |
| Glossary — Soils | 410 |