

Preface

Cultivated in all continents except Antarctica, the potato (*Solanum tuberosum* L.) is one of the five most important agricultural crops in the world. Nutritionally superior to most other staple crops, rugged, and relatively easy to grow, potato has been instrumental in improving the quality of life in a variety of geographic areas throughout human history. Its cultivation is still of great importance in both industrialized and developing parts of the world.

For over 8,000 years since its domestication in the Central Andes, the potato has been plagued by a number of serious insect pests. These include some of the most prolific and adaptable species known to man. If left uncontrolled, they can completely destroy the affected crops. Currently, insect management in commercial potato production is heavily reliant on synthetic insecticides. This results in well-known undesirable side effects of ecological backlash and environmental pollution.

Not surprisingly, considerable scientific and management efforts have been always invested in potato protection from insect damage. Our readers might be familiar with “Advances in Potato Pest Biology and Management” edited by Zehnder, Jansson, Powelson, and Raman and published by the APS Press in 1994, as well as with “Advances in Potato Pest Management” edited by Lashomb and Casagrande and published by the Hutchinson Ross Publishing Co. in 1981. Both books provided excellent reviews of potato entomology, and are widely quoted in this volume. However, a considerable research effort has been dedicated to studying biology and management of insect pests of potatoes during the last 15 years. Until now, the results of that effort remained dispersed among numerous scientific journals.

This book is made of contributions written by an international team of experts working in major potato-growing areas of the world. Among other things, the book includes a lot of valuable, but often little known, information published over the years in non-English language literature. In Part I, we start by introducing potato as a crop that is essential for meeting the nutritional demands of the humankind, and discuss the challenges of its sustainable production. After that, we proceed to covering the biology of potato pests in Part II of our book. In addition to well-known key pests such as the Colorado potato beetle and potato tuberworms, we also discuss more sporadic and/or local pests such as wireworms and hadda beetles. Part III is dedicated to ecological interactions among the living and non-living components of potato ecosystems, a good understanding of which lays a foundation for developing scientifically sound integrated pests management plans. In Part IV, we talk about practical approaches to managing insect pests of potatoes. Particular emphases are placed

on techniques allowing pest suppression in an environmentally friendly manner, and on using evolutionary principles to ensure their sustainability. Part V concludes the book with the discussion of current challenges and future prospects in managing potato pests.

We are deeply grateful to our editors, Pat Gonzalez and Kristi Gomez. Without their patience and understanding, this project would have unraveled long time ago. We also thank Lindsey Miller and Amanda Bailey for their help with proofreading and formatting the manuscript.

It is our hope that this book will be of use and interest to a variety of people involved in potato production. We also always welcome our readers' feedback, including (but not limited to) constructive criticism.

Sincerely,

Andrei Alyokhin
Charles Vincent
Philippe Giordanengo