

Preface

This volume and the contributed chapters therein are a result of the Natural Products for Pest Management symposium held at the 244th ACS National Meeting in Philadelphia, PA August 19–23, 2012 to honor the late Horace (Hank) Cutler and his contributions in the field of natural products chemistry. The symposium introduced recent discoveries and applications of natural products from insect, terrestrial plant, microbial, and synthetic sources for the management of insects, weeds, plant pathogenic microbes, and nematodes. The symposium brought together scientists from academic, government, and private research laboratories around the world. Discussed were natural products with insect repellent and attractant, insecticide, nematocide, herbicide, and fungicide activities, and their current and potential future roles in pest management. Also highlighted was the emission of volatile natural products from trees as a method to detect early stages of pathogen infection. In addition to recent advances, the symposium included reviews of important natural products that have proven successful as commercial products as well as the significance of responsible product stewardship.

The symposium was dedicated to the late Dr. Horace Cutler, whose 50-year career in natural products chemistry focused on the discovery of compounds for pest management. Chapter 1 of this volume summarizes some of his research. Several presentations discussed the synthesis of compounds based on natural products, as well as recent progress in research concerning the modes of action of natural product pesticides. These areas of research are important topics that offer solutions to the ever-increasing resistance of agricultural pests to herbicides, insecticides, and fungicides. This compilation of current investigations, significant past discoveries, and potential directions provides researchers — chemists, entomologists, ecologists, plant pathologists, weed scientists, nematologists, physiologists, and biochemists — with practical approaches for the use of natural products for the management of agricultural and urban pests. The purpose of this book is to further disseminate the wealth of knowledge presented at the 2012 ACS Natural Products for Pest Management Symposium to a more extensive audience. Pest management issues cover a broad range of scientific disciplines. Reflective of this were the talented and multidisciplinary group of scientists that presented their findings.

The editors offer their sincere appreciation to the chapter authors for their valuable and enlightening contributions. Additionally, we wish to extend our gratitude to the chapter reviewers for their valuable time and input. Finally, we thank Laura Koivunen and Morgan Weidinger for the cover art.



John J. Beck

U.S. Department of Agriculture
Agricultural Research Service
Plant Mycotoxin Research Unit
800 Buchanan Street
Albany, CA 94710 U.S.A.

Joel R. Coats

Department of Entomology
116 Insectary
Iowa State University
Ames, IA 50011 U.S.A.

Stephen O. Duke

U.S. Department of Agriculture
Agricultural Research Service
Natural Products Utilization Research Unit
P.O. Box 8048
University, MS 38677 U.S.A.

Marja Koivunen

Eurofins Agrosience Services, Inc.
328 N. Bethel Avenue
Sanger, CA 93657 U.S.A.