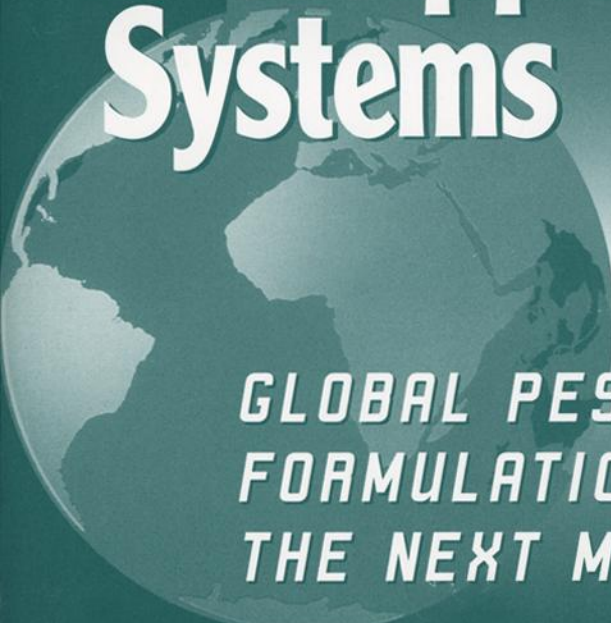


# Pesticide Formulations and Application Systems



*GLOBAL PEST CONTROL  
FORMULATIONS FOR  
THE NEXT MILLENNIUM*

*NINETEENTH VOLUME*

R. SCOTT TANN,  
JOHN D. NALEWAJA,  
ALAN K. VIETS  
EDITORS



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***Pesticide Formulations and  
Application Systems: Global Pest  
Control Formulations for the Next  
Millennium: Nineteenth Volume***

*R. Scott Tann, John D. Nalewaja, and Alan K. Viets, editors*

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To make technical information available as quickly as possible, the peer-reviewed papers in this publication were prepared "camera-ready" as submitted by the authors.

The quality of the papers in this publication reflects not only the obvious efforts of the authors and the technical editor(s), but also the work of these peer reviewers. The ASTM Committee on Publications acknowledges with appreciation their dedication and contribution to time and effort on behalf of ASTM.

# Foreword

This publication, *Pesticide Formulations and Application Systems: Global Pest Control Formulations for the Next Millennium: Nineteenth Volume*, contains papers presented at the symposium of the same name held in Norfolk, Virginia, on 20–21 October 1998. The symposium was sponsored by ASTM Committee E-35 on Pesticides and its subcommittee E35.22 on Pesticide Formulations and Application Systems. The symposium chairman was R. Scott Tann, Exxon Chemical Company.

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# Overview

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This book represents the work of several authors at the 19th Symposium on Pesticide Formulations and Application Systems, October 20 and 21, 1998, Norfolk, VA. Pest Control Formulations for the next millenium was the broad focus for this symposium. Papers and presentations were targeted to deliver information the formulator or regulator may find useful in the formulation and delivery of pest control systems in the year 2000 and beyond. In an attempt to keep the tradition of supplying current topical information on key issues the symposium opened with an invited speaker session to address the key regulatory issues of the day. The symposium also had a global focus more than ever before. A global panel of experts discussed the unique needs of their global region when formulating a pest control product. Emphasis on granules and granular technology was also a key feature to the symposium.

The papers contained in this publication represent the commitment of ASTM Subcommittee E35.22 to provide timely and comprehensive information to the pest control formulator. Common themes throughout the tenure of this symposium can be found in this issue. Papers discussing application technology, granular formulation technology, delivery systems, and general formulation technology can be found in this publication. Glimpses of the future were discussed in the session known as Addressing Tomorrow's Concerns.

*Application Technology*—The intent of this section was to present developments around the application of pest control products relating both chemical means as well as mechanical means. Some of the papers discuss the effects of formulation and droplet size on the application of pest control agents, while others concentrated on the coverage of various applicators in practice. This particular area continues to be the activity of many agrochemical researchers.

*Granulation Technology*—The 19th symposium was the first symposium to dedicate an entire session to developments in the area of granulation technology. As this type of formulation continues to establish itself in the marketplace the technology must keep pace with the demand. Papers in this publication seek to address various issues around the continued use of the granulation technology. Water dispersability is one issue with this formulation type, and in this publication a paper seeks to address this issue. Another issue at the forefront of the industry is addressed in the preparation of granules using a binding polymer to eliminate the drying step. Test methods for granules continue to be developed, and the impact of these methods were brought to light in a paper discussing sample size variation in granular formulations.

*Delivery Technology*—As pesticide products become more active, the ability to deliver the product to the desired organism, in research laboratories and practice, is gaining. This year's publication seeks to address some of this technology in two papers. The role of a petrochemical fluid in the release rate of encapsulated formulations was addressed in one paper, while the ability of a product to penetrate a plant's cuticular layer is addressed in a second paper.

*Formulation Technology*—As in the past symposium, formulation technology is a cornerstone section. This year's symposium was no exception. The diversity demonstrated in this section exemplifies the diversity in formulation issues for this science. Papers ranged from a discussion of seed treatment methods to the use of attapulgit in flowable formulations. Combinations of various products in formulation were also discussed this year in a paper addressing interaction studies between a co-polymer and ligninsulfonates.

*Addressing Tomorrow's Concerns*—This section was developed to demonstrate new techniques and methods for both future concerns in the area, as well as new methods for existing concerns. Spray Drift management has been a concern for many years in the agrochemical area. This year's publication refers to a new E35.22 task group established to manage the drift issues. An overview of the proposed methods and vision for this task force is included in this paper.

The overall goal of this symposium was to provide the agrochemical professional with timely and useful information on a global basis. With the invited speakers and global panel discussions the attendees gained valuable insight into the use of pest control products on a global basis. Meeting these goals would not have been achievable and lasting without the cooperative efforts of the authors and presenters. A gracious thank you to all who contributed in this year's symposium.

*R. Scott Tann*

Exxon Chemical Company, Houston, TX;  
symposium chairman and editor

*John D. Nalewaja*

North Dakota State University, Fargo, ND;  
symposium co-chairman and editor

*Alan K. Viets*

Bayer Corporation, Kansas City, MO;  
symposium chairman-elect and editor



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