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Editors: Bradley K. Fritz and Thomas R. Butts

Pesticide Formulation and Delivery Systems: 38th Volume, Innovative Application, Formulation, and Adjuvant Technologies

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Foreword

THIS COMPILATION OF Selected Technical Papers, STP1610, *Pesticide Formulation and Delivery Systems: 38th Volume, Innovative Application, Formulation, and Adjuvant Technologies*, contains peer-reviewed papers that were presented at a symposium held October 10–12, 2017, in New Orleans, Louisiana, USA. The symposium was sponsored by ASTM International Committee E35 on Pesticides, Antimicrobials, and Alternative Control Agents and Subcommittee E35.22 on Pesticide Formulations and Delivery Systems.

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Overview

The 38th Symposium on Pesticide Formulation and Delivery Systems: Innovative Application, Formulation, and Adjuvant Technologies, sponsored by the ASTM Committee E35 on Pesticides, Antimicrobials, and Alternative Control Agents, was held in New Orleans, Louisiana, on October 10–12, 2017. Organized under Subcommittee E35.22 on Pesticide Formulations and Delivery Systems, Dr. Bradley Fritz and Thomas Butts served as chairs. The meeting focused on all aspects of technologies and methods that support the application of agrochemical products.

The keynote talks covered the issue of Dicamba and the rising concerns around particle and vapor drift damage and discussed potential causes and solutions. Following this, 23 speakers covered a range of topics, 12 of which were prepared as full manuscripts that were peer reviewed and are published here.

Antuniassi et al. report on the role droplet size played with respect to drift of new formulations of 2,4-D designed to combat off-target movement. Zollinger et al. present results from trials conducted to examine the efficacy of non-AMS adjuvants used with dicamba across a number of geographically different regions and across a variety of plant types. Adams and Zollinger report on the validation of a standardized test method to compare water conditioning agents.

Zhu et al. present a new type of oil thickener and its benefits compared to current types that are available. Penfield et al. report on work examining the relationships between oil droplet rheology and spray quality for a number of tank mix types and spray systems. Bissell et al. present work examining the effect that repeated pumping shear stress has on tank mix properties and resulting droplet size with polymeric adjuvants. Costa et al. discuss work comparing drift potential as determined by measurement of driftable fines versus the retention achieved on plant surfaces.

Butts and Hoffmann et al. report on how changes in the duty cycle of pulse width modulation spray systems influenced the velocity of the spray droplets exiting the nozzle. Wilde et al. discuss a novel method for determining water sensitive card spread factors for real-world spray formulations. Rodrigues et al. present work showing the relationship between nozzle type and operational settings and the resulting droplet size for multiple herbicide products. Butts and Moraes et al. demonstrate how plugged air induction nozzle ports impact the atomization process and change the droplet size produced. Fritz et al. highlight a method for determining mass balance and swath offset from spray drift trials.

Thank you to all presenters and manuscript authors for their efforts in making this symposium and STP a success. We also wish to say thank you to those individuals who provided reviews for the manuscripts. Without your efforts this STP would not be possible. Thank you to the staff at ASTM who kept things moving smoothly along and whose efforts make all of this possible.

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