39TH SYMPOSIUM ON PESTICIDE FORMULATION AND DELIVERY SYSTEMS: INNOVATIVE FORMULATION, APPLICATION AND ADJUVANT TECHNOLOGIES

Sponsored by ASTM Committee E35 on Pesticides, Antimicrobials, and Alternative Control Agents

October 23-25, 2018
Washington Hilton
Washington, DC, USA

Symposium Chairs: Douglas Linscott
Corteva Agrisciences (Agricultural division of DowDuPont)
Indianapolis, IN, USA

ABOUT THE SYMPOSIUM

This symposium will provide a forum for the presentation and discussion of formulation and application technologies associated with crop protection and adjuvant products. Primary attention will be directed to presentations related to:

- Regulatory trends impacting agrochemical formulations
- Application technologies related to drift control
- Product stewardship, sustainability, and safety
- Product development technology advancements
- Physical and chemical test methods related to crop protection products

Other topics of interest include but are not limited to; seed treatment formulations, pollinators, adjuvant technology, and innovative application technologies; including UAS delivery systems and aerial application advancements.
TUESDAY, OCTOBER 23, 2018

1:00 PM
Opening Remarks
Doug Linscott, Symposium Chairman

KEYNOTE SPEAKER

1:15 PM
US EPA – Regulatory Program Updates
P.V. Shah, PhD, Branch Chief for Inerts, US EPA, Office of Pesticide Programs

1:45 PM
Discussion and Q&A: US EPA – Pesticide Inerts Ingredients
All attendees

SESSION 1: REGULATORY TRENDS, PRODUCT STEWARDSHIP & SUSTAINABILITY
Session Chair: Doug Linscott

2:00 PM
A Practical Implementation of the US Drift Reduction Technology Program using the Australian Pesticides and Veterinary Medicines Authority (APVMA) Model
Bradley K. Fritz, Gregory Kruger, Andrew Hewitt, University of Queensland

2:30 PM
Discussion and Q&A: US Drift Reduction Technology Program
All Attendees

2:45 PM          BREAK

3:05 PM
Building Sustainability into the Development of Rinskor™ Active Herbicide Formulations
Dennis Wujek, Corteva Agriscience (DowDuPont), Indianapolis, IN, USA

3:30 PM
Stewarding Pesticide Products: What It Means from an Educational Standpoint
Fred Whitford, Purdue Pesticide Programs, Purdue University, West Lafayette, IN, USA

4:00 PM
Remotely-piloted Aircraft for Agricultural Spraying: Multiple Season Results in Specialty Crops
Durham K. Giles, UC Davis Biological & Agricultural Engineering, Davis, CA, USA

4:30 PM          Discussion and Announcements

4:45 PM          ADJOURN FOR THE DAY
SESSION 2: SPRAY DRIFT & APPLICATION TECHNOLOGY
Session Chair: Jason Wall

8:15 AM
Droplet Size and Deposition of Enlist Duo in a Wind Tunnel
Bruno C. Vieira, University of Nebraska-Lincoln North Platte, NE, USA

8:40 AM
Droplet spectrum from CP nozzles as affected by flat-fan and deflection angles in aerial applications of glyphosate
Guilherme S. Alves, University of Nebraska-Lincoln, North Platte, NE, USA

9:05 AM
Aerial Application Swath Patterning: In-Wind and Cross-Wind Impacts
Bradley K. Fritz, USDA-ARS, College Station, TX, USA

9:30 AM
Standardized methodology for field testing drift control technologies in aerial applications
Josie Hugie, Wilbur-Ellis and Bradley K. Fritz, USDA-ARS

9:55 AM BREAK

10:15 AM
Impact of oil concentration in water on liquid physical properties
Jesaselan Gizotti-de-Moraes, University of Nebraska-Lincoln North Platte, NE, USA

10:40 AM
The Impact of Oil Viscosity on the Performance of Emulsion Based Drift Reduction Agents
Logan P. Dempsey, Jason Wall, Nicholas S. Gelardo, Croda, Inc., New Castle, DE, USA

11:05 AM
Ground-Operation Awareness Beacon for Aerial Pesticide Applications
Wayland Minhas Singh, University of California - Davis Biological & Agricultural Engineering, San Francisco, CA, USA

11:30 AM Announcements

11:35 AM LUNCH (on your own)
SESSION 3: FORMULATION TECHNOLOGY
Session Chair: Brad Fritz

1:05 PM
Development of New Aromatic Surfactants
Matthew T. Meredith, Huntsman Corporation, The Woodlands, TX, USA

1:30 PM
Developing Modern EC Formulations for a More Sustainable Future.
John Atkinson, Corteva Agriscience (DowDuPont), Indianapolis, IN, USA

1:55 PM
Evaluation of ILS#1420, Standard Test Method for Evaluating Water Conditioning Agents
Daniel R. Wright, Monsanto Company, St. Louis, MO, USA

2:20 PM
Electrolyte Tolerant Dispersing Agent for Suspension Concentrate Compatibility with Liquid Fertilizer
Jason S. Wall, Croda Inc. New Castle, DE, USA

2:45 PM    BREAK

3:15 PM
Fundamentals of Multi-Surfactant/Solvent/Water Phase Behavior in Agricultural Applications Using High Throughput Techniques
Michael Tate, Matthew Benedict, Thomas Boomgaard, and Jeff Michaelowski, Dow Chemical Company, Midland, MI, USA

3:40 PM
Triethanolamine Sulfate microemulsion water conditioner adjuvants for the glyphosate/dicamba market
Alan J. Stern, Renee K. Edlund, Huntsman Performance Products

4:05 PM
The Effects of Adjuvants on Drop Deposit Characteristics
Hans de Ruiter, SURfaPLUS R&D, Gelderlan, Netherlands

4:30 PM
A Polymeric Binder for Seed Treatment
Peter Westbye, AkzoNobel Specialty Chemicals, Stenungsund, Sweden

4:55 PM    Discussion and Announcements

5:00 PM    ADJOURN FOR THE DAY
THURSDAY, OCTOBER 25, 2018

SESSION 4: FORMULATION TECHNOLOGY
Session Chair: John Atkinson

8:05 AM  
**Dose Response of Soybean to Dicamba in Greenhouse Trials**  
Jeffry Golus, University of Nebraska-Lincoln North Platte, NE, USA

8:30 AM  
**Response of Multiple Plant Species to Sub-Labeled Doses of Herbicides**  
Kasey P. Schroeder, University of Nebraska-Lincoln North Platte, NE, USA

8:55 AM  
**Impact of Different Glyphosate Solutions on Control of Common Lambsquarters (Chenopodium album L.)**  
Milos Zaric, University of Nebraska-Lincoln North Platte, NE, USA

9:20 AM  
**Rhizosphere Engineering an Innovative Approach of Modifying Soil Biophysical Properties to Influence Plant-Microbiome-Soil Interactions**  
Stanley Kostka, Penn State University – Berks, Cherry Hill, NJ, USA

9:45 AM  
**BREAK**

10:15 AM  
**Impact of Trisiloxane Alkoxylate Molecular Weight on Stomatal Infiltration**  
George A. Policello, Momentive Performance Materials, Tarrytown, NY, USA

10:40 AM  
**Alternative Tank Mix Adjuvant for Glufosinate**  
Fernanda de Oliveira Barreto Costa, Agrochemicals Oxiteno SA, Sao Paulo, Brazil

11:05 AM  
**Injectable Co-polymers Improve Soil-plant-water relations**  
Glen Obear, Exacto, Inc., Sharon, WI, USA

11:30 AM  
**Closing Remarks and Announcements**

11:45 AM  
**SYMPOSIUM ADJOURNS**