SESSION I: INNOVATIONS IN 2,4-D AND DICAMBA FORMULATIONS AND DELIVERY

1:00 P.M.
Welcome and Opening Remarks
Mark Bernards, Symposium Chairman

1:10 P.M.– Keynote Address
Challenging the Same Game
John Rabby, Rabby Enterprise, Raleigh, NC, USA

1:50 P.M.
New Generation 2,4-D Formulation
Lei Liu, Hong Zhang, Holger Tank, Alex Kennedy, Mei Li, Kuide Qin, Steve Wilson, Dave Ouse, and Brandon Downer, Dow AgroSciences LLC, Indianapolis, IN, USA; and H. Yang, Washington University, St. Louis, MO, USA
2:15 P.M.
**Novel 2,4-D/Glyphosate Premix Formulation with Low Potential for Off-target Movement**
Mei Li, Holger Tank, Alex Kennedy, Hong Zhang, Brandon Downer, Lei Liu, Dave Ouse, Kuide Qin and Steve Wilson, Dow AgroSciences LLC, Indianapolis, IN, USA

2:40 P.M.
**Controlled Release Formulations of 2,4-D and Dicamba Chemically Bonded to a 3-Hydroxybutyric Acid Oligomers**
Andrzej Siłowiecki and Mariola Głlazek, Institute of Plant Protection, National Research Institute, Sośnicowice Branch, Sośnicowice, Poland; Marek M. Kowalczuk and Iwona Romanowska, Center of Polymer and Carbon Materials, Polish Academy of Sciences, Zabrze, Poland; and Dariusz Włóka and Witold J. Kowalski, Institute of Chemistry, Environmental Protection and Biotechnology, Jan Długosz University, Częstochowa, Poland

3:05 P.M. BREAK

**SESSION II: TEST METHODS**

**Session Chair:** Bala Devisetty  
Valent Biosciences Corporation  
Long Grove, Illinois, USA

3:20 P.M.
**Opening Remarks**

3:25 P.M.
**Fabric Challenge Assay: A Novel Standard for the Evaluation of the Performance of Antimicrobial Textiles**
Margaret P. Cotton and Matthew J. Hardwick, Laboratory of Clinical Investigations, MedStar Health Research Institute, Washington, D.C., USA

3:50 P.M.
**A Method for Quantifying Release of Terbufos into Water from Granular Carriers**
Yasmith Bernal, Oil-Dri Corporation of America, Chicago, IL, USA

4:15 P.M.
**Physical Properties of Surrogates for Formulation Types Useful in Representative Testing for Drift Reduction Technologies and Environmental Modeling**
David Valcore, Valcore Consulting, Carmel, IN, USA

4:40 P.M.
**Method to Develop Rankings for Venturi Nozzles**
Greg R. Kruger, Jeff Golus and Robert N. Klein, University of Nebraska-Lincoln, North Platte, NE, USA; W. Clint Hoffman and Brad K. Fritz, USDA ARS Aerial Application Technology, College Station, TX, USA; and William E. Bagley, Wilbur-Ellis, San Antonio, TX, USA

5:05 P.M. SYMPOSIUM ADJOURNS FOR THE DAY
SESSION III: DRIFT REDUCTION TECHNOLOGIES AND METHODS

Session Chair: Bob Goss
Oil Dri Corporation
Chicago, IL, USA

8:00 A.M.
Opening Remarks

8:05 – Plenary Address
Spray Drift Task Force: Accomplishments and Opportunities
Speaker: Andrew Hewitt, Lincoln Ventures, Lincoln University, Christchurch, New Zealand

8:30 A.M.
Field Evaluation of Aerial Spray Application Drift Reduction Technologies
Bradley K. Fritz and W. Clint Hoffman, USDA ARS Aerial Application Technology, College Station, TX, USA; Robert E. Wolf, Wolf Consulting and Research, Mahomet, IL, USA; Scott Brethauer, University of Illinois, Urbana, IL, USA; and William E. Bagley, Wilbur-Ellis, San Antonio, TX, USA

8:55 A.M.
Evaluating Spray Drift Performance: An Examination of the Correlation of Spray Particle Size Measurements with Wind Tunnel Drift Results
Steve Wilson, Kuide Qin and Brandon Downer, Dow AgroSciences LLC, Indianapolis, IN, USA; Andrew Hewitt, Lincoln Ventures, Lincoln University, Christchurch, New Zealand; Gary Dorr, University of Queensland, Gatton, Queensland, Australia; and ZbigniewCzaczyk, Poznan University of Life Sciences, Poznan, Poland

9:20 A.M.
Evaluation of Drift Reduction Technologies Using Atomization Data and Computer Simulation
W. Clint Hoffman and Brad K. Fritz, USDA ARS Aerial Application Technology, College Station, TX, USA; William E. Bagley, Wilbur-Ellis, San Antonio, TX, USA; Joe Gednalske, Winfield Solutions, River Falls, WI, USA; Curtis M. Elsik, Huntsman Corp., The Woodlands, TX, USA, Greg R. Kruger, University of Nebraska-Lincoln, North Platte, NE, USA; and Andrew Hewitt, Lincoln Ventures, Lincoln University, Christchurch, New Zealand

9:45 A.M.  BREAK

10:05 A.M.
Determination of Selection Criteria for Spray Drift Reduction from Atomization Data
W. Clint Hoffman and Brad K. Fritz, USDA ARS Aerial Application Technology, College Station, TX, USA; William E. Bagley, Wilbur-Ellis, San Antonio, TX, USA; Joe Gednalske, Winfield Solutions, River Falls, WI, USA; Curtis M. Elsik, Huntsman Corp., The Woodlands, TX, USA, Greg R. Kruger, University of Nebraska-Lincoln, North Platte, NE, USA; and Andrew Hewitt, Lincoln Ventures, Lincoln University, Christchurch, New Zealand
10:30 A.M.  
**Wind Tunnel Measurements of Spray Nozzle and Spray Solution Composition Effects on Particle Size and Drift Potential**  
Andrew Hewitt, University of Queensland, Australia and Lincoln Ventures, Lincoln University, Christchurch, New Zealand; Gary Dorr, University of Queensland, Gatton, Queensland, Australia; Daniel R. Wright and Kirk Remund, Monsanto Company, St. Louis, MO, USA

10:55 A.M.  
**Combined Effects of Adjuvant and Nozzle in Spray Drift Reduction**  
Qiang Hu, Croda, Inc., New Castle, DE, USA

11:20 A.M.  
**Effects of Active Ingredient Formulations on Atomization from Conventional Aerial Application Nozzles**  
Brad K. Fritz and W. Clint Hoffman, USDA ARS Aerial Application Technology, College Station, TX, USA; and William E. Bagley, Wilbur-Ellis, San Antonio, TX, USA

11:45 A.M.  
**ASTM E35 Service Awards**  
Curt Elsik, Chair  
ASTM E35.22 Subcommittee on Pesticide Formulations and Delivery Systems

12:00 P.M.  
**ADJOURN FOR LUNCH**

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**SESSION III: REGULATORY ADVANCES AND STANDARDS TERMINOLOGY**

Session Chair: Megh Singh  
University of Florida, Citrus Research and Education Center  
Lake Alfred, FL, USA

1:30 P.M.  
**Opening Remarks**

1:35 P.M.  
Claudia Vinke, Federal Office of Consumer Protection and Food Safety, Braunschweig, Federal Republic of Germany

2:00 P.M.  
**ASTM Standard Terminology Related to Biorationals**  
Lizbeth Rea, Sipcam Agro USA, Inc., Durham, NC, USA
SESSION IV: FORMULATION INNOVATIONS

Session Chair: Howard Stridde
Huntsman Corp.
The Woodlands, TX, USA

2:25 P.M.
Opening Remarks

2:30 P.M.
A Novel Rheology Modifier for Agrochemical Formulations
Pricila Castelani and Juliana Pierobon, R&D Agrochemicals, Oxitenao SA, São Paulo, Brazil

2:55 P.M.
Polymeric Dispersing Agents to Address Tomorrow’s Needs in Suspension Concentrates
Andreas Wacker, Clariant Corporation, Frankfurt, Germany; Beth Lowe, Clariant Corporation, Mt. Holly, NC, USA; Robert Milbradt, and Joachim Hess, Clariant Corporation, Frankfurt, Germany

3:20 P.M. BREAK

3:40 P.M.
Alkylated Graft Polyvinyl Pyrrolidone Co-polymers and Related Compositions as Tools to Formulate and Enhance Biologically Active Materials Used for Crop Protection

4:05 P.M.
Controlling Crystal Form of Active Ingredients
Alan Viets, BASF Care Chemicals, OH, USA

4:30 P.M. SYMPOSIUM ADJOURNS FOR THE DAY
SESSION V: ADJUVANTS AND DELIVERY METHODS: INNOVATIONS AND BIOLOGICAL RESPONSE

Session Chair: Greg Dahl
Winfield Solutions, LLC
River Falls, WI, USA

8:00 A.M.
Opening Remarks

8:05 A.M. – Plenary address
Transgenic Crops and the New Paradigm for Pesticide Use in Row Crops
Jerry Green, Pioneer Hi-Bred, Stine-Haskell Research Center, Newark, DE, USA

8:30 A.M.
Novel Spray Drift Reduction Adjuvants
Curtis M. Elsik and Tammy M. Schweiner, Huntsman Corp., The Woodlands, TX, USA

8:55 A.M.
Droplet Characterization and Near Nozzle Dispersion of ULV Spray and Thermal Fog
Masoud Salyani, University of Florida, Citrus Research and Education Center, Lake Alfred, FL, USA; Muhammad Farooq and Todd W. Walker, U.S. Navy Entomology Center of Excellence, Jacksonville, FL USA

9:20 A.M.
Manganese Containing Water Conditioners for Use with Glyphosate in Glyphosate-Resistant Soybean
Donald Penner, Jan Michael, and Timothy Boring, Michigan State University, East Lansing, MI, USA

9:45 A.M.
Spray Droplet Size Affects Efficacy of Fenpropathrin against Asian Citrus Psyllid
D.R. Boina, M. Salyani, S. Tiwari, K. Pelz-Stelinski, and L.L. Stelinski, University of Florida, Citrus Research and Education Center, Lake Alfred, FL, USA

10:05 A.M. BREAK

10:20 A.M.
A Novel Penetrator Adjuvant with Drift Reduction Properties
J. Susan Sun and Marcus Boone, AkzoNobel Surfactants, Brewster, NY, USA

10:45 A.M
Efficacy of Acidic Ammonium Sulfate Replacements Adjuvants
Richard Zollinger, North Dakota State University, Fargo, ND, USA; Mark Bernards, University of Nebraska-Lincoln, Lincoln, NE, USA; Dallas Peterson, Kansas State University, Manhattan, KS, USA; and Bryan Young, Southern Illinois University-Carbondale, Carbondale, IL, USA
11:10 A.M.
**HSO in AMS Microemulsion Adjuvants**
Gregory Lindner, Croda Inc., New Castle, DE, USA

11:35 A.M.
**Hybrid Oil Adjuvants for Complex Herbicide Mixtures**
Alan Halecky and Greg Lindner, Croda Inc., New Castle, DE, USA

12:00 P.M.
**Closing Remarks**
Mark L. Bernards, Symposium Chairman

12:10 P.M.  SYMPOSIUM ADJOURNS