

Agenda

USDA NIFA Specialty Crop Research Initiative
**Advancement of Pesticide Spray Applications in
Specialty Crop Production with Intelligent-Decision Technologies**

(Best Western Hotel ballroom, 243 E Liberty St, Wooster, OH 44691)
January 14-15, 2016

January 14, 2016

- 8:00 am: Welcome by Dr. Robert Matteri-USDA-ARS Midwest Area Director
8:10 am: Remarks by Dr. Harold Keener-OSU FASE Associate Chair
8:20 am: Introduction of PIs and advisory board members-Dr. Heping Zhu
8:40 am: Review of the previous intelligent sprayer development-Dr. Heping Zhu
9:00 am: General reports on objectives, approaches, and timelines for the project
Dr. Heping Zhu
10:00 am: Break
10:15 am: Tour of the new sprayer development process-Dr. Heping Zhu
11:00 am: Tour Ag Engineering building-Dr. Harold Keener
12:15 pm: Back to Best Western Hotel for lunch
1:30 pm: Ornamental nurseries and orchards in southern states
Dr. Amy Fulcher and Dr. Don Lockwood, University of Tennessee
1:40 pm: Small fruits and grapes in Ohio and adjacent states
Dr. Gary Gao, The Ohio State University
1:50 pm: Pecan production
Dr. Genhua Niu, Texas A&M University
2:00 pm: Ornamental nurseries, orchards, grapes and other fruits in western states
Prof. Robin Rosetta, Oregon State University
2:10 pm: Peach orchards in South Carolina and southern states
Dr. Guido Schnabel, Clemson University
2:20 pm: Ornamental nurseries and apple orchards in Ohio and adjacent states
Prof. Randy Zondag, The Ohio State University
2:30 pm: Greenhouse
Dr. Jennifer Boldt, USDA-ARS ATRU
2:40 pm: Challenges of spray application technologies in greenhouse production
Dr. Peter Ling, The Ohio State University
2:50 pm: Challenges of current development of insect prediction models
Dr. Dan Herms, The Ohio State University
3:00 pm: Challenges of current development of disease prediction models
Dr. Charles Krause, USDA-ARS ATRU
3:10 pm: Challenges of spray drift issues in the field and greenhouse
Dr. Lingying Zhao, The Ohio State University
3:20 pm: Problems associated with economic analysis for specialty crops
Dr. Ajay Shah, The Ohio State University
3:30 pm: Break
3:40 pm: Approaches of hardware and software development for the universal spray control system
for field crop sprayers: proposed functions and features of the system, discussion on if
these functions and features are necessary, what other functions should be added into the
system for both research and practical uses, and how to attach the control system to
different sprayers. Dr. Heping Zhu
5:00 pm: Adjournment

January 15, 2016

- 8:00 am: Remarks from Dr. Wisler-ARS National Program Leader
- 8:15 am: Approaches of hardware and software development for the greenhouse spray control system: proposed functions and features of the system, discussion on if these functions and features are necessary, what other functions should be added into the system for both research and practical uses.
Dr. Peter Ling and Dr. Heping Zhu
- 9:30 am: Discussion on expert system development including insect and disease prediction models (40 minutes) and spray drift models (20 minutes): proposed approaches, discussion on what we need in what forms.
Drs. Dan Herms (20 min.), Charles Krause (20 min.), Lingying Zhao (20 min.)
- 10:30 am: Break
- 10:40 am: Discussion on economic analysis: parameters to be included in analysis and models
Dr. Ajay Shah
- 11:10 am: Discussion on requirements and approaches for field tests
Dr. Heping Zhu
- 11:30 am: Discussion on field trials in nurseries (insects, diseases, fields, timing, etc.) including expert model validations and economic analysis: top insects and diseases for efficacy trials, qualification of spray deposition and off-target losses
Dr. Amy Fulcher, Prof. Robin Rosetta, Prof. Randy Zondag, Dr. Ajay Shah
- 12:10 pm: Lunch
- 1:30 pm: Discussion on field trials in apples, peaches and pecans including model validations and economic analysis: top insects and diseases for efficacy trials
Dr. Guido Schnabel, Dr. Don Lockwood, Dr. Genhua Niu, Dr. Ajay Shah
- 2:10 pm: Discussion on field trials in grapes and blueberries including model validations and economic analysis: top insects and diseases for efficacy trials
Dr. Gary Gao, Prof. Robin Rosetta, Prof. Randy Zondag, Dr. Ajay Shah
- 2:50 pm: Discussion on greenhouse trials including model validations and economic analysis
Dr. Peter Ling, Dr. Jennifer Boldt, Dr. Ajay Shah, Dr. Heping Zhu
- 3:30 pm: Break
- 3:40 pm: Outreach activities: publications (peer-reviewed journal papers, popular articles, extension papers), meetings, workshops, field days, trade shows, USDA website, technology transfer awareness, etc.
- 4:20 pm: Summary of changes to the project directions and new research topics to be added
- 4:40 pm: Discussion on future meeting plans, reports and other issues
- 5:00 pm: Adjournment Dr. Charles Krause, USDA-ARS ATRU Research Leader