A G R O N O M Y

Program of the
Southern Branch
American Society of Agronomy
Annual Meeting
February 7-9, 2016

Hyatt Regency San Antonio Riverwalk
San Antonio, TX

2015-2016 OFFICERS

President
Dr. Mark S. Reiter
Virginia Tech
mreiter@vt.edu

Program Chair
Dr. Dexter B. Watts
USDA-ARS National Soil Dynamics Lab
dexter.watts@ars.usda.gov

Secretary/Treasurer
Dr. Paul B. DeLaune
Texas A&M AgriLife Research
pbdelanne@ag.tamu.edu

Past President
Dr. Yoana C. Newman
University of Wisconsin-River Falls
yoana.newman@uwrf.edu

SUNDAY, FEBRUARY 7, 2015

Registration: 10:00 AM – 4:00 PM
Regency Ballroom Foyer,
Hyatt Regency San Antonio Riverwalk
POSTER SESSION
1:00 PM – 4:00 PM
Authors Present from 1:00 PM- 3:00 PM
Regency Ballroom Center,
Hyatt Regency San Antonio Riverwalk

UNDERGRADUATE STUDENT POSTER
COMPETITION – CROPS AND SOILS

1. Weed Management with Engenia™ in Bollgard II® Xtendflex™ Cotton. Emily Keeling*; Texas Tech University

2. Herbicide Effects on Industrial Hemp (Cannabis sativa L.) Seed Production. Brett Maxwell¹, Morgan Gentry*¹, Paul Woosley¹, Todd Willian¹, and David Williams²; (1) Western Kentucky University; (2) University of Kentucky

3. Weed Management with Engenia™ in Bollgard II Xtendflex™ Cotton. Emily Keeling*¹, Austin T Koonce¹, and Peter W. Dotray²; (1) Texas Tech University; (2) Texas A&M AgriLife Research

4. Hyperspectral. Todd Pirtle*; Middle Tennessee State University

5. Rapid Assessment of Nitrogen Concentration of Two Bioenergy Feedstock Grasses Using Hyperspectral Spectroscopy. Todd Pirtle*; Middle Tennessee State University

6. Prediction of Nitrate Concentration of Two Bioenergy Feedstock Grasses through Using a Spectroradiometer. Todd Pirtle*, Song Cui, and Nate Phillips; Middle Tennessee State University

7. Influence of Tillage and Fertilizer Regime on Presence of Select Fungal Species in a Silt Loam Soil. Tara Watkins*; Western Kentucky University

8. Effect of B Rate and Timing on Runner Peanut Yield, Grade, and Seed Quality. Alex Callaway*¹, Julie Howe¹, Glendon Harris², Kris Balkcom¹; (1) Auburn University; (2) University of Georgia

GRADUATE STUDENT POSTER COMPETITION - CROPS

9. Assessing the Impacts of Land Use Change from Cotton to Cellulosic Bioenergy Crops on Watershed Hydrology and Water Quality in the Texas High Plains. Yong Chen*¹, Srinivasulu Ale¹, and Nithya Rajan²; (1) Texas A&M AgriLife Research; (2) Texas A&M University
10. Quantifying the Interactive Effects of Carbon Dioxide, Low Temperature, and Ultraviolet-B Radiation on Cotton Root Morphology and Seedling Growth. David Brand*, K. Raja Reddy, and Chathurika Wijewardana; Mississippi State University


13. Developing a Screening Tool for Osmotic Stress Tolerance Classification Based on in Vitro Seed Germination of Rice Cultivars. Bhupinder Singh*1, K. Raja Reddy1, and Timothy W. Walker2; (1) Mississippi State University; (2) Horizon Ag LLC


15. Assessing the Impacts of Land Use Change from Cotton (Gossypium hirsutum L.) to Cellulosic Bioenergy Crops on Watershed Hydrology and Water Quality in the Texas High Plains. Yong Chen*1, Srinivasulu Ale1, and Nithya Rajan2; (1) Texas A&M AriLife Research; (2) Texas A&M University

16. Morphological Response of the Cotton Chromosome Substitution Lines for Low Temperature and Drought Stress. Akanksha Awasthi*1, Sukumar Saha2, David M. Stelly3, and K. Raja Reddy1; (1) Mississippi State University; (2) USDA-ARS; (3) Texas A&M University

17. Miscanthus Fertilization Trials. Martin Battaglia*, and John Herschel Fike; Virginia Tech

18. Miscanthus Variety Trials. Martin Battaglia*, and John Herschel Fike; Virginia Tech


22. Response of Cotton Varieties to Irrigation Evapotranspiration Replacement. Dustin Pickelmann*; Mississippi State University

23. Fertility, Hybrid Selection, and Input Strategies to Optimize Yield and Early Harvest in the Mid-South. Omar Ali*, Joseph Whittenton, W. Brien Henry, Normie W. Buehring, and Jac J. Varco; Mississippi State University


GRADUATE STUDENT POSTER COMPETITION - SOILS


26. Effects of Peanut Shell and Eucalyptus Wood Biochars on Soil Chemical Properties and Pearl Millet (Pennisetum americanum L.) Yield in a Salt-Affected Soil. Andre Diatta*1, John Herschel Fike1, Elhadji Faye2, Gregory Evanylo1, John M. Galbraith1, and Sekouna Diatta1; (1) Virginia Tech; (2) l’Institut Supérieur de Formation Agricole et Rural (ISFAR) ex ENCR de Bambey

27. Influences of Soil Temperature, Soil Moisture and Canopy Photosynthesis on Diurnal and Seasonal Dynamics of Soil Respiration. Sumit Sharma*1, Nithya Rajan2, and Stephan Maas1; (1) Texas Tech University; (2) Texas A&M University


<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>Authors</th>
<th>Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>A Geospatial Comparison of Corn Planting Date Risk Assessment Models for Mississippi.</td>
<td>Patrick J. English*1, and Sherri DeFauw2; (1) Mississippi State University; (2) Ascend Geospatial LLC</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>Nitrogen and Carbon Yield of Annual Warm-Season Legumes.</td>
<td>Aaron Hassell*, Jamie L. Foster, and James P. Muir; Texas A&amp;M AgriLife Research</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>In-Field Uav Corn Phenotyping: A High Throughput Model.</td>
<td>William Brien Henry*, Amelia A. Fox, Robert Moorhead, Sathish Samiappan, Joseph Bryan Whittenton, Matthew W. Hock, and Joby M. Prince Czarnecki; Mississippi State University</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>Mississippi’s Centennial Rotation - the First Twelve Years: Yields, Nutrient Uptake and Nutrient Removal.</td>
<td>M. Wayne Ebelhar*; Mississippi State University</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>Impact of a Diflufenzopyr-Sodium on Peanut Maturity, Yield, and Grade.</td>
<td>W. Monfort*, R. Scott Tubbs, John Paulk, and Eric P. Prostko; University of Georgia</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>Effect of Sprigging Rate and Nitrogen Fertility on Zoysiagrass Establishment.</td>
<td>Jeffrey Beasley*, and Kayla Sanders; Louisiana State University</td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>Dhurrin Content Relates to Sorghum Seedling Growth in Marginal Soils.</td>
<td>Yves Yatou Emendack*, John J. Burke, Gloria B. Burow, Zhanguo Xin, Chad Hayes, and Ratan Chopra; USDA-ARS</td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>Improving Water Productivity Using Plant-Based Irrigation Scheduling in Cotton.</td>
<td>Daryl Chastain*1, John Snider1, Guy D Collins2, Jared Whitaker1, Calvin Perry1, and Seth A Byrd3; (1) University of Georgia; (2) North Carolina State University; (3) Texas A&amp;M AgriLife Research</td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>Interspecific Variation in Oilseed Brassica Growth, Development and Physiological Responses to Early Season N Deficiency.</td>
<td>Ramdeo Seepaul*, David L. Wright, and Sheeja George; University of Florida</td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>Diverse and High-Residue Cover Crops For Mid-Atlantic Production Systems.</td>
<td>Mark S. Reiter*1, Steve L. Rideout1, Jennifer L. Templeton2, Jane E. Corson-Lassiter2, and Christophe L. Lawrence2; (1) Virginia Tech; (2) USDA-NRCS</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>Farm Manure-to-Energy Initiative.</td>
<td>Mark S. Reiter*1, Kristen Hughes Evans2, Sara Reiter3, Jane Corson-Lassiter4, and Preston Burnette5; (1) Virginia Tech; (2) Sustainable Chesapeake; (3) Eastern Shore Resource Conservation &amp; Development Council; (4) USDA-NRCS; (5) Farm Pilot Project Coordination, Inc.</td>
<td></td>
</tr>
</tbody>
</table>
PROFESSIONAL POSTER – SOILS

41. Further Down the Research Road... Looking at 10 Years of Research to Determine How Quickly Nutrients and Organic Matter Accumulations Occur in Monoculture Corn Production Soils. Becky Gilfillen*1, Paul Woosley1, Annesly Netthisinghe1, and Karamat R Sistani2; (1) Western Kentucky University; (2) USDA-ARS

42. Mississippi’s Centennial Rotation - Changes in Soil Nutrient Levels over Time in Multi-Crop Rotation Systems. M. Wayne Ebelhar*; Mississippi State University

43. Infiltration and Runoff Rates from Wheat Systems with Cover Crops. Paul B. DeLaune*, Partson Mubvumba, and Charles Coufal; Texas A&M AgriLife Research

SAAS Program

4:00 PM – 4:15 PM
SAAS Business Meeting,
What room

4:00 PM – 5:00 PM,
General Session/Kenote Speaker,
What room

4:15 - 5:00 PM
Reception
Where

MONDAY, FEBRUARY 8, 2016

Registration: 7:00 AM – 5:00 PM
Regency Ballroom Foyer,
Hyatt Regency San Antonio Riverwalk

GRADUATE STUDENT ORAL COMPETITION – CROPS
7:50 AM  Introductory Remarks.

8:00 AM  Evaluation of Agronomic and Seed Quality Traits in Conventional High Oleic Soybeans. Lauren Richardson*, Hem Bhandari, Feng Chen, Tarek Hewezi, and Vincent Pantalone; University of Tennessee

8:15 AM  Soybean Yield and Biomass Response to Nitrogen Additions. Justin McCoy*1, Bobby R. Golden2, Jason Bond1, Don Cook1, and Michael S Cox2; (1) Mississippi State Research and Extension, (2) Mississippi State University

8:30 AM  Soybean Reproductive Growth, Development, and Yield Responses of Two Contrasting Soybean Cultivars to Temperature. K. Raja Reddy, and Firas Alsajri*; Mississippi State University

8:45 AM  Rice Yield and Aboveground Biomass Response to Nitrogen Additions. Richard Turner1, Bobby R. Golden2, Jason Bond1, Jeff Gore2, and Trent Irby2; (1) Mississippi State Research and Extension; (2) Mississippi State University

9:00 AM  Effect of Early-Season Soil Moisture Stress on Growth and Development of Different Rice Cultivars. Bhupinder Singh*1, Timothy W. Walker2, K. Raja Reddy1, and Edilberto D. Redoña3; (1) Mississippi State University; (2) Horizon Ag LLC; (3) Mississippi Research and Extension

9:15 AM  Conservation Tillage and Rye (Secale cereale) Cover Crop Impacts on Runoff and Transport of Sediment and Nutrients in Irrigated Soybeans of the Mid-South. Corey Bryant*1, L. Jason Krutz1, Martin A. Locke2, and Wade Steinriede Jr.2; (1) Mississippi State University; (2) USDA-ARS

9:30 AM  Corn N Supply from Annual and Living Mulch Cover Crops. A.L. Hintz*, Zachary P. Sanders, Josh Andrews, and Nicholas Hill; University of Georgia

9:45 AM  Evaluation of Cowpea Germplasm for Texas Double Cropping Systems. Melanie L. Aiosa*1, Gerald R. Smith2, Vanessa A. Corriher-Olsen1, Clark B Neely2, William B. Smith1, and Francis M. Rouquette Jr.2; (1) Texas A&M University; (2) Texas A&M AgriLife Research

10:00 AM  Break.
10:15 AM **Herbicide Effects on Industrial Hemp (Cannabis sativa) Biomass and Weed Suppression.** Brett Maxwell*, Paul Woosley¹, Todd Willian¹, and David W. Williams²; (1) Western Kentucky University; (2) University of Kentucky

10:30 AM **A Systems Approach to Extending the Grazing Season: Grazing Evaluation of Cool-Season Grasses with and without Legumes.** Robert McKee*, Jennifer Johnson Tucker, Edzard van Santen, and Mary Kimberly Mullenix; Auburn University

10:45 AM **Development and Validation of Alternate Wetting and Drying (AWD) Water Management for Rice Grown on Clay Soils in Mississippi.** Richard Lee Atwill II *, and L. Jason Krutz; Mississippi State University

11:00 AM **Semi-Arid Cropping Rotation System Under No-till Management.** Matthew Bean*, Jamie L. Foster², Cristine L. S. Morgan¹, Gaylon D. Morgan¹, and Rabi Mohtar¹; (1) Texas A&M University; Texas A&M AgriLife Research

11:15 AM **Effect of Centibar Thresholds at Soybean Growth Stages on Yield and Water Use Efficiency.** Clinton Wood, L. Jason Krutz, and Trent Irby; Mississippi State University

11:30 AM **Assessing Seedling Vigor to Quantify Cotton Cultivar Response to Early Season Water Deficit.** Calvin Meeks*, John Snider, Megan Bab-Hartman, and Tony Barnes; University of Georgia

11:45 AM Discussion.

12:00 PM Lunch.

1:20 PM Introductory Remarks.

1:30 PM **Land Preparation and Irrigation Method Impacts on Peanut Pod Yield.** Stephen Leininger*, L. Jason Krutz², Jason Sarver², Jeff Gore², and Chad Abbott²; (1) Mississippi State Research and Extension; (2) Mississippi State University

1:45 PM **Effect of Potential Land Use Change from Cotton to Bioenergy Crops on Carbon Dynamics in the Southern Great Plains Region.** Sumit Sharma*, Nithya Rajan², and Stephan Maas¹; (1) Texas Tech University; (2) Texas A&M University
2:00 PM  Autumn and Winter Dynamics of White-Tailed Deer Browse Nutritive Values in the Southern Cross Timbers and Prairies. Aaron Norris*; Texas A&M University

2:15 PM  Association Mapping and Genetic Diversity of a Soft Winter Wheat Germplasm Collection. Dennis Nicuh Lozada*¹, Richard Esten Mason¹, Andrea Acuna¹, Gina Brown-Guedira², and Susanne Dreisigacker³; (1) University of Arkansas; (2) USDA-ARS; (3) CIMMYT

2:30 PM  Effects of Poultry Litter Placement on Seedling and Early-Stage Growth of Corn and Cotton. Yaru Lin*¹, Dexter B. Watts², and Thomas R. Way²; (1) Auburn University; (2) USDA-ARS

2:45 PM  Evaluation of Southern Soft Red Winter Wheat Lines for Resistance to Fusarium Head Blight. Amanda Holder*, R. Esten Mason, and David E. Moon; University of Arkansas

3:00 PM  Determination of Optimal Fall and Spring Nitrogen Rates for Maximizing Soft Red Winter Wheat Yield Sown at Variable Planting Dates. Lucas Vieira*, Richard Esten Mason, Trenton L. Roberts, David Moon, and Randall Galen Miller; University of Arkansas

3:15 PM  Irrigation Scheduling on Corn to Increase Profitability and Environmental Stewardship in Alabama. Jose Da Cunha Leme Filho*; Auburn University

3:30 PM  Break.

GRADUATE STUDENT ORAL COMPETITION - SOILS

3:45 PM  Polyacrylamide Effects on Infiltration, Erosion, Nutrient Transport and Yield in Furrow Irrigated Systems in the Mississippi Delta. Jacob McNeal*¹, L. Jason Krutz¹, Bobby R. Golden¹, Michael S. Cox¹, Martin A. Locke ², and Michael M. Kent³; (1) Mississippi State University; (2) USDA-ARS; (3) Helena Chemical Co.

4:00 PM  Comparing Environmental Impacts of No-till and Living Mulch Corn Production Systems Using Matched Watersheds. Nicholas Hill, Josh Andrews*, A.L. Hintz, and Zachary P. Sanders; University of Georgia

4:30 PM  Cover Crop and Tillage Effects on Soil Water and Yield in Continuous Wheat. Partson Mubvumba*, Paul B. DeLaune, and Charles Coufal; Texas A&M AgriLife Research

4:45 PM  Break.

5:00 PM  Agronomy Business Meeting.

TUESDAY, FEBRUARY 9, 2016

PROFESSIONAL ORAL PRESENTATIONS – CROPS
Rio Grande Ballroom East, Hyatt Regency San Antonio Riverwalk

8:20 AM  Introductory Remarks.

8:30 AM  Irrigation Scheduling on Corn to Increase Profitability and Environmental Stewardship. Brenda V. Ortiz*; Auburn University

8:45 AM  Should Pre-Tassel Nitrogen Applications Become Standard Practice for Mid-South Corn Production? M. Wayne Ebelhar; Mississippi State University

9:00 AM  Interaction of Nitrogen Rates and Cultivars for Corn Grown in Single-Row and Twin-Row Planting Systems. M. Wayne Ebelhar; Mississippi State University


9:30 AM  Impact of Gypsum Application on Bermudagrass (Cynodon dactylon L.) Forage Production and Soil Properties. Rocky W. Lemus*, Joshua Andrew White, Karl Keith Crouse, and Michael S. Cox; Mississippi State University

9:45 AM  Break.

10:00 AM  Planting Date, N Fertilizer Application Timing and Rate Effects on Brassica Carinata Seed and Oil Production. Ramdeo Seepaul*, Sheeha George, and David L. Wright; University of Florida Research and Education Center.

10:15 AM  Impact of Diflufenzopyr-Sodium on Peanut Maturity, Yield, and Grade. W. Monfort*, R. Scott Tubbs, Eric P. Prostko, and John Paulk;
10:30 AM  Evaluation of the Trimble Greenseeker to Determine Optimum Corn Sidedress N Rate. Carl R. Crozier*, Rob Austin¹, Ronnie W. Heiniger¹, Gary T. Roberson¹, Rafael Silva Santos², and Rodrigo Nogueira de Sousa²; (1) North Carolina State University; (2) Universidade Federal de Vicosa, Vicosa

10:45 AM  Ecosystem Evapotranspiration and Photosynthesis from Eddy Covariance. Nithya Rajan*, and Sumit Sharma; Texas A&M University; Texas Tech University

11:00 AM  Long-Term (20 year) Studies on the Effects of Alum Additions to Poultry Litter on Soil Test Phosphorus and Leaching. Philip A. Moore Jr.*, Lidong Huang², Peter J. A. Kleinman¹, Kyle Elkin¹ Mary Savin³, Daniel H. Pote¹, and Dwayne Edwards⁴; (1) USDA-ARS; (2) Nanjing University of Information Science & Technology; (3) University of Arkansas; (4) University of Kentucky

11:15 AM  Can Interseeding Spring Small Grains with Winter Wheat Increase Fall Forage Production? Clark B Neely*, and Daniel Hathcoat; Texas A&M AgriLife Research

11:30 AM  Adjourn.