AGRONOMY

Program of the Southern Branch
American Society of Agronomy Annual Meeting
February 4-6, 2018

Hyatt Regency Jacksonville-Riverfront
Jacksonville, FL

2017-2018 OFFICERS

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SUNDAY, FEBRUARY 4, 2018

Registration: 10:00 AM - 4:00 PM
Hyatt Regency Jacksonville-Riverfront
Third Floor Skybridge

POSTER SESSION
1:00 PM - 4:00 PM
Authors Present from 1:00 PM- 3:00 PM
Hyatt Regency Jacksonville-Riverfront
Conference Center A

UNDERGRADUATE STUDENT POSTER COMPETITION – CROPS AND SOILS


2. Effect of Shade on Morphological Features and Chlorophyll Content in Plants. K. L. McClee* and M. Pande; Mississippi Valley State University.


4. Cheese Whey Wastewater Application to Soil: Show Me the "Whey"! A. Lamb*1, A. Poncet1, A. Van Cleave1, A. Gamble1, T. Knappenberger1, E. Brantley1, and J. A. Howe2; (1) Auburn University; (2) Texas A&M University

GRADUATE STUDENT POSTER COMPETITION – M.S. Students

1. Evaluation of Drought-Tolerant Corn (Zea mays L.) Hybrid Performance in a High Yield, Non-Moisture Limiting Environment. J. J. Williams**, B. Henry¹, and N. W. Buehring; (1) Mississippi State University; (2) North Mississippi Research and Extension Center, Mississippi State University, Verona, MS

2. Evaluation of Peanut Cultivars, Wild Species, and Experimental Lines for Drought and Heat Tolerance. Z. Zoong Lwe**, S. Narayan¹, and S. Tallury²; (1) Clemson University; (2) Plant Genetic Resources Conservation Unit, USDA-ARS, Griffin, GA

3. Morpho-Physiological and Root Architectural Differences Associated with Drought Tolerant Corn Hybrids. C. Walne*, C. Wijewardana and K. R. Reddy; Mississippi State University

5. Determining the Impact of Planting Pattern on Peanut Water-Use Efficiency Using the Eddy-Covariance Method. N. Singh*; University of Georgia, Griffin, GA

6. Impact of First True Leaf on Seedling Vigor Under Field Conditions. G. Virk*, J. Snider, C. Pilon and M. A. Scolari; University of Georgia – Tifton

7. Response of Alternative Oilseed Crops to Deficit Irrigation. I. L. Pabuayon*, S. Singh and G. L. Ritchie; Texas Tech University


9. Effects of Biochar Application on Soil Chemistry and Plant Uptake in Fescue-Dominated Pasture in Middle Tennessee. X. Li*, S. Jagadamma and F. R. Walker, University of Tennessee – Knoxville

**GRADUATE STUDENT POSTER COMPETITION – Ph.D. Students**

1. Influence of Water Stress on Soybean Seed Physiology, Quality, and Chemical Composition. C. Wijewardana*1, F. A. Alsajri1, N. Bellaloui2 and K. R. Reddy1; (1) Mississippi State University; (2) Crop Genetics Research Unit, USDA-ARS, Stoneville, MS

2. Carbon Assimilation and Photosystem Responses of Two Rice Cultivars Acclimated to Sub- and Supra-Optimal Day/Night Temperature Regimes. B. Singh*, D. R. Chastain2, S. Jumaa1, C. Wijewardana1, E. D. Redoña2, and K. R. Reddy1; (1) Mississippi State University – Starkville; (2) Mississippi State University – Stoneville

3. Effect of Temperature at Reproductive Growth Stage on Soybean Seedling Shoot and Root Morphology of the Offspring. F. Alsajri, C. Wijewardana, and K. R. Reddy; Mississippi State University

4. Evaluating Physiological and Yield Parameters of 100 Elite Rice Genotypes. S. Jumaa**, E. D. Redoña2, and K. R. Reddy1; (1) Mississippi State University – Starkville; (2) Mississippi State University – Stoneville

5. Screening Rice Genotypes for Drought Stress at Early Growth Stage. N. Naqeebullah**, E. D. Redoña2, and K. R. Reddy1; (1) Mississippi State University – Starkville; (2) Mississippi State University – Stoneville


9. The Role of Locally Derived Effective Microorganisms in Reducing Ammonia Volatilization from Soil and Its Potentiality to Enhance the Nitrogen Mineralization. K. Mahmud, D. Franklin, D. W. Hancock, M. L. Cabrera, M. Y. Habteselassie, Q. Newcomer and L. Ney; (1) University of Georgia–Athens; (2) University of Georgia – Griffin; (3) University of Georgia – Costa Rica

10. Influence of Plant Growth-Promoting Rhizobacteria on Maize Growth Under Drought Stress. Y. Lin*, D. B. Watts, J. Kloepper, and Y. Feng; (1) Auburn University; (2) Soil Dynamics Lab, USDA-ARS, Auburn, AL

11. Salinity Tolerance of Guar or Cluster Bean (Cyamopsis tetragonoloba L.) Genotypes. J. D. Suthar*, I. Rajpar, G. K. Ganjegunte, and Z. U. H. Shah; (1) Texas A&I Research, El Paso, TX; (2) Sindh Agriculture University, Tandojam, Pakistan

PROFESSIONAL POSTER – CROPS

1. UPLC-HRMS Based Non-Targeted Metabolomic Profiling in Chickpea Reveals Complex Mechanisms Involved in Drought Tolerance Induced By PGR and PGPR. N. Khan, A. Bano, A. Rahman, J. Guo, Z. Kang and M. Babar*; (1) Quaid-I-Azam University; (2) University of Wah; (3) University of Florida; (4) Yunnan Agricultural University

2. Decision-Support Maps for Corn Planting and Time to Maturity in Mississippi. P. J. English*, S. L. DeFauw; (1) Delta Research & Extension Center, Mississippi State University; (2) Ascend Geospatial

3. Identifying Edamame (vegetable soybean) Suitable for Cultivation for the Fresh Food Market of Florida. M. M. Hossain, M. Babar*, M. J. Mulvaney, A. Rahman, J. Guo and M. Akond; (1) University of Florida, Gainesville; (2) University of Florida West Florida Research & Education Center, Jay, FL
4. Flex Ear Corn Hybrid Population Yield Response to Narrow Rows. N. W. Buehring*¹, B. Henry², J. J. Williams², M. P. Harrison¹ and A. R. Taylor¹; (1) North Mississippi Research and Extension Center, Mississippi State University, Verona, MS; (2) Mississippi State University

5. Effect of Nitrogen Fertilizer Application Timing and Herbicide on Industrial Hemp. T. Willian*, R. Anderson, P. Woosley, R. Gilfillen; Western Kentucky University


7. Can the Subsurface Poultry Litter Band Distance from the Planted Row Influence Crop Yield? D. B. Watts* and T. R. Way; National Soil Dynamics Lab, USDA-ARS, Auburn, AL

8. Effects of Elevated Atmospheric CO₂ and N Fertilization on Bahiagrass Root Distribution. S. A. Prior*, B. Runion and H. A. Torbert; National Soil Dynamics Laboratory, USDA-ARS, Auburn, AL

9. Tillage and Residue Management in the Mississippi Delta - Corn and Soybean Yields. M. W. Ebelhar*¹ and N. W. Buehring²; (1) Mississippi State University – Stoneville; (2) North Mississippi Research and Extension Center, Mississippi State University, Verona, MS

10. Simulating Carbon Flux and Evapotranspiration of Two Forage Production Systems in Middle Tennessee Using Machine Learning. S. Cui*¹, Q. Wu¹, N. Rajan², S. Nair³, T. Pirtle⁴ and A. Nevins²; (1) Middle Tennessee State University; (2) Texas A&M University, College Station; (3) Sam Houston State University; (4) University of Florida, Gainesville

11. On-Farm Demonstrations Lead to Soil Moisture Sensor Adoption in Florida’s Suwannee Valley. P. Troy*; University of Florida; IFAS

12. Brassica carinata Genotype Screening in North Florida. P. Troy*; University of Florida, IFAS

13. Assessing Impacts of Cheese Whey Wastewater on Vegetation. J. A. Howe*¹, M. DeHaven², T. Knappenberger² and E. Brantley²; (1) Texas A&M University; (2) Auburn University

PROFESSIONAL POSTER – SOILS

1. How Switching to a Rotational Cropping System Changes Soil Properties after 12 Years of Continuous Corn. R. Gilfillen*, A. Netthisinghe, T. Willian, and P. Woosley; Western Kentucky University


4. Tomato Fruit and Soil Response to Polyhalite Fertilizer on Sandy Loam Soils in the Mid-Atlantic Region, USA. M. S. Reiter*¹ and K. Pavuluri²; (1) Eastern Shore Agricultural Research and Extension Center, Virginia Tech, Painter, VA; (2) Sirius Minerals, Scarborough, United Kingdom

SAAS Program

4:00 PM-5:00 PM
SAAS Business Meeting
Grand Ballroom Section 6
Hyatt Regency Jacksonville-Riverfront

4:15 PM
Social and Super Bowl Party
Grand Ballroom Section 4/5
Hyatt Regency Jacksonville-Riverfront
MONDAY, FEBRUARY 5, 2018

Registration: 7:00 AM - 5:00 PM
Hyatt Regency Jacksonville-Riverfront
Third Floor Skybridge

GRADUATE STUDENT ORAL COMPETITION - M.S. Students
Hyatt Regency Jacksonville-Riverfront
City Terrace 7

7:55 AM  Introductory Remarks.

8:00 AM  Effect of Bacillus Mycoides Supplement in a Reduced Frequency Fungicide Program on Chambourcin Grapevines. R. Mairs*, R. Gilfillen, E. Gray and T. Willian; Western Kentucky University

8:15 AM  Impact of Fungicide Application Timing on Soybean (Glycine max) Yield in Mississippi. C. Floyd*, J. T. Irby, A. Catchot, D. M. Dodds, T. Allen, J. Sarver, A. B. Scholtes, and S. M. Carver; Mississippi State University

8:30 AM  Analysis of Root-Knot Nematode Resistance in Cotton Cultivars. I. P. Scadden*1, S. Hague1, T. Wheeler1, T. Isakeit2, and S. McBride1; (1) Texas A&M University; (2) Texas A&M AgriLife Extension Service, College Station, TX

8:45 AM  An Investigation in Cotton Square Size and Effects on Cotton Fleahopper Resistance. B. Page* and S. Hague; Texas A&M University

9:00 AM  Selection and Response of Yield and Fiber Traits in Upland Cotton. H. Kennedy and S. Hague; Texas A&M University

9:15 AM  Identification of Yield Potential of Different Corn and Sorghum Genotypes in Southwest Texas. R. Raman*, X. Dong2, S. C. Murray1, W. L. Rooney1, and S. Malla2; (1) Texas A&M University; (2) Texas A&M AgriLife Research and Extension Center, Uvalde, TX

9:30 AM  Seed Germination Responses to Osmotic Stress in Corn Cultivars. C. Walne*, K. R. Reddy, and C. Wijewardana; Mississippi State University

9:45 AM  Drought-Tolerant and Short Season Corn (Zea mays L.) Hybrids to Optimize Yield, Water Use Efficiency, and Net Returns. J. J. Williams*1, W. B. Henry1, L. J. Krutz2, J. J. Varco1, D. B. Reynolds1, and L. L. Falconer2; (1) Mississippi State University; (2) Delta Research and Extension Center Mississippi State University, Stoneville, MS
10:00 AM  Break.

10:15 AM  Nitrogen’s Effect on Native Warm Season Grass Crown Growth. M. Parker*¹, B. S. Baldwin¹, J. Morrison¹, and R. McGrew²; (1) Mississippi State University; (2) Red Hills Mine, Ackerman, MS

10:30 AM  Impact of Row Spacing, Planting Date and Seeding Rate in Non-Irrigated Soybean (Glycine max) Production. S. M. Carver*¹, J. T. Irby¹, D. B. Reynolds¹, D. M. Dodds¹, A. Catchot¹, J. M. Orlowski², A. B. Scholtes¹, and C. Floyd¹; (1) Mississippi State University; (2) Delta Research and Extension Center Mississippi State University, Stoneville, MS

10:45 AM  Effect of Nitrogen Fertilizer RATE and Herbicide on Industrial Hemp. R. Anderson*, T. Willian, and P. Woosley; Western Kentucky University

11:00 AM  Cover Crop Effects on the Effectiveness of Urease Inhibitors. N. Hull* and E. A. Guertal; Auburn University

11:15 AM  Implementing Leguminous Cover Crops for Use in an Early-Planted Mississippi Corn Production System through Phenotypic Recurrent Selection. J. McLemore*; Mississippi State University

11:30 AM  Effects of Animal Manure and Cover Crops on Agricultural Soils in Kentucky. S. Sarr*¹, M. Gebremedhin¹, A. Tope¹, M. Coyne¹, and K. R. Sistani²; (1) Kentucky State University; (2) Food Animal Environmental Systems Research Unit, USDA-ARS, Bowling Green, KY


12:00 PM  Lunch.

GRADUATE STUDENT ORAL COMPETITION - Ph.D. Students

Hyatt Regency Jacksonville-Riverfront
City Terrace 7

1:25 PM  Introductory remarks.

1:30 PM  Barley Dihaploids Regeneration from Crosses between Hordeum vulgare (4x) and H. Bulbosum (4x). A. H. Mohammed* and B. S. Baldwin; Mississippi State University
1:45 PM  Assessing Early-Season Vigor Variation of 100 Eelte Diverse Rice Panels Using Morpho-Physiological Traits. S. Jumaa*, E. D. Redoña, and K. R. Reddy; (1) Mississippi State University; (2) Mississippi State University, Stoneville, MS

2:00 PM  Impact of Parental Soil Moisture Stress Treatments on Phenotypic Plasticity of the Offspring. C. Wijewardana*, F. A. Alsajri, and K. R. Reddy; Mississippi State University

2:15 PM  Morphological Screening of Rice Genotypes for Salinity Tolerance at Seedling Stage. N. Naqeebullah*, E. D. Redoña, and K. R. Reddy; (1) Mississippi State University; (2) Mississippi State University, Stoneville, MS

2:30 PM  Comparative Study of Early Growth Stages of 25 Guar (Cyamopsis tetragonoloba L.) Genotypes Under Elevated Salinity. J. D. Suthar*, I. Rajpar, G. K. Ganjegunte, and Z. U. H. Shah; (1) Texas Agrilife Research, El Paso, TX; (2) Sindh Agriculture University, Tandojam, Pakistan

2:45 PM  Growth, Development and Yield Characteristics of Rotylenchulus Reniformis Resistant Cotton Lines Grown in Nematode-Infested Fields. B. Singh*, D. R. Chastain, J. Snider, K. R. Reddy, J. Krutz, and S. Stetina; (1) Mississippi State University; (2) Mississippi State University, Stoneville, MS; (3) University of Georgia-Tifton; (4) USDA-ARS, Stoneville, MS

3:00 PM  Break.

3:15 PM  Effect of Temperature at Reproductive Growth Stages on Soybean Seed Yield and Quality Traits. F. Alsajri*, C. Wijewardana, N. Bellaloui, and K. R. Reddy; (1) Mississippi State University; (2) Crop Genetics Research Unit, USDA-ARS, Stoneville, MS

3:30 PM  Temperature Effect on Maize Germination and Root Elongation. O. Ali*, J. B. Whittenton, J. J. Williams, F. Watts, and W. B. Henry; (1) Mississippi State University; (2) State Seed Testing Lab, Mississippi Department of Agriculture & Commerce, Starkville, MS

3:45 PM  Furrow Irrigation for Mid-South Rice Production. R. L. Atwill II*, L. J. Krutz, D. P. Roach, and J. Satterfield; (1) Mississippi State University, Stoneville, MS; (2) Horizon Ag LLC, Memphis, TN
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<tr>
<th>Time</th>
<th>Topic</th>
<th>Authors</th>
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<tr>
<td>4:00 PM</td>
<td>Directed Fungicide Application for White Mold Control on Peanut.</td>
<td>A. D. Jani*¹, M. J. Mulvaney², T. Brenneman³, and N. Dufault¹; (1) University of Florida, Gainesville, FL; (2) University of Florida West Florida Research &amp; Education Center, Jay, FL; (3) University of Georgia-Tifton</td>
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<td>4:15 PM</td>
<td>Selenium Removal By Aquatic Macrophytes in Constructed Wetland Microcosms.</td>
<td>M. Nattrass* and B. S. Baldwin; Mississippi State University</td>
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<td>4:30 PM</td>
<td>Incidence of Pharmaceuticals in East Fork Stones River in Rutherford County, Tennessee.</td>
<td>R. Kaur*, A. A. Amenyenu, and S. Dennis; Tennessee State University</td>
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<td>4:45 PM</td>
<td>Impact of Planting Date and Maturity Group on Irrigation Water Use Efficiency in Mid-South Soybean Production.</td>
<td>C. Wood*¹, L. J. Krutz², J. M. Orlowski², T. Irby³, B. Henry³, and L. L. Falconer²; (1) Mississippi State University, Cleveland, MS; (2) Mississippi State University, Stoneville, MS; (3) Mississippi State University</td>
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<td>5:00 PM</td>
<td>Discussion/Break.</td>
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<td>5:15 PM</td>
<td>Agronomy Business Meeting.</td>
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TUESDAY, FEBURARY 6, 2018

GRADUATE STUDENT ORAL COMPETITION - Ph.D. Students
Hyatt Regency Jacksonville-Riverfront
City Terrace 7

7:55 AM Introductory Remarks.

8:00 AM Performance of Prohexadione Calcium at Reduced Rates in Mississippi Peanuts. C. Abbott* and J. Sarver; Mississippi State University

8:15 AM Potential of Poultry Litter Biochar As a Substitute for Inorganic Phosphorus Fertilizer. A. Freitas*, V. D. Nair, L. Sollenberger, and W. Harris; University of Florida, Gainesville, FL

8:30 AM Integration of Poultry Litter and Mineral N on Growth and Yield of Winter Canola. Y. Lin*, D. B. Watts², H. A. Torbert², and J. A. Howe³; (1) Auburn University; (2) National Soil Dynamics Laboratory, USDA-ARS, Auburn, AL; (3) Texas A&M University

8:45 AM The Effects of Cover Crops on Runoff, Erosion, and Off-Site N and P Transport. G. Spencer*, L. J. Krutz¹, J. M. Orlowski², M. A. Locke³, B. R. Golden², and B. Henry⁴; (1) Mississippi State University, Stoneville, MS; (2) Delta Research and Extension Center, Mississippi State University, Stoneville, MS; (3) USDA-ARS, Oxford, MS; (4) Mississippi State University

9:00 AM Long Term Effects of Tillage Intensities on Soil Carbon Dynamics Under Soybean Production Systems of West Tennessee. S. Singh* and S. Jagadamma; University of Tennessee-Knoxville

9:15 AM Strategic-Rotational Grazing in Beef-Pastures for Improving Sustainability: As Measured By Soil Health, and Forage Productivity. S. Dahal*, D. Franklin, M. L. Cabrera, and D. W. Hancock; University of Georgia-Athens

9:30 AM Sensitivity of Microbial Processing of Soil Carbon to Soil Moisture in Differently-Textured Soils. S. Singh*, S. Jagadamma¹, J. Liang², G. Wang², and M. Mayes²; (1) University of Tennessee-Knoxville; (2) Oak Ridge National Laboratory, Oak Ridge, TN

9:45 AM Efficacy of Recalcitrant Carbon Soil Amendment to Improve Zea Mays Yield in Poor Quality Sandy Loam Soils. N. McGrew*, M. Nattrass, J. I. Morrison, and B. S. Baldwin; Mississippi State University

10:00 AM Break.
10:15 AM  Crop Residue Management and Tillage Systems' Impact on Yield and Soil Quality. N. W. Buehring*¹, W. L. Kingery², S. Shanmugam², M. W. Ebelhar³, M. P. Harrison¹, and A. R. Taylor¹; (1) North Mississippi Research and Extension Center, Mississippi State University, Verona, MS; (2) Mississippi State University; (3) Delta Research and Extension Center, Mississippi State University

10:30 AM  Application of Neutron-Gamma Analysis for Determination of C/N Ratio in Compost. G. Yakubova*, A. Kavetskiy, S. A. Prior, and H. A. Torbert; National Soil Dynamics Laboratory, USDA-ARS, Auburn, AL

10:45 AM  Greenhouse Gas Emissions from Soils Transitioning to Organic. N. Rajan and D. Zapata; Texas A&M University

11:00 AM  Double Cropping VS. Cover Cropping in North Texas Wheat Systems. P. B. DeLaune*¹, P. Muvumba¹, and E. Kimura²; (1) Texas A&M AgriLife Research, Vernon, TX; (2) Texas A&M AgriLife Extension Service, Vernon, TX

11:15 AM  Nitrogen Credits after Peanut. M. J. Mulvaney*¹, A. D. Jani², K. S. Balkcom³, and D. Jordan⁴; (1) University of Florida West Florida Research & Education Center, Jay, FL; (2) University of Florida; (3) USDA-ARS, Auburn, AL; (4) North Carolina State University

11:30 AM  Impact of FGD Gypsum Application on Trace Elements. H. A. Torbert*¹, R. L. Chaney², and D. B. Watts¹; (1) National Soil Dynamics Laboratory, USDA-ARS, Auburn, AL; (2) USDA-ARS, Beltsville, MD

11:45 AM  Announcement of PhD Oral Competition Winners.

12:00 AM  Lunch.

1:30 PM  Impact of Monsanto's Beachell-Borlaug International Scholars Program. E. C. A. Runge* and D. D. Baltensperger; Texas A&M University
1:45 PM  Can't See the Forest for the Trees? Let Canonical Discriminant Analysis Help You Make Sense of Your Data.  E. van Santen*
University of Florida

2:00 PM  Effects of Hybrid x Irrigation x Seeding Date on Grain Sorghum in the Midsouth.  H. A. Bruns*; Crop Production Systems Research Unit, USDA-ARS, Stoneville, MS

2:15 PM  Impact of Plant Populations on Irrigated Corn Yield in Arkansas.  J. Kelley*, T. Keene1, and S. Hayes2; (1) University of Arkansas, Little Rock, AR; (2) University of Arkansas, Rohwer, AR

2:30 PM  Narrow-Row Corn Production in the Mid-South.  W. B. Henry*, N. W. Buehring2, J. J. Williams3, J. M. Orlowski3, and M. W. Ebelhar3; (1) Mississippi State University; (2) North Mississippi Research and Extension Center, Mississippi State University, Verona, MS; (3) Delta Research and Extension Center, Mississippi State University, MS

2:45 PM  A Practical First Look at Corn Production with High Plant Populations and Higher Nitrogen Rates in Single-Row and Twin-Row Systems.  M. W. Ebelhar*, B. Henry2, and R. Turner3; (1) Mississippi State University, Stoneville, MS; (2) Mississippi State University; (3) Mississippi State Extension and Research Center, Belzoni, MS

3:00 PM  On-Farm Evaluation of Reduced Rates of Prohexadione Calcium (Plant Growth Regulator) on Peanut.  W. S. Monfort*, R. S. Tubbs1, B. Cresswell2, and B. Tyson3; (1) University of Georgia – Tifton; (2) Cooperative Extension Service, Early County, University of Georgia, Blakely, GA; (3) Cooperative Extension Service, Bulloch County, University of Georgia, Statesboro, GA

3:15 PM  Grain Yields in Twin-Row Planting of Soybean/Corn Rotations - Increasing Nitrogen, Potassium and Phosphorus Fertility.  M. W. Ebelhar*; Mississippi State University, Stoneville, MS

4:30 PM  Discussion.

5:45 PM  Adjourn.