



AMERICAN PHYTOPATHOLOGICAL SOCIETY

97th SOUTHERN DIVISION

MEETING PROGRAM (**TENTATIVE**)

This is a tentative program; changes may occur between now and the actual date of the meeting.

The 97th annual meeting of the American Phytopathological Society, Southern Division, is being held in conjunction with the Southern IPM Center and the Southern Plant Diagnostic Network on February 9-12, 2020, in Charleston, SC, at the Francis Marion Hotel. Unless otherwise specified, all program events will take place at the Francis Marion Hotel.

Photographs will be taken during the meeting. As a meeting registrant and attendee, you agree to allow the SD-APS to use your photo in APS publications and on the SD-APS website and social media pages. As a courtesy to presenters, please **do not take photos** of posters or presentation slides without presenter approval.

Join us on Facebook! - “Like” and follow the **APS Southern Division** and the **APS Southern Division - Graduate Students** pages on Facebook! Document your experiences throughout the meeting and post your photos using **#SDAPS2020**.

Sunday, February 9, 2020

- | | |
|-----------------|--|
| 8:30 - 11:30 AM | Why Do These Pathogens Have Legs? Disease-like Arthropods and Their Identification (Workshop)
Leader: Matt Bertone , <i>North Carolina State University</i>
<i>Room TBD</i>
<i>Sponsored by the Southern Plant Diagnostic Network</i> |
| 11:30 - 1:30 PM | Lunch (on your own) |
| 1:30 - 4:30 PM | Tools for <i>Phytophthora</i> Identification (Workshop)
Leader: Steve Jeffers , <i>Clemson University</i>
<i>Room TBD</i>
<i>Sponsored by the Southern Plant Diagnostic Network</i> |
| 4:30 - 5:30 PM | Executive Committee Meeting
<i>Room TBD</i> |
| 6:00 - 8:00 PM | Welcome Reception
<i>Room TBD</i> |

Monday, February 10, 2020

- 7:00 - 7:30 AM Registration and Poster Setup (All Posters)
Room TBD
- 7:30 - 7:45 AM **Welcome**
Room TBD
- 8:15 - 12:15 PM **Southern Plant Diagnostic Network – Business Meeting**
Room TBD
The business meeting is open to all registered meeting attendees.

Graduate Student Research Competition (Session I)

- 7:45 - 7:57 AM *Pseudomonas chlororaphis* type VI secretion systems: roles in rhizosphere dynamics and plant microbe interactions. **E. Boak**, E. Pierson, and L. Pierson; Texas A&M University.
- 7:57 - 8:09 AM Pro-viral function of the glycolytic enzyme FBA1 during TBSV replication. **M. Molho** and P. Nagy; University of Kentucky.
- 8:09 - 8:21 AM Advanced molecular methods for detection and race differentiation of *Fusarium oxysporum* f. sp. niveum. **O. Hudson**, E. Ali, S. Waliullah, and P. Ji; University of Georgia.
- 8:21 - 8:33 AM Integrating beneficial bacteria for management of southern stem rot and late leaf spot in peanuts. **A. Herbert**, H. Wang, and D. Anco; Clemson University.
- 8:33 - 8:45 AM *Pythium* spp. infecting winter field and cover crops in North Carolina. **E. Reeves**¹, B. Shew¹, C. Cowger², and J. Kerns¹; ¹North Carolina State University, ²USDA-ARS Plant Science.
- 8:45 - 8:57 AM An assessment of seed treatment efficacy and cotton seedling disease presence using innovative techniques. **S. Pate**, R. Guyer, and H. Kelly; University of Tennessee.
- 8:57 - 9:09 AM Physiological effects of soybean cyst nematode on real time N₂-fixation activity, and leaf growth parameters of three soybean lines. **R. Akinrinlola**¹, T. Sinclair², A. Shekoofa¹, and H. Kelly¹; ¹University of Tennessee, ²North Carolina State University.
- 9:09 - 9:21 AM Fungicide sensitivity screening for *Corynespora cassiicola* and field evaluations. **T. Smith**, Z. Hansen, and H. Kelly; University of Tennessee.

Graduate Student Research Competition (Session I), continued

- 9:21 - 9:33 AM Impact of the corn Bt trait on mycotoxin levels. **E. Zuchelli**, S. Stewart, H. Kelly, and R. Guyer; University of Tennessee.
- 9:33 - 9:45 AM Defining dispersal mechanisms in storage for *Ceratocystis fimbriata*, causal agent of black rot in sweetpotatoes. **M. Stahr**, M. Bertone, L. Quesada, and A. Huseh; North Carolina State University.
- 9:45 - 10:15 AM BREAK

Graduate Student Research Competition (Session II)

- 10:15 - 10:27 AM Utilizing a population genetics approach to provide crop-specific management strategies for cucurbit downy mildew. **K. D'Arcangelo**¹, L. Quesada¹, T. Miles², and A. Rahman³; ¹North Carolina State University, ²Michigan State University, ³Corteva Agrisciences.
- 10:27 - 10:39 AM Formulated magnesium nanomaterials as novel alternatives to bacterial spot of tomato disease management. **Y. Liao**¹, A. Strayer-Scherer², Z. Huang³, S. Santra³, J. White⁴, R. De La Torre-Roche⁴, Q. Fan¹, S. Da Silva¹, G. Vallad¹, J. Freeman¹, J. Jones¹, and M. Paret¹; ¹University of Florida, ²Auburn University, ³University of Central Florida, ⁴University of Connecticut.
- 10:39 - 10:51 AM Survey of soil and foliar fungal pathogens observed in watermelon production fields throughout the growing regions of Texas. **B. Meyer**, K. Ong, and K. Cochran; Texas A&M University.
- 10:51 - 11:03 AM Evaluation of laser-guided air-blast sprayer on pest and disease control in peach orchards. **H. Boatwright** and G. Schnabel; Clemson University.
- 11:03 - 11:15 AM Hemp leaf spot, a major disease threat for hemp, is caused by haploid and heteroploid populations. **D. Szarka**, J. Jaromczyk, C. Schardl, and N. Gauthier; University of Kentucky.
- 11:15 - 11:27 AM Comparative performance of fungicides and biorational products in managing post-harvest *Botrytis cinerea* infection on hydrangea cut flowers. **R. Bika**¹, F. Baysal-Gurel¹, and C. Palmer²; ¹Tennessee State University, ²IR-4.
- 11:27 - 11:39 AM Identification and management of *Phytophthium vexans* on *Ginkgo biloba*. **M. Panth**, F. Baysal-Gurel, F. Avin, and T. Simmons; Tennessee State University.

Graduate Student Research Competition (Session II), continued

- 11:39 - 11:51 AM Transmission of *Rose rosette emaravirus* (RRV) through non-vector related methodologies. **M. Shires**, J. Corser, J. Ueckert, and K. Ong; Texas A&M University.
- 11:51 - 12:03 PM Flowering dogwoods under fire: responses of the microbiome under prescribed burn management. **B. Kapoor**¹, D. Hadziabdic¹, J. DeBruyn¹, M. Cregger², W. Klingeman¹, R. Trigiano¹, A. Onufrak¹, and E. Wilcox¹; ¹University of Tennessee, ²Oak Ridge National Laboratory.
- 12:03 - 12:15 PM Bacterial communities associated with *Juglans nigra* significantly differ between the tree's native and introduced ranges. **A. Onufrak**¹, M. Cregger², J. DeBruyn¹, D. Hadziabdic¹, G. Williams³, and M. Ginzel³; ¹University of Tennessee, ²Oak Ridge National Laboratory, ³Purdue University.
- 12:15 - 2:00 PM **Careers 101 Workshop: Strategic Conversations** (Workshop)
Leader: **Nicole Gauthier**, SD-APS Divisional Forum Representative
Lunch provided for workshop preregistrants.
- 12:15 - 2:00 PM Lunch (on your own)

Technical Session I

- 2:00 - 2:12 PM Management of phytopathogenic nematodes on soybean in North Carolina. **S. Cude**, A. Joyce, L. Thiessen, and Y. Rivera; North Carolina State University.
- 2:12 - 2:24 PM Determining the role of the rhizospheric microbiome composition in the *Ralstonia solanacearum* distribution in tobacco fields in North Carolina. **R. Garcia**; North Carolina State University.
- 2:24 - 2:36 PM Taproot decline of soybean is caused by a novel *Xylaria* sp. that produces phytotoxins associated with foliar symptoms. **T. Garcia-Aroca**¹, P. Price¹, M. Tomaso-Peterson², T. Wilkerson², T. Spurlock³, T. Faske³, B. Bluhm³, K. Conner⁴, E. Sikora⁴, R. Guyer⁵, H. Kelly⁵, T. Allen², and V. Doyle¹; ¹Louisiana State University, ²Mississippi State University, ³University of Arkansas, ⁴Auburn University, ⁵University of Tennessee.
- 2:36 - 2:48 PM Secretion of effectors by a signal peptidase mutant of the maize anthracnose pathogen *Colletotrichum graminicola*. **R. Belisario** and L. Vaillancourt; University of Kentucky.

Technical Session I, continued

- 2:48 - 3:00 PM Sensitivity of *Corynespora cassiicola* from cotton and soybean to DMI and QoI fungicides. **M. Rondon** and K. Lawrence; Auburn University.
- 3:00 - 3:12 PM Investigating appressorium form and function using proximity-dependent proteomics. **N. Dulal**, R. Proko, and M. Egan; University of Arkansas.
- 3:12 - 3:24 PM Formation, viability and survival of *Pseudoperonospora cubensis* oospores under field conditions in southeastern United States. **I. Kikway**¹, A. Kenaith², and P. Ojiambo¹; ¹North Carolina State University, ²Clemson University.
- 3:24 - 3:36 PM Environmental bacteria as potent biocontrol agents for controlling Phytophthora fruit rot on watermelon. **J. Taylor**¹, A. Boroujerdi¹, T. Pikes¹, R. Harris¹, C. Kousik², and M. Mandal^{1,2}; ¹Claflin University, ²U.S. Vegetable Laboratory, USDA-ARS.
- 3:36 - 3:48 PM Black rot resistance in sweetpotato (*Ipomoea batatas*): a case of age-related resistance. **C. Rojas**, K. Pecota, C. Yencho, and L. Quesada-Ocampo; North Carolina State University.
- 3:48 - 4:00 PM Evaluating the relative contribution of fungicides applied alone or as mixtures for management of *Venturia effusa* in commercial pecan orchards. **L. Moore**, T. Brenneman, and K. Stevenson; University of Georgia.
- 4:00 - 4:12 PM Evaluation of host plant defense inducers for the management of plant pathogens in two North Carolina cropping systems. **A. Melo**, S. Villani, and R. Kreis; North Carolina State University.
- 4:12 - 4:24 PM Turfgrass management practices influence fungicide fate on golf course putting greens. **C. Stephens**, T. Gannon, and J. Kerns; North Carolina State University.
- 4:24 - 4:48 PM BREAK

Technical Session II

- 4:48 - 5:00 PM Hold on to your roots: bacterial maintenance on plant roots. **N. Eckshtain-Levi**, S. Harris, and E. Shank; University of North Carolina.

Technical Session II, continued

- 5:00 - 5:12 PM Comparative transcriptome analysis of two contrasting maize inbred lines provides insights on molecular mechanisms for stalk rot resistance. **A. Salcedo**¹, J. Al-Haddad², C. Buell², F. Trail², E. Góngora-Castillo³, and L. Quesada¹; ¹North Carolina State University, ²Michigan State University, ³Centro de Investigación Científica de Yucatán.
- 5:12 - 5:24 PM Surveying quinone outside inhibitor (QoI) resistance in peanut late leaf spot (*Nothopassalora personata*) in eastern North Carolina in 2018. **T. Schappe**, B. Shew, and L. Thiessen; North Carolina State University.
- 5:24 - 5:36 PM Assessment of nematicides for corn grown in fields infested with *Belonolaimus longicaudatus* and *Meloidogyne incognita*. **R. Kemerait** and M. Toews; University of Georgia.
- 5:36 - 5:48 PM Cotton leafroll dwarf disease: an emerging viral disease on cotton in Georgia. **S. Bag**¹, A. Tabassum¹, N. Sedhain¹, K. Morgan¹, N. Suassuna², J. Whitaker¹, P. Chee¹, R. Kemerait¹, R. Nichols³, and P. Roberts¹; ¹University of Georgia, ²EMBRAPA, ³Cotton Incorporated.
- 5:48 - 6:00 PM SIMPAS™: The next generation of precision, prescriptive, in-furrow application equipment. **M. Newark**, S. Ludwig, W. Carter, and R. Rice; AMVAC Corporation.
- 6:00 - 6:12 PM Introducing, Howler, an innovative, multi-site fungicide. **B. McInnes**; AgBiome Innovations.
- 6:12 - 6:24 PM Ornamental annual and perennial flowering plants for Phytophthora-infested landscape beds. M. Henson, S. Sharpe, and **I. Meadows**; North Carolina State University.
- 6:45 – 7:45 PM **Graduate Student/Post-doc Social Meeting**
Room TBD

Tuesday, February 11, 2020

Symposium, “IPM Symposium”

- 8:00 - 8:15 AM Bacterial blight of cotton: attributes of the causal agent (*Xanthomonas citri* subsp. *malvacearum*) and impact of management on disease. **T. Wheeler**¹, T. Allen², R. Bart³, T. Isakeit¹, R. Kemerait⁴, and J. Woodward⁵; ¹Texas A&M University, ²Mississippi State University, ³Donald Danforth Plant Science Center, ⁴University of Georgia, ⁵Phytogen Cottonseed.

Symposium, “IPM Symposium”, continued

- 8:15 - 8:30 AM Virginia IPM: Ensuring food security, public health, and pollinator protection. **D. Langston, Jr.**¹, E. Bush¹, J. Derr², M. Flessner¹, C. Laub¹, H. Mehl¹, D. Miller¹, D. Pfeiffer³, S. Taylor¹, M. Weaver¹, and J. Wilson¹; ¹Virginia Tech University, ²Weed Science Society of America, ³VPI & State University.
- 8:30 - 8:45 AM A viability-qPCR test for quantifying viable pathogens of bacterial spot in tomato seed. **H. Wang**¹, G. Vallad², J. Jones², and W. Turechek³; ¹Clemson University, ²University of Florida, ³USDA, ARS, U.S. Horticultural Research Laboratory.
- 8:45 - 9:00 AM Development of an IPM program for rose rosette disease using systemic acquired resistance inducer and biocontrol agents. **M. Paret**¹, G. Knox¹, X. Martini¹, S. Joseph², J. L. Williams-Woodward², A. Fife¹, A. Monterrosa², F. B. Iriarte¹, C. Alexander², S. Da Silva¹, B. Riddle¹, K. Thomas¹, and F. Ochoa Corona³; ¹University of Florida, ²University of Georgia, ³Oklahoma State University.
- 9:00 - 9:15 AM Rural integrated pest management implementations for Louisiana. **B. Padgett**; Louisiana State University.
- 9:15 - 9:25 AM Poster Viewing & Networking Break

Symposium, “Industry Sponsors”

- 9:25 - 10:30 AM *Speakers TBD*
- 10:30 - 10:45 AM Poster Viewing & Networking Break
- 10:45 - 12:15 PM **SD-APS Business Meeting & APS Update**
- 12:15 - 1:30 PM Lunch (provided)
Room TBD

Graduate Student Poster Competition and Contributed Papers (Posters)

- 1:30 - 2:00 PM *Odd-numbered authors present.*
- 2:00 - 2:30 PM *Even-numbered authors present.*

2:30 - 2:45 PM BREAK

Technical Session III

- 2:45 – 2:57 PM Predicting the *Peronospora belbahrii* secretome for *in silico* identification of effector proteins. **J. Standish**¹, S. Purayannur¹, M. Bowman², K. Childs², M. Tian³, and L. Quesada¹; ¹North Carolina State University, ²Michigan State University, ³University of Hawaii.
- 2:57 - 3:09 PM Use of telomere fingerprinting to identify *Colletotrichum fioriniae* clones and application to cross-infection studies in Kentucky mixed-fruit orchards. **M. McCulloch**, E. Nuckles, L. Vaillancourt, and N. Gauthier; University of Kentucky.
- 3:09 - 3:21 PM Host-specific effectors of the cucurbit downy mildew pathogen *Pseudoperonospora cubensis*. **S. Purayannur**¹, L. Cano^{1,2}, M. Bowman³, K. Childs³, and L. Quesada¹; ¹North Carolina State University, ²University of Florida, ³Michigan State University.
- 3:21 - 3:33 PM Development of a novel isothermal molecular assay with an internal control to detect Tomato brown rugose fruit virus. **R. Li**¹, B. Davenport¹, S. Zhang¹, K. Schuetz¹, and K. Ling²; ¹Agdia, Inc., ²USDA-ARS.
- 3:33 - 3:45 PM Detection of phytoalexin in Huanglongbing-infected sweet orange (*Citrus sinensis*) plants and its correlation with stress-associated phytohormones. **Y. Nehela** and N. Killiny; University of Florida.
- 3:45 - 3:57 PM Correlation of secondary metabolites with citrus tolerance to Huanglongbing (HLB). **F. Hijaz**¹, J. Manthey², and N. Killiny¹; ¹University of Florida, ²U. S. Horticultural Research Laboratory.
- 3:57 - 4:09 PM Development of leaf spots and fruiting bodies by *Stagonosporopsis citrulli* on fungicide-treated watermelon leaves in the field. **A. Keinath**; Clemson University.
- 4:09 - 4:21 PM Citrus greening disease in Georgia citrus. **T. Stackhouse**, S. Waliullah, J. Price, J. Oliver, and E. Ali; University of Georgia.
- 4:21 - 4:33 PM Evaluation of succinate dehydrogenase inhibitors for control of southern root-knot nematode and fungal pathogens in watermelon. **S. Wong** and L. Quesada-Ocampo; North Carolina State University.
- 4:33 - 4:45 PM Pan-genome-wide analysis of *Pantoea ananatis* identified genes associated with onion pathogenicity. **G. Agarwal**, D. Choudhary, S. Stice, B. Kvitko, R. Gitaitis, and B. Dutta; University of Georgia.

Technical Session III, continued

- 4:45 - 4:57 PM Response of snap bean genotypes to two distinct begomoviruses associated with leaf crumple disease. **S. Kavalappara**, B. Dutta, and R. Srinivasan; University of Georgia.
- 4:57 - 5:30 PM Poster Breakdown
- 4:57 - 6:00 PM BREAK: *Networking*
- 6:00 - 7:00 PM Social Hour
Room TBD
- 7:00 - 9:00 PM **Awards Banquet**
Room TBD

Wednesday, February 12, 2020

- 7:30 - 11:00 AM U.S. Vegetable Laboratory Tour
- 11:00 - 2:00 PM Middleton Place Tour

Contributed Papers (Posters)

*Indicates Student Competition Paper

**Indicates Southern Plant Diagnostic Network Laboratory Update

- *1. Detection of airborne inoculum of *Nothopassalora personata* in peanut fields using impaction spore traps coupled with a qPCR assay. **M. Munir**, H. Wang, and D. Anco; Clemson University.
- *2. Decomposition treatments for reducing *Nothopassalora personata* inoculum in peanut fields. **H. Becton**, E. Cieniewicz, K. Kirk, and D. Anco; Clemson University.
- *3. Identification and biocontrol potential of antagonistic bacterial strains against *Pseudomonas syringae* pv. *tomato*. **C. Oksel**¹, F. Baysal-Gurel¹, and M. Mirik²; ¹Tennessee State University, ²Namik Kemal University.
- *4. Micronutrients affect induced resistance in watermelon against *Fusarium oxysporum* f. sp. *niveum* and *Meloidogyne incognita* infection. **K. Karki**¹, B. Dutta¹, A. Hajihassani¹, T. Coolong¹, C. Kousik², and M. Mandal³; ¹University of Georgia, ²U.S. Vegetable Laboratory, USDA-ARS, ³Claflin University.
- *5. Temperature effect on *Fusarium oxysporum* f.sp. *niveum* disease incidence in watermelon seedlings. **Z. Xu** and N. Dufault; University of Florida.
- *6. Splash dispersal of gummy stem blight from overhead irrigation on greenhouse grown watermelon transplants. **M. Irizarry** and N. Dufault; University of Florida.
- *7. Identification of accessions of melon (*Cucumis melo*) germplasm with resistance to bacterial wilt of cucurbits using mechanical inoculations. **B. Acharya**, L. Mackasmiel, and K. Dumenyo; Tennessee State University.
- *8. Control of Phytophthora root rot of boxwood with chemical fungicides, biofungicides, fertilizers and host plant defense inducers in field production. **S. Neupane**, T. Simmons, and F. Baysal-Gurel; Tennessee State University.
- *9. Optimal timing for preventative Pythium root rot management. **H. Humpy**; North Carolina State University.
10. Evaluating candidate anthracnose disease resistance genes in sorghum. **L. Stutts**¹, W. Vermerris¹ and H. Cuevas²; ¹University of Florida, ²USDA.
11. The occurrence of *Meloidogyne floridensis* on collard greens in Georgia, USA. J. Marquez, F. Forghani, **A. Hajihassani**; University of Georgia.
12. Evaluation of selected *Bacillus* spp. as biological control agents for Phytophthora Blight disease (*Phytophthora capsici*) in pepper. **B. Bhusal** and M. Mmbaga; Tennessee State University.

Contributed Papers (Posters), continued

*Indicates Student Competition Paper

**Indicates Southern Plant Diagnostic Network Laboratory Update

13. Two season evaluation of diversity, pathogenicity and mycotoxin production potential of *Fusarium* spp. in North Carolina. **S. Cochran**, B. Bronico, M. Salazar, and L. Thiessen; North Carolina State University.
14. Phylogeography of *Ditylenchus gallaeformans*. **S. Azevedo de Oliveira**, P. Agudelo, and S. DeWalt; Clemson University.
15. Report of the Cottonseed Treatment Committee for 2019. **R. Guyer**¹, Shelly Pate¹, T. Allen², P. Colyer³, T. Isakeit⁴, R. Kemerait⁵, K. Lawrence⁶, H. Mehl⁷, P. Price³, A. Rojas⁸, L. Thiessen⁹, T. Wilkerson², and H. Kelly¹; ¹University of Tennessee, ²Mississippi State University, ³Louisiana State University, ⁴Texas A&M University, ⁵University of Georgia, ⁶Auburn University, ⁷Virginia Tech University, ⁸University of Arkansas, ⁹North Carolina State University.
16. Identification of molecular biomarkers associated with reniform nematode (*Rotylenchulus reniformis*) resistance in soybean. **J. Wilkes** and P. Agudelo; Clemson University.
17. Potential host range and effects of taproot decline on rotation cover crops. J. Moscoso, S. Winters, and **A. Rojas**; University of Arkansas.
18. Bacterial biocontrol agents against fungal and oomycete pathogens of rice and other field crops. L. Delgado¹, S. Winters², C. Rojas², and **A. Rojas**²; ¹Universidad de los Andes, Bogota, Colombia, ²University of Arkansas.
19. Chemical management to reduce tomato spotted wilt virus on tobacco in North Carolina. **Y. Rivera**, H. Burrack, A. Toennisson, and L. Thiessen; North Carolina State University.
20. Evaluation of fungicides and cultivars for control of cucumber downy mildew. **M. Adams**, K. D'Arcangelo, and L. Quesada-Ocampo; North Carolina State University.
21. Identification of effective fungicides for control of black rot, caused by *Ceratocystis fimbriata*, in sweetpotato for domestic and export markets. **H. Collins** and L. Quesada; North Carolina State University.
22. Pathogenic and genetic diversity of *Corynespora cassiicola* isolates from tomato across Florida. **K. Xavier**¹, L. Sumabat², M. Brewer², and G. Vallad¹; ¹University of Florida, ²University of Georgia.

Contributed Papers (Posters), continued

*Indicates Student Competition Paper

**Indicates Southern Plant Diagnostic Network Laboratory Update

23. Susceptibility of hemp varieties to leaf spot in Tennessee. **Z. Hansen**¹, H. Kelly¹, M. Cartwright¹, and E. Walker²; ¹University of Tennessee, ²Burley Stabilization Corporation.
24. Palm diseases and their management. **B. Dhillon**; University of Florida.
- **25. The University of Arkansas Plant Health Clinic. **S. Smith** and K. Romero; University of Arkansas.
- **26. Alabama - Auburn University Plant Diagnostic Lab. **J. Jacobi**; Auburn University.
- **27. University of Kentucky Plant Disease Diagnostic Laboratory State Report, SPDN Meeting 2020. **J. Beale**, B. Kennedy, S. Long, and P. Vincelli; University of Kentucky.
- **28. The Mississippi State University Extension Service Plant Diagnostic Laboratory 2019 SPDN Activity Report. **C. Balbalian**; Mississippi State University.
- **29. Intensive training in plant problem diagnosis by the NC State Plant Disease and Insect Clinic. **B. Shew**, M. Bertone, M. Munster, and S. Butler; North Carolina State University.
- **30. Louisiana Plant Diagnostics Report 2019. **R. Singh**; Louisiana State University.
- **31. The guardians of our present and future: Plant diagnosticians safeguarding plant health across the state of Florida. **S. Bec**, R. Gazis, M. Paret, P. Roberts, N. Peres, F. Iriarte, P. Tian¹, J. Fulton, and C. Harmon; University of Florida.
- **32. Recent updates on the University of Georgia Extension Plant Pathology Southern Plant Diagnostic Network Plant Disease Clinics and Nematology Lab. **A. Jogi**, P. Brannen, J. Brock, B. Dutta, G. Jagdale, R. Kemerait, E. Little, A. Martinez-Espinoza, J. Oliver, and J. Williams-Woodward; University of Georgia.
- **33. New state, county records for insect and mite pests, plant diseases in Tennessee in 2019. **A. Windham**, F. Hale, D. Hensley, M. Windham, B. Kauffman, and R. Florence; University of Tennessee.
- **34. Trends and impacts, interesting diagnoses, quality control and new testing in the Virginia Tech Plant Disease Clinic. **E. Bush** and M. Hansen; Virginia Tech University.
- **35. Emerging diseases in vegetable crops in Puerto Rico. **C. Estevez de Jensen**¹ and S. Adkins²; ¹University of Puerto Rico, ²USDA-ARS USHRL.

Contributed Papers (Posters), continued

*Indicates Student Competition Paper

**Indicates Southern Plant Diagnostic Network Laboratory Update

- **36. Texas Plant Disease Diagnostic Laboratory at Texas A&M Annual Report. **K. Ong**, V. Ayala, and S. McBride; Texas A&M University.

- 37. Characterization, detection and management of emerging tomato brown rugose fruit virus infecting greenhouse tomatoes in the U.S. **B. Chanda**¹, M. Galvez², S. Nunziata³, Y. Rivera³, A. Gilliard¹ and K. Ling¹, ¹USDA-ARS, ²North Carolina State University, ³USDA-APHIS-PPQ-S&T-CPHST.

- 38. Does crop rotation influence inoculum density of *Xylaria* sp., the pathogen of taproot decline of soybean? **A. Badial**, K. Phillips, T. Wilkerson, and M. Tomaso-Peterson; Mississippi State University.

- 39. Physiological and molecular-genetic characterization of basal resistance in sorghum. **R. Samira**¹, J. Kimball², L. Lopez³, G. Stacey⁴, and P. Balint-Kurti³; ¹Texas Tech University, ²University of Minnesota, ³North Carolina State University, ⁴University of Missouri.

- 40. Evaluation of Salibro as a new nematicide against major plant-parasitic nematodes. **B. Lawaju** and K. Lawrence; Auburn University.

- 41. Steam-based thermotherapy for non-chemical management of nematodes in strawberry transplants. J. Desaegeer, **C. Khanal**, and H. Regmi; University of Florida.

- 42. Phylogenetic informativeness of mitochondrial protein-coding genes in Nematoda. **X. Ma**, J. Baeza, V. Richards, and P. Agudelo; Clemson University.

- 43. Occurrence of the root-knot nematode *Meloidogyne enterolobii* infecting sweetpotato in North Carolina, United States. **W. Ye**, T. Schwarz, E. Davis, L. Thiessen, L. Quesada-Ocampo, and A. Gorny; North Carolina State University.

- 44. Exploring new control methods for ‘*Candidatus Liberibacter asiaticus*’ by using genetically engineered *Liberibacter crescens* strains. **M. Velez**¹, J. Portilla¹, S. Holland¹, M. Jain², D. Gabriel², and K. Jones¹; ¹Florida State University, ²University of Florida.

- 45. Evaluating the response of new soybean germplasm to environmental conditions that promote reduced grain quality. J. Fomba¹, M. Tomaso-Peterson¹, D. Cook¹, T. W. Allen¹, R. Smith², and T. H. Wilkerson¹; ¹Mississippi State University, ²USDA, ARS.