**SERA-3: 2021 PUBLICATIONS**

**FLORIDA**

**Publications**

Baldwin, J., Paula-Moraes, S.V., Pereira, R. 2020. The good side of the bad guys: predation of lepidopteran pests by *Solenopsis invicta* Buren (Hymenoptera: Formicidae) in the Florida Panhandle. Florida Entomologist. 183: 68-71.

Diaz, J. L. Warner,F. Oi, C. Gusto. What Do They Know and What Do They DO? A National Evaluation of Landscape Integrated Pest Management Knowledge and Use in the United States. Journal of Integrated Pest Management, Volume 11, Issue 1, 2020, 19, https://doi.org/10.1093/jipm/pmaa017 .

Diaz, J. L. Warner, and F. Oi. Identifying Factors to Increase the Adoption of Integrated Pest Management Practices: An Audience Segmentation Study. J. Int'l Ag. And Extension Education 27(2): 7-23. doi: 10.5191/jiaee.2020.27207.

Eger, Joe E., Adam J. Pitcher, Susan E. Halbert, Cory Penca, and Amanda C. Hodges. 2020. First report of *Brachyplatys subaneus* (Westwood) (Hemiptera: Heteroptera: Plataspidae) in the United States. Insecta Mundi. 0814: 1-6.

Grabarczyk, Erin E, DA, Patricia G. Tillman, Amanda C. Hodges, Gregory Hodges, Dan L. Horton, and Ted E. Cottrell. 2021. Spatiotemporal distribution of stink bugs (Hemiptera: Pentatomidae) in peach orchards and surrounding habitat. Florida Entomologist. *In press.*

Hochmuth, R. C., D. Seal, N. C. Leppla, D. Fenneman, R. Broughton, and A. Baniya. 2021. Managing Wireworms in Florida Sweet Potatoes. UF/IFAS Electronic Data Information Source (EDIS, Extension publication).

Kalaman, Heather, Gary W. Knox, Sandra B. Wilson and Wendy Wilber. (2020) A Master Gardener survey: Promoting pollinator-friendly plants through education and outreach. HortTech.30:163-167.

Kard, B., F. M. Oi, B. L. Thorne, B. T. Forschler, and S. C. Jones. 2021. Performance standards and acceptable test conditions for preventive termiticide and insecticide treatments, termite baiting systems, and physical barriers for new structures or buildings under construction (pre-construction; during construction; post-construction). Fla. Entomol. (Accepted, Mar 18, 2021)

Khadka, Arjun, Amanda C. Hodges, Norman C. Leppla, and Patricia G. Tillman. 2020. The Effects of Relative Humidity on H*alyomorpha halys* (Stål) (Hemiptera: Pentatomidae) Egg Hatch, Nymph Survival and Adult Reproduction. Florida Entomologist. 103:136-138.

Khadka, Arjun, Amanda C. Hodges, Norman C. Leppla and Patricia G. Tillman. 2001. *Halyomorpha halys* (Stål) (Hemiptera: Pentatomidae) nymph development and adult feeding on crop plants in Florida. Florida Entomologist. (accepted 3/15/21).

LeBeck, L. M. and N. C. Leppla. 2021. Guidelines for Purchasing and Using Commercial Natural Enemies and Biopesticides in North America. UF, IFAS Electronic Data Information Source (EDIS, Extension publication).

Oi, F. M., J. Davis, J. McConnell, J. Corbus, N. Nelson, and M. Atkinson. 2020. Termite Prevention and Control. ENY-2044. <https://edis.ifas.ufl.edu/in1277> UF, IFAS Electronic Data Information Source (EDIS, Extension publication)

Oi, F.M., K. Anderson, T. Childs. Pest Management Professional Series on operating during COVID-19. <https://www.mypmp.net/tag/expert-insight-oi-anderson/>

Oi, F.M., K. Anderson, T. Childs. Leading Your Company in Difficult Times,

<https://www.pctonline.com/article/leading-your-company-in-difficult-times/>

<http://magazine.pctonline.com/article/july-2020/leading-your-company-in-difficult-times.aspx>

Leading Your Company in Difficult Times: Crisis Management and PCO Health.

Contains links to articles 1, 2, 3. <https://www.pctonline.com/article/leading-company-difficult-times-crisis-management-pco-health-oi-anderson/>

Penca, Cory, Amanda C. Hodges, Norman C. Leppla and Ted E. Cottrel. 2020. Trap-Based Economic Injury Levels and Thresholds for *Euschistus servus* (Hemiptera: Pentatomidae) in Florida Peaches. Journal of Economic Entomology. 113:1347-1355.

Penca, Cory, Amanda C. Hodges, Norman C. Leppla, and Ted Cottrell. 2021. Analysis of the Spatial Distribution and Development of Sequential Sampling Plans for Heteropteran-Associated Fruit Injury in Florida Peaches. Journal of Economic Entomology. *In press*.

Pinkerton, Morgan, Craig Frey, Sage Thompson, and Amanda Hodges. 2021. Expanding the Curricula for Florida’s Youth: Outreach Efforts in Agricultural Literacy. Journal of Integrated Pest Management. *In press.*

Pinkerton, M.G., S.M. Thompson, A.C. Hodges, N.C. Leppla, and J.C. Palumbo. 2020.Laboratory Rearing of *Bagrada hilaris* (Hemiptera: Pentatomoidea) Under Quarantine Conditions in Florida. Florida Entomologist. 103:401-3.

Rabelo, M.M. (g), Matos, J.M., Orozco-Restrepo, S.M., Paula-Moraes, S.V., Pereira, E.J.G. 2020. Like parents, like offspring? Susceptibility to Bt toxins, development on dual-gene Bt cotton, and parental effect of Cry1Ac on a nontarget lepidopteran pest. Journal of Economic Entomology. 113: 1234-1242.

Rabelo, M.M. (g), Matos, J.M., Santos-Amaya, O., França, J.C., Gonçalves, J., Paula-Moraes, S.V., Guedes, R.N.C., Pereira, E.J.G. 2020. Bt-toxin susceptibility and hormesis-like response in the invasive southern armyworm (*Spodoptera eridania*). Crop Protection. 132:105129.

Rabelo, M.M.G, Paula-Moraes, S.V., Pereira, E.J.G., Siegfried, B., 2020. Demographic performance of *Helicoverpa zea* populations on dual and triple-gene Bt cotton. Toxins, 12, 551. <https://doi.org/10.3390/toxins12090551>.

Rabelo, M.M.G, Paula-Moraes, S.V., Siegfried, B., Pereira, E.J.G. 2020. Contrasting susceptibility of lepidopteran pests to diamide and pyrethroid insecticides in a region of overwintering and migratory intersection. Pest Manag. Sci., 76:4240-4247. https://doi.org/10.1002/ps.5984.

Szyniszewska, Anna M., Norman C. Leppla, Nicholas C. Manoukis, Travis Collier, John M. Hastings, Darren J. Kriticos, and Kevin Bigsby. 2020. MedFoes and Climex models for predicting the variability and growth potential and persistence of Mediterranean fruit fly (Diptera: Tephritidae) populations. Ann. Entomol. Soc. Amer. 113:114-124.

**Presentations and Short Course Events**

Alake, Gideon, Kevin Bigsby, Amanda Hodges, Norman Leppla, and Trevor Smith. Modeling and pathway analysis of Oriental fruit fly, *Bactrocera dorsalis* (Hendel), in Florida. ESA, SEB virtual meeting. 3/29/21.

Alake, Gideon, Hannah Romain, Janet Lawrence, and Amanda Hodges. Caribbean Regional Diagnostic Training Course. Virtual, 01/26/21-01/29/21.

Bania, Clayton, Amanda Hodges, and Norman Leppla. Vine Age and Cultivar Preference of *Vitacea polistiformis* (Lepidoptera:Sesiidae) on Muscadine Grapes in a Central Florida Vineyard. ESA, SEB virtual meeting. 3/29/21.

Birkmire, Sarah, Amanda Hodges, and Janet Lawrence. Pest Diagnostic and Surveillance Training at a Distance: Virtual Workshop for the Caribbean. ESA, SEB virtual meeting. 3/29/21.

Davis, J, F. Oi. 2020. Keep Rats and Bugs Out of Your House. Entomological Society of America Annual Meeting. Virtual. Nov 11-30, 2020. (20 min, Invited, Got Bugs? Effective Messaging When Arthropods are Uninvited Houseguests, member symposium).

Davis, J, F. Oi. 2020. Utilizing a Webinar Based Platform to Successfully Demonstrate Positive Intent of Behavior Change in Urban Pest Management Practices. Extension Professional Virtual. September 2, 2020.

Davis, J., L. Duncan. F. M. Oi. Basic Home Maintenance for New Florida Homeowners. Sumter/Hernando County Extension Webinar Series. (August 6, September 17, October, 30, November 30, 2020; January 25, March 29, 2021)

Forsberg, Trevor, Morgan Pinkerton, and Amanda Hodges. Host Preference Evaluation of *Piezodorus guildinii* (Westwood). ESA, SEB virtual meeting. 3/29/21.

Hodges, Amanda C. Palm Pests of Concern. Florida First Detector, Monroe County virtual workshop. 04/02/20.

Hodges, Amanda C. Palm Weevils. Florida First Detector, Pinellas County virtual workshop. 03/08/21.

Hodges, Amanda C. New Potential Arrivals in Florida. Florida First Detector, Duval County, virtual workshop. 02/17/21.

Hodges, Amanda C. Potential Pest Invaders from the Continental U.S. Florida First Detector, Martin County, virtual workshop. 10/30/21.

Hodges, Amadna C. State of Florida Reporting Requirements for Asian Longhorned Beetle. Florida First Detector ALB virtual workshop. 09/08/20.

Hodges, Amanda C., and Clayton Bania. STEMBugs: Plant doctors? Indeed. ESA virtual meeting. 11/18/20.

Hodges, Amanda C. Build-a-Bug Activity Group Leader. Florida First Detector, Hillsborough County, virtual workshop. 09/22/20.

Hodges, Amanda C., Lyle Buss, Carrie Harmon, and Brian Crichlow. Caribbean Pest Diagnostic Network (CPDN) Training Workshop, 12/9/20 and 12/16/20.

Hodges, Amanda C. and Janet Lawrence. Diagnostic and Surveillance Training Course-Tomato Leaf Miner, *Tuta absoluta.* 10/06/20-10/09/20, and 12/03/20.

Kalaman, H., Wilson, S., Knox, G. and Mallinger, R. 2020. Evaluating Floral Attraction for Foraging Bee Communities in Native and Non-Native Garden Plots (poster). HortScience 55(9) S222.

Kalaman, Heather, Sandra Wilson and Gary Knox. 2020. Evaluating Floral Attraction for Foraging Bee Communities in Native and Non-Native Garden Plots. American Society for Horticultural Science, Annual Meeting, Zoom. 8/10-13/20.

Leppla, N. C. Brief History of SERA003 (2000-2020), Zoom report delivered to the annual meeting of the Southern Region State IPM Coordinators. 4/01/20.

Leppla, N. C. IPM Concepts, Systems and Resources for Florida CCAs, Crop advisers continuing education. 7/31/20.

Leppla, N. C. Welcome to the 2nd UF/IFAS IPM Academy in-service training. 9/24/20.

Leppla, N. C. Orientation to IPM Activities for UF/IFAS, new IPM faculty members. 10/19/20.

Leppla, N. C. Advancements in education and training for insect rearing professionals. 2020 Entomological Society of America National Meeting, Section Symposium: The Art, Science, and Industry of Insect Rearing. 11/17/20.

Leppla, N. C. Flip My Florida Yard video for Florida Friendly Landscaping, Katie Schroeder, Discover Florida channel. 1/8/21.

Lester, Bill. Introduction to DDIS: How to Use it For Questions and Reporting. Florida First Detector ALB virtual workshop. 09/08/20.

McAmis, Shannon. Murder Hornet. Florida First Detector, Hillsborough County, virtual workshop 09/22/20.

McAmis, Shannon. *Ralstonia solanacearum* R3b2. Florida First Detector virtual workshop, 07/16/20.

McAmis, Shannon. Palm Weevils. Florida First Detector, Pasco County, virtual workshop 04/06/21.

McAmis, Shannon. Palm Weevils. Florida First Detector, Pasco County, virtual workshop 04/08/21.

McAmis, Shannon, Sage Thompson, Susan Rodriguez, and Amanda C. Hodges. Build-a-Bug: An activity to Teach Urban Insect Identification. ESA virtual meeting. 11/15/20.

Oi, F. M. Pest Control is an Essential Service. East Tennessee Pest Control Association. Webinar. February 18, 2021.

Oi, F. M. There is no "easy button" in termite control. NE version. Delaware Pest Control Association. Webinar. February 10, 2021

Oi, F. M. There is no "easy button" in termite control. SE Version. Wayne's University, Waynes' Pest Control with locations in AL, MS TN. Webinar. January 13, 2021.

Oi, F. M. and J. Jonovich. 2020. Tools and Activities to Keep Your Audience Engaged…With Impacts. Entomological Society of America Annual Meeting. Virtual. Nov 11-30, 2020. (20 min, Invited, Got Bugs? Effective Messaging When Arthropods are Uninvited Houseguests, member symposium).

Oi, F. M. Why Can’t I Do Termite Control Based on a YouTube Video? NPMA Virtual Convention. September 29, 2020 (1 hr, international, invited).

Oi, F. M. PMPs as Protectors as Public Health. NPMA Back-to-Basics Webinar Series. April 17, 2020. (1 hr, national, invited)

Oi, F. M. IPM for Homeowners. Osceola Master Gardeners, webinar. December 9, 2020. (invited)

Oi, F. M. and J. Davis. Delusory Parasitosis. Sumter/Hernando County Extension Webinar Series. October 20, 2020.

Oi, F. M. and J. Davis. Bed Bugs. Sumter/Hernando County Extension Webinar Series. September 22, 2020.

Oi, F. M. and J. Davis. Ants. Sumter/Hernando County Extension Webinar Series. August 11, 2020.

Oi, F. M. and J. Davis. Mosquitoes. Sumter/Hernando County Extension Webinar Series. August 11, 2020; March 23, 2021.

Oi, F. M. and J. Davis. Ticks and the Diseases They Carry. Sumter/Hernando County Extension Webinar Series. July 21, 2020, February 10, 2021.

Oi, F. M. Household Insect Pests (General IPM, Small Flies, Silverfish, Ants). Alachua County Master Gardener Webinar. July 17, 2020.

Oi, F. M. Invasive Termites. Invasive Species Council In-Service for Agents, webinar. July 9, 2020.

Oi, F. M. and J. Davis. Termites. Sumter/Hernando County Extension Webinar Series. July 7, 2020.

Oi, F. M. "I Read It on the Internet So It Must Be…" University of Kentucky and Kentucky Pest Management Association. (multistate, webinar) December 5, 2020.

Oi, F. M. Pests that We Have In Florida that You Don't Want in Hawaii. Hawaiian Entomological Society. (out-of-state, webinar). August 28, 2020.

Oi, F. M. Termite Prevention and Control by Design in the Southeast. Woodworks Wood Products Council webinar. July 24, 2020.

Oi, F. M. and Pest Management University (PMU) Team Hosted Webinar Series to Maintain Pest Control CEUs during COVID. ~950 attendees, 14 countries. Average knowledge gained: 11.8%

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| **Date** | **Webinars** | **Speaker** |
| April 14, 2020 | A Case for Assessment-Based Pest Management of German Cockroaches | Dini Miller |
| April 21, 2020 | Urban Rodent Control and Working as an Essentials Service | Bobby Corrigan |
| April 28, 2020 | Personal Protective Equipment | Paul Mitola |
| May 5, 2020 | Understanding COVID19 and Your Business | Kemp Anderson |
| May 12, 2020 | Why Mosquito Control is an Essential Service | Stan Cope |
| May 21, 2020 | Spray Polyurethane Foam and Termite Detection | Brian Forschler |
| May 26, 2020 | Avoiding Heat Stress | Paul Mitola |
| June 2, 2020 | Getting More Mileage Out of Your Herbicide Applications | Chris Marble |
| June 9, 2020 | Controlling Insects with IPM in the Landscape | Adam Dale |
| June 16, 2020 | New Insights in the Biology and Impact of Invasive Termites in Florida | Thomas Chouvenc |
| July 30, 2020 | PMP's and Pollinators | Bill Kern |
| August 11, 2020 | Mosquitoes and Hurricanes | Matt Remmen |
| September 8, 2020 | WDO Disasters | George Seay |
| October 13, 2020 | The allergenic threats of insects | Zach Devries |

Oi, F. M. and PMU Team. All PMU courses are **IPM-based** and in-person. UF/IFAS MREC, Apopka, FL, 32703. Overall knowledge gained, 2020: 23.2%

Termite/WDO track

* Oi, F. M., J. Jonovich, P. Mitola, D. Grant. A. Fugler. Termite Foundations.
	+ September 2-4, 2020, February 3-5, 2021
* Oi, F. M., J. Jonovich, P. Mitola, D. Grant. Termite Masters with optional state exam.
	+ March 11-13, September 30-Oct 2, 2020; March 10-12, 2021.
* Oi, F. M., J. Jonovich, P. Mitola, D. Grant. M. Ruff. WDO Inspections
	+ September 9-11, 2020; February 25-26, 2021.

General Household Pest track

* Oi, F. M., J. Jonovich, P. Mitola, D. Grant. GHP Foundations.
	+ September 23-25, 2020; January 20-22, 2021
* Oi, F. M., J. Jonovich, P. Mitola, D. Grant. GHP Masters with optional state exam.
	+ October 21-23, 2020

Lawn and Ornamental track

* Marble, C., A. Dale, J. Jonovich, P. Mitola, D. Grant, F. Oi. L&O Foundations.
	+ September 16-18, 2020; January 6-8, 2021
* Marble, C., A. Dale, J. Jonovich, P. Mitola, D. Grant, F. Oi. L&O Masters with optional state exam
	+ November 4-6, 2020; February 17-19, 2021

Paula-Moraes, S.V. Caterpillars associated with crops: Pest identification, life cycle, collection, and curation. In-Service Training IST:31699 IPM Academy, September 23, 2020 (virtual event).

Paula-Moraes, S.V. 2021. Cross-attraction of plusiine species in soybean looper pheromone trapping: inventory of species and phenology of the flight, and updates regarding to insecticide susceptibility. Annual Meeting S1080 – Improving Soybean Arthropod Pest Management in the U.S, March 25, virtual meeting hosted by University of Virginia Polytechnic Institute and State University.

Paula-Moraes, S.V. 2021. Living on the edge: Ecology of lepidopteran pests in the overwintering and migratory intersection region of the U.S. Gulf Coast. Annual Meeting NC246 – Ecology and Management of arthropods in corn, January 25-26, virtual meeting hosted by University of Florida.

Paula-Moraes, S.V. 2020. Developing an IPM/IRM for the Florida Panhandle. In: 16th Entomology Week in the Entomology Department of Universidade Federal do Parana, Brazil. November 12, online presentation and available on: https://1drv.ms/u/s!Aqx-WOdsnNrNiP4fw7tCvqCGHgC2KA?e=FjpwOe.

Pinkerton, Morgan. Introduction to Asian Longhorned Beetle and How to Report to Your County Office. Florida First Detector ALB virtual workshop. 09/08/20.

Pinkerton, Morgan G., Craig Frey, Sage Thompson, and Amanda C. Hodges. Outreach Efforts in Agricultural Literacy: Using Insects to Teach Florida’s Youth. ESA virtual meeting. 11/15/20.

Rabelo, M.M. Barbosa, I.S., Paula-Moraes, S.V. 2021. *Spodoptera exigua* (Hubner) (Lepidoptera: Noctuidae) resistance to diamide and pyrethroid in the United States: stability and fitness. In: 2021 ESA Southeastern Branch Meeting, March 22-April 7, Virtual meeting.

Rooney, Lillie, Stacey, Kendall, Norman Leppla. ESA, SEB virtual meeting. Interpreting the reproductive potential of field-collected *Nezara viridula* females. 3/29/21.

Sanderson, Lisa, Jim Davis, Stephen Brown, J. Glover, Amanda Hodges, Maxine Hunter, Bill Lester, Brooke Moffis, and Norma Saumel. Comparison of In-person and On-line Palm Training on Knowledge Gain. EPAF virtual meeting. 08/30/20.

Shaw, T., Paula-Moraes, S.V., Hahn, P.G. 2020. Seasonal patterns of *Chrysodeixis includens* (Lepidoptera: Noctuidae) and inventory of plusiine species cross-attracted to *C. includens* pheromone traps in the Florida Panhandle. In: 2020 Entomology Society of America Meeting, November 11-25, virtual annual meeting.

Stacey, Kendall, Lillie Rooney, Norman Leppla. Developing mass rearing protocols for the stink bug endoparasitoid, *Trichopoda pennipes,* and its host, *Nezara viridula*. ESA, SEB virtual meeting. 3/29/21.

Tafel, Sarah, Adam Pitcher, Hannah Talton, Andy Jean-Louis, Gideon Alake, Zachary Eldred, and Amanda Hodges. The DPM Program-Reaching a Wider Audience in the Virtual World. ESA, SEB virtual meeting. 3/29/21.

Thompson, Sage. Build-a-Bug Activity. Florida First Detector virtual workshop, 07/16/20.

Waldo, Benjamin. Murder Hornet. Florida First Detector virtual workshop, 07/16/20.

**LOUISIANA**

**Extension Seminars**

Delivered 32 extension seminars on plant health problems and their management to 2,127 participants.

**Scientific Publications**

Ferguson, M. H., Singh, R., Cook, M., and Burks, T. 2020. Geographic Distribution and Host Range of Lethal Bronzing Associated with Phytoplasma Subgroup 16SrIV-D on Palms in Southern Louisiana. Plant Health Prog. 21 (4): 350-355.

Gochez, A., Behlau, F., Singh, R., Ong, K., Whilby, L., and Jones, J. 2020. Panorama of Citrus Canker in the United States. Tropical Plant Pathology 45: 192-199. <https://doi.org/10.1007/s40858-020-00355-8>.

Price, T., Valverde, V., Singh, R., Davis, J., Sebe. B., and Jones, H. 2020. First Report of Cotton Leafroll Dwarf Virus in Louisiana. Plant Health Progress 21 (2): 142-143.

Singh, R. 2020. Specialty Crop Plant Diseases on the Rise in Louisiana. Louisiana Agriculture Vol. 63 (1): 10-14.

**Scientific Abstract**

DeSouza, M., Burks, T. and Singh, R. 2020. Louisiana State Plant Diagnostics Report. Southern Plant Diagnostic Network Annual Meeting. Charleston, South Carolina. February 9-10, 2020.

Kaur, H., Doyle, V.P., Singh, R. (2019). A diagnostic taqman real-time PCR assay for detection and quantification of Colletotrichum theobromicola, causal agent of boxwood dieback disease. Phytopathology 109: S2.1.

**Extension Publications**

Carlton C, Forest Huval T.E. Reagan 2020. Bug Biz Pest Management and Identification Series: *Drosophila* spp., Vinegar and Pomace Flies (Diptera: Drosophilidae) LSU AgCenter Pub. 3713.

Carlton C., Lane Foil, Forest Huval T.E. Reagan 2020. Bug Biz Pest Management and Identification Series: *Simulium meridionale,* Turkey Gnat (Diptera: Simuliidae) LSU AgCenter Pub. 3742.

Chow A.,Forest Huval, Chris Carlton T.E. Reagan 2020. *Necrophila americana,* American Carrion Beetle (Coleoptera: Silphidae) (In Press).

Chow A., Forest Huval, Chris Carlton T.E. Reagan 2020. Bug Biz Pest Management and Identification Series: *Pyractomena* spp., Spring Fireflies (Coleoptera: Lampyridae) LSU AgCenter Pub. 3738.

Chow A., Forest Huval, Chris Carlton T.E. Reagan 2020. Bug Biz Pest Management and Identification Series: *Photinus pyralis,* Big Dipper Firefly (Coleoptera: Lampyridae) AgCenter Pub. 3717.

Fellows C.J., Forest Huval, Chris Carlton T.E. Reagan 2020.Bug Biz Pest Management and Identification Series: *Dolichovespula maculata,* Bald-faced hornet (Hymenoptera: Vespidae) (In Press).

Fellows C. J, Forest Huval, Chris Carlton, T.E. Reagan 2020. Bug Biz Pest Management and Identification Series: *Varroa destructor, Varroa* mite *(Mesostigmata: Varroidae)* LSU AgCenter Pub. 3719.

Franco G.M., Forest Huval, T.E. Reagan 2020. Bug Biz Pest Management and Identification Series: Thyridopteryx ephemeraeformes, Evergreen Bagworm Moth (Lepidoptera: Psychidae) LSU AgCenter Pub.3743.

Franco G., Forest Huval, Chris Carlton T.E. Reagan 2020. Bug Biz Pest Management and Identification Series: *Tinocallis kahawaluokalani*, Crapemyrtle Aphid (Hemiptera: Aphididae) LSU AgCenter Pub. 3718.

Huval. F., C. Carlton, T.E. Reagan 2020. Bug Biz Pest Management and Identification Series: *Ctenocephalides felis*, Cat Flea (Siphonaptera: Pulicidae) (In Press).

Ilgoo Kang, Joseph McCarthy, Forest Huval, Chris Carlton T.E. Reagan 2020. Bug Biz Pest Management and Identification Series: *Alabagrus stigma*, Sugarcane Borer Red-Tailed Braconid (Hymenoptera: Braconidae) (In Press).

Kang I, Forest Huval, Chris Carlton T.E. Reagan 2020. Bug Biz Pest Management and Identification Series:*Megarhyssa spp.,* The Giant Ichneumons (Hymenoptera: Ichneumonidae) LSU AgCenter Pub. 3715.

Kang I, Forest Huval, Chris Carlton T.E. Reagan 2020. Bug Biz Pest Management and Identification Series: *Lepisma saccharina,* Common Silverfish (Zygentoma: Lepismatidae) LSU AgCenter Pub.3737.

Kang I., Forest Huval, Chris Carlton T.E. Reagan 2020. Bug Biz Pest Management and Identification Series: *Toxoneuron nigriceps,* Tobacco Budworm Parasitoid Wasp (Hymenoptera: Braconidae)
LSU AgCenter Pub. 3739.

Kang I, Rodrigo Diaz, Forest Huval, Chris Carlton T.E. Reagan 2020. Bug Biz Pest Management and Identification Series:*Neothlipsis parysae,* Water Lettuce Moth Braconid (Hymenoptera: Braconidae) LSU AgCenter Pub.3734.

McCarthy J, Forest Huval, Chris Carlton T.E. Reagan 2020. Bug Biz Pest Management and Identification Series: *Trichonephila clavipes*, Giant Golden Orbweaver (Araneae: Araneidae) (In Press).

McCarthy J, Forest Huval, Chris Carlton T.E. Reagan 2020. Bug Biz Pest Management and Identification Series: *Climaciella brunnea,* The Wasp Mantidfly (Mantispidae: Neuroptera) LSU AgCenter Pub.3736.

McCarthy J., Forest Huval, Chris Carlton T.E. Reagan 2020. Bug Biz Pest Management and Identification Series: *Cosmosoma myrodora,* Scarlet-Bodied Wasp Moth (Lepidoptera: Erebidae) LSU AgCenter Pub. 3740.

McCarthy J., Forest Huval, Chris Carlton T.E. Reagan 2020. Bug Biz Pest Management and Identification Series: *Aphonopelma hentzi,* The Louisiana Tarantula (Araneae: Theraphosidae) LSU AgCenter Pub. 3711.

McCarthy J., Forest Huval and Gene Reagan 2020. Bug Biz Pest Management and Identification Series: *Cimex lectularius,* Common Bedbug (Hemiptera: Cimicidae) LSU AgCenter Pub.3756.

McCarthy J., Forest Huval, T.E. Reagan, 2020. *Coptotermes formosanus,* Bug Biz Pest Management and Identification Series: Formosan Subterranean Termite (Blattodea: Rhinotermitidae) LSU AgCenter Pub. 3757.

Mulcahy M, Forest Huval, Chris Carlton T.E. Reagan 2020. Bug Biz Pest Management and Identification Series: *Leucauge venusta,* The Orchard Spider (Aranaea: Tetragnathidae) LSU AgCenter Pub. 3714.

Wilson B., Megan Mulcahy, Forest Huval T.E. Reagan 2020. Bug Biz Pest Management and Identification Series: *Saccharosydne saccharivora* The West Indian Canefly (Hemiptera: Delphacidae) LSU AgCenter Pub.3732.

Wooden P.S., Chris Carlton Forest Huval, T.E.Reagan. 2020. Bug Biz Pest Management and Identification Series: *Cnestus mutilatus*, Camphor Shoot Borer (Coleoptera: Curculionidae) (In Press).

Wooden P.S., Forest Huval, Chris Carlton T.E. Reagan 2020. Bug Biz Pest Management and Identification Series: *Dasymutilla occidentalis,* Eastern Velvet Ant (Hymenoptera: Mutillidae) LSU AgCenter Pub.3712.

Wooden P.S., Forest Huval, Chris Carlton T.E. Reagan 2020. Bug Biz Pest Management and Identification Series: The Greenhouse Millipede, *Oxidus gracilis* (Diplopoda: Paradoxosomatidae) LSU AgCenter Pub. 3733.

Wooden P.S., Forest Huval, Chris Carlton T.E. Reagan 2020. Bug Biz Pest Management and Identification Series: Lawn Shrimp, *Arcitalitrus sylvaticus* (Amphipoda: Talitridae) LSU AgCenter Pub.3735.

**Books/Manuals**

Singh, R., Strahan, R., Fontenot, K., Ferguson, M., Khanal, C., Burks, T., and Melhado, S. 2019. Integrated Pest Management in Tabasco Pepper Seed Production. LSU AgCenter Publication MISC-321A.

Singh, R., Strahan, R., Fontenot, K., Ferguson, M., Khanal, C., Burks, T., and Melhado, S. 2019. Integrated Pest Management in Tabasco Pepper Seed Production. LSU AgCenter Publication MISC-321B.

Boyd, P., Singh, R. et al. 2020. Plant Disease Management Guide. LSU AgCenter Publication 1802 (Revised 01/20).

**Extension Factsheets**

Singh, R. 2020. Southern Blight of Industrial Hemp. Louisiana Plant Pathology Disease Identification and Management Series. LSU AgCenter Publication 3760.

Singh, R., and DeSouza, M. 2020. Boxwood Crown and Root Rot. Louisiana Plant Pathology Disease Identification and Management Series. LSU AgCenter Publication 3748.

Fontenot, K., Kirk-Ballard, H., Strahan, R., Sexton, M. Singh, R., Ring, D. 2020. Herb Gardening in Louisiana. LSU AgCenter Publication 3721.

Singh, R. Fields, J., Willis, J., and Timmerman, A. 2020. Citrus Diseases in Louisiana. LSU AgCenter Publication MISC-341.

**Industry Newsletters**

Singh, R. 2020. Plant Disease Management in Home Vegetable Gardens. LSU AgCenter Horticulture Hints. Summer 2020.

Singh, R. 2020. Large Patch in Louisiana Lawns. Louisiana Nursery and Landscape Association Quarterly Newsletter, Volume 69: 27.

Singh, R. 2020. Exobasidium Leaf Gall of Camellia and Azalea. LSU AgCenter Horticulture Hints. Spring 2020.

Singh, R. 2019. Boxwood Diseases in Louisiana Landscapes and Gardens. Louisiana Nursery and Landscape Association Quarterly Newsletter, Volume 68:24-25.

Singh, R. 2019. Boxwood Diseases in Louisiana Landscapes and Gardens. LSU AgCenter Horticulture Hints, December 2019. (12/01/2019).

Singh, R. 2019. Lethal Bronzing and Lethal Yellowing of Chinese Windmill Palm in Louisiana. Louisiana Nursery and Landscape Association Quarterly Newsletter, Volume 67:21. (10/03/2019).

**Mass Media**

Singh, R. 2020. Damping-off seedling disease prevalent due to cooler weather. LSU AgCenter News Release (4/20/20).

Singh, R. 2020. [Large patch disease increasing in Louisiana lawns](https://nam02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.lsuagcenter.com%2Fprofiles%2Fjmorgan%2Farticles%2Fpage1581103107861&data=02%7C01%7CRSingh%40agcenter.lsu.edu%7Cf97411c0df4849ba8bd208d7ac1c0178%7C804b509899084bdf9c06b3df777563aa%7C0%7C0%7C637167108626255387&sdata=%2B8uBqZHSq6kxKNdG46Ymqb%2Fz3mf5ELqTVtvT5fq%2FjAs%3D&reserved=0). LSU AgCenter News Release (2/7/20).

Singh, R. 2020. Citrus Disease Causing Concern for Growers. LSU AgCenter News Release. (10/17/2019).

Since 1/1/20 1024 plant samples, 35 home visits, 25 presentations on plant disease health and management. Two new diseases (Southern blight and Phytophthora root rot) of industrial hemp. Dr. Singh 2020 IPM Educator Award Southern IPM Center. 20 publications related to Center.

**OKLAHOMA**

Lindenmayer, J.C., M. Payton, K.L. Giles, N.C. Elliott, A.E. Knutson, R. Bowling, N.J. Seiter, B. McCornack, S.A. Brown, M.J. Brewer, and T.A. Royer. 2021. Evaluation of two-leaf sampling units to estimate sugarcane aphid (Hemiptera: Aphididae) economic thresholds in commercial grain sorghum. J. Econ. Entomol. 114:481-485 https://doi.org/10.1093/jee/toaa270

**SOUTH CAROLINA**

**Journal Publications**

Bilbo, T. R., F. P. F. Reay-Jones, and J. K. Greene. 2020. Evaluation of insecticide thresholds in late-planted Bt and non-Bt corn for management of fall armyworm (Lepidoptera: Noctuidae). Journal of Economic Entomology. 113(2): 814-823.

Chappell, T. M., R. V. Ward, K. T. DePolt, P. M. Roberts, J. K. Greene, and G. G. Kennedy. 2020. Cotton thrips infestation predictor: a practical tool for predicting tobacco thrips (*Frankliniella fusca*) infestation of cotton seedlings in the southeastern United States. Pest Management Science. <https://doi.org/10.1002/ps.5954>

Davis, R. L., J. K. Greene, F. Dou, Young-Ki Jo, and T. M. Chappell. 2020. A practical application of unsupervised learning for analyzing plant image data collected using unmanned aircraft systems. Agronomy. 2020, 10, 633; doi:10.3390/agronomy10050633

Del Pozo-Valdivia, A. I., D. D. Reisig, L. Braswell, J. K. Greene, P. M. Roberts, and S. V. Taylor. 2021. Economic injury levels for Bt-resistant *Helicoverpa zea* in cotton. Journal of Economic Entomology. In press.

Dorman, S. J., A. D. Gross, F. R. Musser, B. D. Catchot, R. H. Smith, D. D. Reisig, F. P. F. Reay-Jones, J. K. Greene, P. M. Roberts, and S. V. Taylor. 2020. Resistance monitoring to four insecticides and mechanisms of resistance in *Lygus lineolaris* Palisot de Beauvois (Hemiptera: Miridae) populations of southeastern USA cotton. Pest Management Science. <https://doi.org/10.1002/ps.5940>

Dowling, M., J. Gelain, L. L. May de Mio, and G. Schnabel. 2021. Characterization of high fludioxonil resistance in Botrytis cinerea isolates from calibrachoa flowers. Phytopathology. 111:478-484.

Dowling, M. E. and G. Schnabel. 2020. Understanding plant diseases with art and technology. International Journal of Horticultural Sciences. 20: 959-966.

Dowling, M., N. Peres, S. Villani, and G. Schnabel 2020. Managing Colletotrichum on fruit crops; a ‘complex’ challenge. Plant Disease. 104: 2301-2316.

Greene, A. D., F. P. F. Reay-Jones, K. R. Kirk, B. K. Peoples, and J. K. Greene. 2021. Associating site characteristics with distributions of pestiferous and predaceous arthropods in soybean. Environmental Entomology. In press.

Ishii, H., P. K. Bryson, M. Kayamori, T. Miyamoto, Y. Yamaoka, and G. Schnabel. 2021. Cross-resistance to the new fungicide mefentrifluconazole in DMI-resistant fungal pathogens. Pesticide Biochemistry and Physiology. 171:104737.

Lahiri, S., D. D. Reisig, L. L. Dean, F.P.F. Reay-Jones,J. K. Greene, T. E. Carter, R. Mian, and B. D. Fallen. 2020. Mechanisms of soybean host plant resistance against *Megacopta* *cribraria* (F.) (Hemiptera: Plataspidae). Environmental Entomology. 49(4): 876-885.

Reisig, D. D., D. Cook, J. K. Greene, M. Caprio, J. Gore, F. Musser, and F. Reay-Jones. 2020. Vertical and temporal distribution of *Helicoverpa zea* (Lepidoptera: Noctuidae) larvae in determinate and indeterminate soybean. Bulletin of Entomological Research. In press.

Reisig, D. D., D. Cook, J. K. Greene, M. Caprio, J. Gore, F. Musser, and F. Reay-Jones. 2020. Location of *Helicoverpa zea* (Lepidoptera: Noctuidae) larvae on different plant parts of determinate and indeterminate soybean. Bulletin of Entomological Research. 110: 725-731

Schnabel, G., Tan, Q., Schneider, V., and H. Ishii 2021. Inherent tolerance of *Colletotrichum gloeosporioides* to fludioxonil. Pesticide Biochemistry and Physiology. 172:104767.

Wang, H., J. Greene, J. Mueller, K. Conner, and A. Jacobson. 2020. First report of cotton leafroll dwarf virus in cotton fields of South Carolina. Plant Disease. <https://doi.org/10.1094/PDIS-03-20-0635-PDN>

Wilson, B.E., F.P.F. Reay-Jones, L. Lama, M. Mulcahy, J.M. Beuzelin, T.E. Reagan, J.A. Davis, Y. Yang, and L.T. Wilson. 2020. Influence of sorghum cultivar, nitrogen fertilization, and insecticides on infestations of the sugarcane aphid (*Melanaphis sacchari*) in the southern United States. Journal of Economic Entomology. 113: 1850-1857

**Extension Publications**

Bryant, T., and F.P.F. Reay-Jones. 2020. Headworms as pests of grain sorghum. Land-Grant Press by Clemson Extension. LGP 1102. <https://lgpress.clemson.edu/publication/headworms-as-pests-of-grain-sorghum/> (peer reviewed)

Bryant, T., and F.P.F. Reay-Jones. 2020. Sugarcane beetle as a pest of corn. Land-Grant Press by Clemson Extension. LGP 1076. <https://lgpress.clemson.edu/publication/sugarcane-beetle-as-a-pest-of-corn/> (peer reviewed)

Bryant, T., and F.P.F. Reay-Jones. 2020. Insect resistance: overview and management. Land-Grant Press by Clemson Extension. LGP 1060. <https://lgpress.clemson.edu/publication/insecticide-resistance-overview-and-management/> (peer reviewed)

Bryant, T., and F.P.F. Reay-Jones. 2020. Integrated pest management: concepts and strategies. Land-Grant Press by Clemson Extension. LGP 1051. <https://lgpress.clemson.edu/publication/integrated-pest-management-concepts-and-strategies/> (peer reviewed)

Corbin, J. B., K. R. Kirk, J. K. Greene, C. Heaton, and M. T. Plumblee. 2020. Evaluation of insecticidal soap as deer repellent in SC cotton, pp. 409-411. In Proceedings Beltwide Cotton Production Conferences, National Cotton Council of America, Cordova, TN.

Cutulle M., B. Ward, and H.T. Campbell. 2020. Best practices for managing weeds in South Carolina fall broccoli production. Land-Grant Press by Clemson Extension. LGP 1092. <http://lgpress.clemson.edu/publication/best-practices-for-managing-weeds-in-south-carolina-fall-broccoli-production/> (peer reviewed)

Cutulle M., B. Ward, H.T. Campbell, and M. Horry. 2020. Varieties and weed-free duration is important for hemp bud yield in coastal South Carolina. Land-Grant Press by Clemson Extension. LGP 1074. <http://lgpress.clemson.edu/publication/varieties-and-weed-free-duration-is-important-for-hemp-bud-yield-in-coastal-south-carolina/>. (peer reviewed)

Greene, J. K. 2021. Soybean Insect Control, pp. 265-275. In South Carolina Pest Management Handbook. <http://www.clemson.edu/extension/agronomy/pest%20management%20handbook.html>

Greene, J. K. 2021. Cotton Insect Management, pp. 104-117. In South Carolina Pest Management Handbook. <http://www.clemson.edu/extension/agronomy/pest%20management%20handbook.html>

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Greene, J. K. 2020. Cotton Insect Management, pp. 105-118. In South Carolina Pest Management Handbook. <http://www.clemson.edu/extension/agronomy/pest%20management%20handbook.html>

Greene, J. K., F. Reay-Jones, and S. Conzemius. 2020. Best management practices for thrips (Thysanoptera: Thripidae) in cotton. Land-Grant Press by Clemson Extension. LGP 1096. <http://lgpress.clemson.edu/publication/best-management-practices-for-thrips-thysanoptera-thripidae-in-cotton/> (peer reviewed)

Greene, J. K., F. Reay-Jones, D. Reisig, P. Roberts, M. Toews, and Ron Smith. 2020. Effectiveness of insecticidal oversprays for control of bollworm and stink bugs on Bt cotton technology in the southeastern USA, pp. 231-238. In Proceedings Beltwide Cotton Production Conferences, National Cotton Council of America, Cordova, TN.

Kirk, K. R., B. E. Teddy, M. T. Plumblee, J. Mueller, J. K. Greene, and B. B. Fogle. 2020. Intensive spatial data characterization: a new method for identifying data relationships in crop production, pp. 647-655. In Proceedings Beltwide Cotton Production Conferences, National Cotton Council of America, Cordova, TN.

McCarty, L., J.-H. Chong, D. Park, M. Cutulle, D. Park, A. Gore and J. Roberts. 2021. Pest Control Guidelines for Professional Turfgrass Managers (p. 132-150).

Musser, F. R., A. L. Catchot, S. P. Conley, J. A. Davis, C. DiFonzo, J. K. Greene, G. M. Lorenz, D. Owens, D. D. Reisig, P. Roberts, T. Royer, N. J. Seiter, R. Smith, S. D. Stewart, S. Taylor, K. Tilmon, R. T. Villanueva, and M. O. Way. 2020. 2019 soybean insect losses in the United States. Midsouth Entomologist. 13: 1-23.

Musser, F. R., A. L. Catchot, S. P. Conley, J. A. Davis, C. DiFonzo, S. Graham, J. K. Greene, R. Koch, D. Owens, D. D. Reisig, P. Roberts, T. Royer, N. J. Seiter, S. D. Stewart, S. Taylor, B. Thrash, K. Tilmon, R. T. Villanueva, and M. O. Way. 2021. 2020 soybean insect losses in the United States. Midsouth Entomologist. In press.

Reisig, D., J. Greene, S. Paula-Moraes, F. Reay-Jones, R. Smith, S. Taylor, A. Babu, and M. Aghaee. 2020. Developing a cotton-based method for Bt resistance monitoring, pp. 250-253. In Proceedings Beltwide Cotton Production Conferences, National Cotton Council of America, Cordova, TN.

Roberts, P. M., M. Toews, A. L. Jacobson, R. Smith, S. Paula-Moraes, J. K. Greene, D. Reisig, and S. Taylor. 2020. Cotton aphid insecticide efficacy in the Southeast, pp. 445-451. In Proceedings Beltwide Cotton Production Conferences, National Cotton Council of America, Cordova, TN.

Soignier, T. S., M. T. Plumblee, G. A. Miller, K. R. Kirk, J. Mueller, and J. K. Greene. 2020. Evaluating various soil moisture sensor thresholds in cotton in South Carolina, p. 423. In Proceedings Beltwide Cotton Production Conferences, National Cotton Council of America, Cordova, TN.

Soignier, T., M. T. Plumblee, J. K. Greene, K. R. Kirk, and J. Mueller. 2020. Efficacy of pesticides used in cotton when applied at specific droplet sizes, p. 425. In Proceedings Beltwide Cotton Production Conferences, National Cotton Council of America, Cordova, TN.

**Presentations at Professional Meetings**

March 2021. MyIPM app for row crops. SERA3 annual meeting (Southern Region Information Exchange Group for IPM). F. Reay-Jones.

March 2021. Getting non-Bt corn hybrids into OVTs. Presentation to national meeting of OVT coordinators (2021 SCC-33 Virtual Meeting on 2 March). J. Greene and F. Reay-Jones

January 2021. Effectiveness of insecticide oversprays for control of bollworm and stink bugs on Bt cotton technology in South Carolina. Beltwide Cotton Conferences, National Cotton Council of America, Virtual Meeting (5-7 January). J. Greene, F. Reay-Jones, D. Robinson, and K. Seavey.

January 2021. Efficacy of pesticides used in cotton when applied at specific droplet sizes. Beltwide Cotton Conferences, National Cotton Council of America, Virtual Meeting (5-7 January). T. S. Soignier, M. T. Plumblee, J. Mueller, J. K. Greene, and K. R. Kirk.

January 2021. Influence of planting date on bollworm incidence and damage in cotton. Beltwide Cotton Conferences, National Cotton Council of America, Virtual Meeting (5-7 January). D. Reisig, J. Greene, P. Roberts, and S. Taylor.

January 2021. Cotton aphid insecticide efficacy in the Southeast: a two year summary. Beltwide Cotton Conferences, National Cotton Council of America, Virtual Meeting (5-7 January). P. Roberts, M. Toews, S. Taylor, D. Reisig, A. S. Huseth, F. Reay-Jones, J. Greene, S. Paula-Moraes, A. L. Jacobson, S. Graham, and R. Smith.

January 2021. Monitoring population dynamics of aphids across the Cotton Belt. Beltwide Cotton Conferences, National Cotton Council of America, Virtual Meeting (5-7 January). A. L. Jacobson, C. Ray, P. Roberts, M. Toews, J. Greene, A. S. Huseth, G. G. Kennedy, S. Taylor, S. Paula-Moraes, S. Brown, J. Gore, W. Crow, S. D. Stewart, D. Kerns, S. Vyavhare, S. H. Graham, R. Smith, and K. Kesheimer.

January 2021. Incidence and Impact of Cotton Leaf Roll Dwarf Virus (CLRDV) in the USA Cotton Belt. Beltwide Cotton Conferences, National Cotton Council of America, Virtual Meeting (5-7 January). M. Zaccaron , J. Greene , A. K. Hagan, A. Smitherman, T. W. Allen, J. Koebernick, A. L. Jacobson, K. L. Bowen, T. R. Faske, P. Price, I. Small, M. J. Mulvaney, R. Kemerait, A. S. Huseth, H. M. Kelly, D. Kerns, S. Taylor, and Hehe Wang.

July 2021. Image analysis and regression modeling for peanut symptom identification. 52nd Annual APRES Meeting. Becton, H.R., Kirk, K.R., and Anco, D.J.

**Presentations at Workshops and Production Meetings**

March 2021. Strawberry Diseases. Zoom for grower training Arkansas. G. Schnabel.

February 2021. Weed Management in Brassica. Grower meeting. M. Cutulle.

February 2021. Weed Management in Curcurbit. Grower meeting. M. Cutulle.

February 2021. Management of insects in cotton during 2020. Cotton virtual production meeting. Online Zoom meeting. J. Greene.

February 2021. Management of insects in soybeans during 2020. Corn and soybean virtual production meeting. Online Zoom meeting. J. Greene. (2 meetings)

February 2021. Management of insects in corn. Corn and soybean virtual production meeting. Online Zoom meeting. F. Reay-Jones. (2 meetings)

January 2021. Tomato and Pepper Grower Meeting. ASD in Nightshade crops. M. Cutulle.

January 2021. Cevya, a new DMI fungicide for brown rot control of peach. Alabama Peach Production Meeting Online. G. Schnabel.

January 2021. Open IPM forum, virtual meeting with stakeholders to present activities of Clemson IPM program and to seek input for future directions of program. F.P.F. Reay-Jones, and T. Bryant.

December 2020. Efficacy of mefentrifluconazole against DMI sensitive and resistant isolates of various pathogens. Cumberland Shenandoah Professional Fruit Workers Virtual Mtg. Schnabel, G. and H. Ishii.

September 2020. Managing insect pests of cotton. Virtual Row-Crop Field Day Clemson University Edisto Row Crop Field Day, Blackville, SC (10 September). <https://www.clemson.edu/cafls/research/fieldday/>

March 2020. Issues with insects in cotton – old and new. Pee Dee Cotton Production Meeting, Bishopville, SC (3 March).

**Trainings, Seminars, and Webinars**

March 2021. The mystery of peach skin bronzing disorder and how MyIPM app can be used to promote IPM implementation. NSF Center for Integrated Pest Management (CIPM), Raleigh, NC Seminar Series, NCSU. G. Schnabel.

February 2021. Use of MyIPM for row crops. Zoom meeting presentation with row crop IPM specialists. G. Schnabel.

January 2021. Crop Protection and Pest Management Extension Implementation Program for South Carolina. Southern Region IPM Center – IPM Hour Webinar. F. Reay-Jones.

November 2020. Insect management in cotton and soybeans. South Carolina Annual Certified Crop Advisor Virtual Training Session. *Invited pre-recorded presentation.* J. Greene.

October 2020. Update on research and extension activities. Southeastern Professional Fruit Workers conference, online. G. Schnabel.

October 2020. Agent Training on Environmental fate of herbicides. M. Cutulle.

March 2020. Disease management in peach. Production meeting; Clemson Extension. Walhalla, SC.

March 2020. Brown rot and bacterial spot management in peach orchards. 2019 Michigan Spring peach meeting, SW Michigan Research and Extension Center. G. Schnabel.

March 2020. Peach and nectarine skin disorders. SW Michigan Research and Extension Center. G. Schnabel.