

Proceedings of the Florida State Horticultural Society 2008

Table of Contents

VOLUME CXXI	PRINTED MARCH 2009
Board of Directors for 2008.....	ii
Presidential Address: James P. Syvertsen	vii
FSHS Opening General Session Keynote Speaker:	
Charles Bronson	ix
FSHS Feature Presentation: Paul J. Driscoll.....	xiii
Annual Horticultural Breakfast Address: Terril A. Nell	xv
Awards of the Society	xvii
List of Presidents, Honorary Members: 1988 to Present	xx
Endowment Contributions	xxi
By-laws	408
Minutes of the Board of Directors Meetings	413
Minutes, 2008 Annual Meeting.....	419
Manuscript Preparation Guide for Authors.....	421
List of Available Proceedings	424
Conversion Table: U.S. & Metric Measures	425
Membership list	426
Index	429

Published Papers

KROME MEMORIAL INSTITUTE (TROPICALS)

Effect of Pesticides on Pests Affecting Tropical Fruit	1
<i>Jorge E. Peña*, Rita E. Duncan, and Charles W. Meister</i>	
Biology, Parasitoids, and Damage of <i>Leptoglossus zonatus</i> and <i>Leptoglossus gonagra</i> (Heteroptera: Coreidae) on Citrus	5
<i>Irwin Duarte S., Ligia Nuñez B., Jorge E. Peña*, and Libardo Pinto*</i>	
Microlepidoptera Complex Affecting Sapodilla (<i>Manilkara zapota</i> van Royen) in Florida	10
<i>Lisa Myers, Jorge E. Peña*, Rita Duncan, and John B. Heppner</i>	
Response of Mamey Sapote (<i>Pouteria sapota</i>) Trees to Flooding in a Very Gravelly Loam Soil in the Field	14
<i>Mark T. Nickum*, Jonathan H. Crane, Bruce Schaffer, and Frederick S. Davies</i>	
Effect of Foliarly Applied Acids and Ferrous Sulfate on Leaf Ferrous Iron Content and Leaf Greenness of Lychee Trees	19
<i>Jonathan H. Crane*, Bruce Schaffer, Yuncong Li, Eduard A. Evans, Wanda Montas, and Chunfang Li</i>	
Challenges for High Tunnel Production of White Guava in Southern Virginia	24
<i>A.R. Rafie* and Chris Mullins</i>	
Control of the Caribbean Fruit Fly on Three Peach Cultivars in Adjuntas, Puerto Rico	26
<i>Sara Ramos, María Del Carmen Librán, Angel González, Robert Rouse*, Phil Stansly*, Annette Wszelaki, J. Pablo Morales-Payán, and Evelio Hernandez</i>	
Thrips Monitoring in Blueberries	28
<i>Gary K. England*, Elena M. Rhodes, and Oscar E. Liburd</i>	
Monitoring and Phenology of Thrips in Southern Highbush Blueberries	30
<i>Oscar E. Liburd*, Teresia W. Nyoike, and Hector A. Arévalo</i>	
Performance of Highbush Blueberries in North Florida.....	33
<i>Peter C. Andersen*, Jeff G. Williamson, E. Paul Miller, and Paul M. Lyrene</i>	
Commercial Blueberry Production Methods in Hillsborough County	36
<i>Alicia Whidden*</i>	
Application of Embryo Rescue in Grape (<i>Vitis</i>) Cultivar Development	38
<i>Xia Xu, Jiang Lu*, Danae Dalling, Huang Hong, Clifford Louime, Zhongbo Ren, Fitz Bradley, and Rashad Reed</i>	
Chestnut (<i>Castanea</i> sp.) Cultivar Evaluations for North Florida	41
<i>Robert C. Hochmuth*, Lei Lani Davis, Wanda L. Laughlin, and April L. Warner</i>	
Preliminary Results on the Performance of Low-chill Peach Cultivars in North-central Florida	43
<i>Paul Miller*, Jeffrey G. Williamson, and Luis Mejia</i>	
Flower and Vegetative Bud Set of Four Low-chill Peach Cultivars at Three Locations in Florida	46
<i>Jeffrey G. Williamson*, Todd W. Wert, Jose X. Chaparro, Paul Miller, and R.E. Rouse</i>	
Climate Affects Fruit Shape of Four Low-chill Peach Cultivars in Florida.....	49
<i>Jeffrey G. Williamson*, Todd W. Wert, Jose X. Chaparro, Paul Miller, and Robert E. Rouse</i>	
Carbon Sequestration in an Oil Palm Crop System (<i>Elaeis guineensis</i>) in the Caribbean Lowlands of Costa Rica.....	52
<i>Humberto A. Leblanc and Ricardo O. Russo*</i>	

CITRUS SECTION

Scheduling the Harvest of Florida Oranges to Maximize Juice Production.....	55
<i>Jacob Searcy*, Fritz Roka, and Thomas Spreen</i>	
Economic Value of an Abscission Compound for Mechanically Harvested Late-season 'Valencia' Oranges.....	61
<i>German Blanco, Fritz Roka*, Jacqueline Burns, and Richard Kilmer</i>	
Effects of Short-term Drought Stress of 'Hamlin' and 'Valencia' Trees and CMNP Application on Fruit Detachment Force, Fruit Drop, and Fruit Quality	65
<i>Bob Ebel*, Kelly Morgan, Peter Newman, Jackie Burns, and Jim Syvertsen</i>	
The Florida Automated Weather Network: Ten Years of Providing Weather Information to Florida Growers.....	69
<i>William R. Lusher*, John L. Jackson, and Kelly T. Morgan</i>	
Citrus Cold Weather Protection and Irrigation Scheduling Tools Using Florida Automated Weather Network Data.....	75
<i>John L. Jackson*, Kelly T. Morgan, and William R. Lusher</i>	
Glyphosate and Carfentrazone Herbicides for Difficult-to-control Weeds in Citrus	81
<i>Shiv D. Sharma, Megh Singh, and Steve H. Futch*</i>	

Metabolite Profiling of Healthy and Huanglongbing-infected Citrus Leaves	85
<i>Juan Manuel Cevallos-Cevallos, Edgardo Etxeberria, Russell Rouseff, and José I. Reyes-De-Corcuera*</i>	
How the Florida Citrus Production Research Advisory Council Works with Other Industry Organizations for Solutions to the Greening Crisis	90
<i>Steven Rogers*</i>	
Citrus Greening Effects on Fruit Size Distribution and Yield in Citrus Trees	97
<i>Timothy M. Spann* and W. Chris Oswalt</i>	
Progress in Manipulating Citrus Defense Pathways in Favor of Citrus Resistance against Greening and Canker	100
<i>Abeer Khalaf*, Vicente J. Febres, Gloria A. Moore, and Frederick G. Gmitter Jr.</i>	
Greenhouse Investigations on the Effect of Guava on Infestations of Asian Citrus Psyllid in Grapefruit	104
<i>D.G. Hall*, T.R. Gottwald, N.C. Nguyen, K. Ichinose, Q.D. Le, G.A.C. Beattie, and E. Stover</i>	
Evaluation of Low Volume Application Technologies for Asian Citrus Psyllid (<i>Diaphorina citri</i> Kuwayama) Control: Initial Results	110
<i>Ryan Atwood and Lukasz Stelinski*</i>	
Dynamics of Mortality Factors of the Citrus Psyllid in Southern Florida	113
<i>Jorge E. Peña*, R.E. Duncan, and Josep A. Jacas</i>	
Streptomycin Controls Citrus Canker on Sweet Orange in Brazil and Reduces Risk of Copper Burn on Grapefruit in Florida	118
<i>James H. Graham*, Rui P. Leite, Jr., Henry D. Yonce, and M. Myers</i>	
Combating Huanglongbing and Canker via Genetic Engineering of Citrus	124
<i>Manjul Dutt, Ahmad Omar, Vladimir Orbovic, Gary Barthe, Julie Gmitter, Monica Vasconcellos, Charles Dunning, and Jude W. Grosser*</i>	
Citrus Yield, Fruit Quality, and Nutrient Levels Using Nitamin, CitriBlen, or Standard Ground Fertilizer	130
<i>L. Gene Albrigo*</i>	
Microbial Soil Amendments Do Little to Improve Citrus Tree Performance in Florida Soils	134
<i>Arnold W. Schumann*, James P. Syvertsen, and James H. Graham</i>	
Rootstocks Affect the 17-Year Survival and Performance of ‘Valencia’ Trees Grown in Immokalee	140
<i>William S. Castle* and James C. Baldwin</i>	
Tree Survival, Growth, and Juice Quality of Early-season Sweet Orange Selections on Eight Rootstocks in Immokalee	145
<i>William S. Castle* and James C. Baldwin</i>	
In Vitro Germination of Citrus Seed	148
<i>Randall P. Niedz*</i>	
The Likelihood and Consequences of Introduction of the Spherical Mealybug, <i>Nipaecoccus viridis</i> (Newstead), into Florida, and Its Potential Effect on Citrus Production	152
<i>Denise D. Thomas and Norman C. Leppla*</i>	
The Citrus Grove of the Future and Its Implications for Huanglongbing Management	155
<i>Ed Stover*, William S. Castle, and Peter Spyke</i>	

Incorporation of Air Temperature into a Model That Predicts Loosening of Sweet Oranges by the Abscission Agent CMNP	160
<i>Bob Ebel* and Jackie Burns</i>	

VEGETABLE SECTION

Evaluation of Nitrogen Rates and Irrigation Programs for Tomato Production in West Central Florida	164
<i>Bielinski M. Santos*</i>	
Plant Tumor Development on Tomato Derived from <i>Lycopersicon hirsutum</i>	167
<i>Xin Zhao*, Jeremy D. Edwards, Byung-Ho Kang, Eric H. Simonne, Karen E. Koch, Robert C. Hochmuth, Stephen M. Olson, and John W. Scott</i>	
Yield, Chemical Composition, and Eating Quality of Heirloom Tomatoes Grown in the Subtropical Climate of Florida	170
<i>Danielle D. Treadwell*, Amy H. Simonne, Thabile P. Nkambule, Robert C. Hochmuth, Wanda L. Laughlin, Teresa Olczyk, Corstiana Peavy, and Catherine J. Rogers</i>	
Response of ‘Fla. 8153’ Tomato to Nitrogen Fertilization Programs and In-row Distances	175
<i>Bielinski M. Santos* and John W. Scott</i>	
Sensory Evaluation of Red and Yellow Grape Tomato Varieties... ..	178
<i>Eric Simonne*, Reva Datar, Amy Simonne, Robert Hochmuth, and Aparna Gazula</i>	
Fate and Movement of Nitrogen and Phosphorus in Deep Creek in the Lower St. Johns River Basis of Northeast Florida	183
<i>Christine M. Worthington and Chad M. Hutchinson*</i>	
Evaluation of Alternative Fertilizer Programs in Seepage Irrigated Potato Production	187
<i>Zhiwei Chen* and Chad M. Hutchinson</i>	
Greenhouse Bitter Melon Production in Southern Virginia	191
<i>A.R. Rafie and Chris Mullins</i>	
Increased Net Profits Result from Greenhouse-grown Colored Pepper Compared to Field Production in Florida	194
<i>Daniel J. Cantliffe*, James E. Webb, John J. VanSickle, and Nicole L. Shaw</i>	
Horticultural Potential of Producing Florida Strawberry Cultivars under High Tunnels	201
<i>Teresa P. Salame*, Bielinski M. Santos, Craig K. Chandler, and Steven A. Sargent</i>	
Growing and Marketing Basil at Local Green Markets in Southeast Florida	204
<i>Kenneth D. Shuler*, Pei-Ann N. Shuler, Stephen J. Nie, and Deanna V. Shuler</i>	
Potential Profits from Greenhouse-grown Organic Strawberries Are Greater than Conventional Greenhouse or Field-grown Strawberries in Florida	208
<i>Daniel J. Cantliffe*, James E. Webb, John J. VanSickle, and Nicole L. Shaw</i>	
Growing and Marketing Collards and Kale at Local Green Markets in Southeast Florida	214
<i>Kenneth D. Shuler*, Pei-Ann N. Shuler, Stephen J. Nie, and Deanna V. Shuler</i>	
Ethnic Crop Opportunities for Growers on the East Coast: A Demand Assessment	219
<i>Ramu Govindasamy, Richard VanVranken, William Sciarappa, Albert Ayeni, Venkata S. Puduri, Kim Pappas, James E. Simon, Frank Mangan, Mary Lamberts, and Gene McAvoy*</i>	

The Economic Feasibility of Greenhouse-grown Cucumbers as an Alternative to Field Production in North-central Florida	222
<i>Daniel J. Cantliffe*, James E. Webb, John J. VanSickle, and Nicole L. Shaw</i>	
The South West Florida Small Farmer Network: A Participatory and Regional Approach to Diversified Horticultural Production Extension.....	228
<i>Robert Kluson*, Roy Beckford, and Robert Halman</i>	
Greenhouse Production of the Famous St. Augustine Hot Pepper, the Datil (<i>Capsicum chinense</i> var.)	230
<i>Nicole L. Shaw*, Daniel J. Cantliffe, Chad M. Hutchinson, Steven A. Sargent, and David Dinkins</i>	
Artificial and Natural Pollination of Sunn Hemp in Florida	234
<i>Romy Krueger, Koon-Hui Wang, Robert McSorley*, and Raymond N. Gallaher</i>	
Tolerance of Fresh Market Dill, Parsley, and Cilantro to Potential Herbicides in Florida.....	238
<i>Eugene J. McAvoy* and William M. Stall</i>	
Comparative Activity of Registered and Experimental Miticides to Control Twospotted Spider Mite [<i>Tetranychus urticae</i> Koch (Acari: Tetranychidae)] in Plant City Area Strawberry	241
<i>James F. Price* and Curtis A. Nagle</i>	
Tomato, Pepper, and Watermelon Tolerance to EPTC Applied under Mulch in Florida	244
<i>Eugene J. McAvoy* and William M. Stall</i>	
Resistance of Strawberry Cultivars and Advanced Selections to Anthracnose and Botrytis Fruit Rots.....	246
<i>Teresa E. Seijo, Craig K. Chandler, James C. Mertely, Catalina Moyer, and Natalia A. Peres*</i>	
Application of Imidacloprid and Cultural Techniques for Management of Whiteflies in Cucurbits	249
<i>Teresia W. Nyoike* and Oscar E. Liburd</i>	
Effectiveness of Biological Insecticides in Controlling the Diamondback Moth (Lepidoptera: Plutellidae) Using <i>Bacillus thuringiensis</i> , Azadirachtin, and New Insecticides on Cabbage	252
<i>Dakshina R. Seal*</i>	

HANDLING & PROCESSING SECTION

Optimization of Strawberry Volatile Sampling by Direct Gas Chromatography Olfactometry	260
<i>Celine Jouquand, Craig Chandler, Kevin Goodner, and Anne Plotto*</i>	
Effect of Early Detection Huanglongbing on Juice Flavor and Chemistry	265
<i>Anne Plotto*, Elizabeth A. Baldwin, T. Greg McCollum, Jan A. Narciso, and Mike Irey</i>	
The Potential Use of a Microsensor to Measure Endogenous Oxygen Content in Fresh Fruit	270
<i>Adrian D. Berry and Steven A. Sargent*</i>	
Fruit Quality and Aroma Characteristics of a Specialty Red-fleshed Melon (<i>Cucumis melo</i> L.), 'Red Moon'	274
<i>Jeanmarie M. Mitchell*, Daniel J. Cantliffe, Harry J. Klee, Steven A. Sargent, Peter J. Stoffella, and Denise Tieman</i>	
Is Strawberry Fruit Firmness Associated with Tissue Ca Concentration?	281
<i>Camille E. Esmel*, John R. Duval, Bielinski M. Santos, Steven A. Sargent, and Eric H. Simonne</i>	

Differences in Secondary Metabolites in Leaves from Orange (<i>Citrus sinensis</i> L.) Trees Affected with Greening Disease (Huanglongbing) (HLB)	285
<i>John A. Manthey*</i>	
Impact of Environmental Conditions during Distribution on Tomato Fruit Quality and Decay	289
<i>Sharon Dea, Jeffrey K. Brecht*, M. Cecilia do Nascimento Nunes, Jean-Pierre Émond, and Khe V. Chau</i>	
Effects of Laser Labeling on the Quality of Tangerines during Storage	297
<i>Preeti Sood, Chris Ferenca, Jan Narciso, and Ed Etxeberria*</i>	
Microbiological Evaluation of Mechanically Harvested Citrus Fruit	301
<i>Michelle D. Danyluk*, Loretta M. Friedrich, and Reza Ehsani</i>	
Detection of Microbial Populations on Freshly Packed Florida 'Valencia' Oranges	304
<i>Jiuxu Zhang*</i>	
Developments in Ethanol Production from Citrus Peel Waste	307
<i>Weiyang Zhou*, Wilbur Widmer, and Karel Grohmann</i>	
Biosorption Properties of Citrus Peel Derived Oligogalacturonides, Enzyme-modified Pectin and Peel Hydrolysis Residues	311
<i>Randall G. Cameron*, Gary A. Luzio, Wilbur W. Widmer, and Muhammad Iqbal</i>	
Microwave Release of Pectin from Orange Peel Albedo Using a Closed Vessel Reactor System	315
<i>Gary A. Luzio*</i>	
Removal of Grapefruit Juice Furanocoumarins by Four Edible Fungi	320
<i>Kyung Myung*, Jan A. Narciso, and John A. Manthey</i>	
Effect of Pre- and Postharvest Factors on Fresh Grapefruit Peel Breakdown	322
<i>Mark A. Ritenour*, Brian J. Boman, Cuifeng Hu, Jacqueline K. Burns, and Jean Bertrand Contina</i>	

ORNAMENTAL, GARDEN, & LANDSCAPE SECTION

Evaluation of Cow and Swine Manures to Grow Impatiens (<i>Impatiens wallerana</i> Hook. f.) in Container Production	326
<i>Kimberly Moore*</i>	
Trees, Urban Environments, and Soil Volumes	331
<i>Jimmy Socash* and Henrique Mayer</i>	
Irrigation Application Using Evapotranspiration-based Irrigation Controllers.....	334
<i>Stacia L. Davis*, Michael D. Dukes, and Grady L. Miller</i>	
Growing Medium Effects on the Establishment of <i>Muhlenbergia capillaris</i>	338
<i>James J. Muchovej*, Oghenokome U. Onokpise, Mary J. Williams, and Kenneth Livingston</i>	
Effect of Irrigation Control on St. Augustinegrass Quality and Root Growth	340
<i>Mary Shedd, Michael D. Dukes*, and Grady L. Miller</i>	
Evaluations of New Controlled-release Fertilizers for Use in Production of Interiorscape and Landscape Plants	346
<i>Robert H. Stamps*, Jianjun Chen, Seenivasan Natarajan, and Juanita Popenoe</i>	
Update on Turf Fertilizer Rules and Regulations and How to Conduct a Green Industry Best Management Practices Training	350
<i>Laurie Trenholm* and Donald P. Rainey</i>	

Cercospora Leaf Spot Caused by <i>Cercospora dendrobii</i> on <i>Dendrobium antennatoum</i> Lindl. and Its Control	353	Trap Cropping System to Suppress Stink Bugs in the Southern Coastal Plain	377
<i>Robert T. McMillan, Jr.*</i> , <i>Aaron J. Palmateer</i> , <i>and Wagner A. Vendrame</i>		<i>Russell F. Mizell, III*</i> , <i>T. Charles Riddle</i> , <i>and Ann S. Blount</i>	
Designing an Integrated Pest Management (IPM) Program for Hispanic Landscapers	356	Comparison of Ramet and “Wild Type” Establishment for Cogongrass, <i>Imperata cylindrica</i>	383
<i>Henrique Mayer*</i> , <i>Edward Skvarch</i> , <i>Pam Mattis</i> , <i>and Rebecca Jordi</i>		<i>James J. Muchovej*</i> , <i>Oghenekome U. Onokpise</i> , <i>and Susan Bambo</i>	
Developing a Bilingual Video/Video Podcast to Teach Clients How to Apply a Soil Drench Insecticide to Control a New Pest, the Fig Whitefly	358	Using Banker Plants as a Biocontrol System for Spidermites	385
<i>Mary Lamberts*</i> , <i>Henrique Mayer</i> , <i>Ruben Regalado</i> , <i>Adrian Hunsberger</i> , <i>and Catharine Mannion</i> ²		<i>Lelan Parker*</i> <i>and Juanita Popenoe</i>	
Staining Associated with Oxhorn Bucida (“Black Olive”) Trees (<i>Bucida buceras</i>): The Caterpillar and Eriophyid Mite Connection	360	Natural Solutions for Your Gardening Life	387
<i>Douglas L. Caldwell*</i>		<i>Gary K. England*</i>	
Erythrina Gall Wasp, <i>Quadrastichus erythrinae</i> (Hymenoptera: Eulophidae) in Florida, and Susceptibility of <i>Erythrina herbacea</i> (Fabaceae)	363	Evaluation of Biofungicides for Control of Powdery Mildew of Gerbera Daisy	389
<i>Forrest W. Howard*</i> , <i>Robert W. Pemberton</i> , <i>and Hong Liu</i>		<i>Catalina Moyer</i> <i>and Natalia A. Peres*</i>	
Response of Cut Flowers and Bedding Plants to Root-knot Nematodes	370	Caladium Breeding: Progress in Developing Lance-leaved Cultivars	395
<i>Namgay Om</i> , <i>Robert McSorley*</i> , <i>and John J. Frederick</i>		<i>Zhanao Deng*</i> <i>and Brent K. Harbaugh</i>	
Tame Invasives Portal: A Solution for Your Life	374	Comparing the Costs and Educational Value of Delivering Distance Education Programming versus Traditional Face-to-face Classroom Education	399
<i>Kenneth T. Gioeli*</i>		<i>Edward A. Skvarch*</i>	
		Effect of Shade on Performance of St. Augustine Cultivars	402
		<i>Laurie E. Trenholm*</i>	
		Identification of the Four Forms of <i>Plumeria rubra</i>	406
		<i>Stephen H. Brown*</i>	