

*Proceedings*  
of the  
**FLORIDA STATE**  
*Horticultural Society*  
1973

VOLUME LXXXVI

PRINTED MAY 1, 1974

## CONTENTS

Officers for 1973 .....	IV
Officers for 1974 .....	V
Constitution and By-Laws .....	VI
Awards of the Society .....	XVII
Awards for Outstanding Papers .....	XVII
Awards of Honorary Membership .....	XVIII
List of Presidents .....	XXII
Honorary Members .....	XXIII
President's Annual Address, Burt E. Colburn, Goulds .....	XXV
The Pesticide Situation, W. G. Eden, University of Florida .....	XXVII

## CITRUS SECTION

A Nutritional Survey of Citrus Groves in the Southwest Florida Flatwoods, D. P. H. Tucker and C. A. Anderson .....	1
Zinc Oxide and Liquid Zinc Chelate Sprays and Leaf Dips for Correction of Zinc Deficiency in Citrus, C. D. Leonard and Frank H. Myer .....	4
Responses of 'Bearss' Lemon to Nitrogen, Potassium and Irrigation Applications, R. C. J. Koo, T. W. Young, R. L. Reese and J. W. Kesterson .....	9
Response of 'Marsh' Grapefruit Trees in the Indian River Area to Potassium Application —Yield and Fruit Quality, D. V. Calvert .....	13
The Possibilities of Using Ground Sprays to Control Citrus Greasy Spot, J. O. Whiteside .....	19
Responses of Healthy and Virus-Infected Citrus to Growth Regulators, O. K. Atubra and A. H. Krezdon .....	24
An Evaluation of New Herbicides for Milkweed Vine Control, R. L. Phillips and D. P. H. Tucker .....	29

A Grower's Field Test with 2(p-tert-butylphenoxy) cyclohexyl-2-propynl sulfite (Comite R) A New Miticide, Fred Saunders .....	33
Aerial Application for Control of Aphids on Florida Citrus, R. C. Bullock .....	37
Harvesting 'Valencia' Oranges with a Vertical Foliage Shaker, J. D. Whitney, S. L. Hedden and H. R. Sumner .....	41
Fruit Thinning of Tangerines with Naphthaleneacetic Acid, T. A. Wheaton and Ivan Stewart .....	48
Influence of Rootstock on Citrus Fruit Abscission Response to Cycloheximide Treatment, W. C. Cooper and W. H. Henry .....	52
A Comparison of Cycloheximide with a New Abscission Chemical, W. C. Wilson .....	56
Water Needs of Florida Citrus, John F. Gerber, A. H. Krezdorn, J. F. Bartholic, J. R. Conner, H. J. Reitz, R. C. Koo, D. S. Harrison, E. T. Smerdon, J. G. Georg, L. D. Harris and J. T. Bradley .....	61
A Drip Irrigation Installation on Citrus in Collier County, Fla., William L. Blackwell ..	64
Drip Irrigation of Tree Crops: Distribution Systems and Design Criteria, J. M. Myers and D. S. Harrison .....	66
Measure of Water Stress in Citrus, W. D. Bell, Jon F. Bartholic and M. Cohen .....	71
Economic Strategy for Rehabilitating, Selling, or Abandoning a 'Valencia' Grove Under Varying Situations, James A. Niles and Charles L. Anderson .....	75
Rootstock Effects on Root Distribution and Leaf Mineral Content of 'Orlando' Tangelo Trees, W. S. Castle and A. H. Krezdorn .....	80
Development of Scion Cultivars of Citrus in Florida, C. Jack Hearn .....	84
Citrus Clones Resistant to <i>Phytophthora parasitica</i> : 1973 Screening Results, D. J. Hutchinson and G. R. Grimm .....	88
Electron Microscopic Examination of Citrus Trees Affected with Young Tree Decline (YTD), D. E. Purcifull, S. M. Garnsey, G. E. Story and R. G. Christie .....	91
Effect of Boron and Arsenic on Juice Acidity of Grapefruit, Paul F. Smith .....	95
Tolerance of Trifoliolate Orange Selections and Hybrids to Freezes and Flooding, George Yelenosky, R. T. Brown and C. J. Hearn .....	99
Instrumentation Methods and Photographic Techniques for Detection of Citrus Trees Affected with Young Tree Decline, G. J. Edwards, E. P. DuCharme, G. G. Norman and M. Cohen .....	104
Grove Freeze Protection with Conventional Heating Methods, J. F. Bartholic, J. F. Gerber, and D. W. Buchanan .....	107
Biological Control of Milkweed Vine with a Race of <i>Phytophthora citrophthora</i> , H. C. Burnett, D. P. H. Tucker, M. E. Patterson and W. H. Ridings .....	111

## VEGETABLE SECTION

Plant Density Effects on Strawberry Fruit Production, E. E. Albregts, C. M. Howard and S. L. Poe .....	116
--	-----

Two-Spotted Spider Mites on Strawberry Grown at Nine Plant Densities, S. L. Poe and E. E. Albregts .....	119
Efficacy of Nematicidal Dips for Control of Root-Knot Nematodes in Strawberry Transplants, A. J. Overman .....	122
Fruit Distribution and Orientation on Bell Pepper Plants as Related to Mechanical Harvesting, Lawrence N. Shaw and Ramon C. Littell .....	126
Chemical Weed Control in North Florida Potatoes, J. R. Shumaker .....	130
Cantaloupe Cultivars for Florida, L. H. Halsey and G. W. Elmstrom .....	134
Tomato Pinworm Control, D. O. Wolfenbarger and Sidney L. Poe .....	139
A Serological Test for Distinguishing <i>Bidens</i> Mottle and Lettuce Mosaic Viruses, D. E. Purcifull and T. A. Zitter .....	143
Reaction of Susceptible and Tolerant Pepper Varieties to the Pepper Virus Complex in South Florida, T. A. Zitter and H. Y. Ozaki .....	146
A Study of Methods for Reducing Bacterial Soft Rot in Wounded Fresh Market Tomatoes, J. A. Bartz and J. P. Crill .....	153
Tomato Fusarium Wilt Control by Adjustments in Soil Fertility, S. S. Woltz and John Paul Jones .....	157
Response of the Tomato Cultivar 'Walter' Grown on Mulch to Soil Fumigants, R. B. Volin and R. T. McMillan, Jr. ....	159
Effect of <i>Verticillium</i> Wilt on Tomato Plants Transplanted to Fumigated and Non-fumigated Soil, John Paul Jones, Pat Crill and C. M. Geraldson .....	162
Bean White Mold Control, R. T. McMillan, Jr. ....	165
Fungicidal Control of Potato Foliage Diseases in Northern Florida, D. P. Weingartner ..	167
Germination Studies with Celery Seed, V. F. Nettles and L. N. Poe .....	172
Planting and Thinning Systems for 'Florida Sweet', an sh <sup>2</sup> Sugar Retention Sweet Corn Hybrid, V. L. Guzman, E. A. Wolf and W. W. Deen, Jr. ....	175
Plug-Mix Seeding Developments in Florida, Norman C. Hayslip .....	179
The Influence of Ethephon and Stage of Electronically Determined Maturity on Ripening of Tomato Fruit, Pat Crill, D. S. Burgis and J. T. Worthington III .....	185
Feasibility of Producing Canning Tomatoes by Utilization of New Disease Resistant Florida Lines, D. S. Burgis, Pat Crill and R. F. Matthews .....	189
Cucumber Response to Copper Rate and Fertilizer Placement, A. A. Navarro and S. J. Locascio .....	193
Watermelon Yield and Quality: Effect of Fertilizer Rate and Placement, G. W. Elmstrom, J. G. A. Fiskell and F. G. Martin .....	196
Watermelon Response to Sulfur-Coated Urea, Mulches and Nitrogen Rates, S. J. Locascio, J. G. A. Fiskell and H. W. Lundy .....	201
 SYMPOSIUM—THE AGRICULTURAL LABOR SITUATION IN FLORIDA	
The Tenuous Balances Required of Each Element in Agri-Industry, Lloyd G. Veldman ..	205

Giving Dignity to the Picker, W. Grierson .....	206
Harvesting Labor in Florida Horticulture with Emphasis on the Citrus Industry, G. F. Fairchild .....	208
Labor Policies and Florida Vegetable Production, Robert D. Emerson .....	214
Labor Law and Agriculture in Florida, P. A. Saad .....	219
Job Enrichment: A Motivational Strategy for Farm Workers, Charles Walker .....	221
Human Relations in Agriculture, Wendell N. Rollason .....	227

#### HANDLING AND PROCESSING SECTION

Factors Affecting Pepper Firmness, R. K. Showalter .....	230
Quality Retention and Acceptability of Diced Peppers, D. D. Gull and H. Y. Ozaki .....	233
Irrigation of Citrus with Citrus Processing Waste Water, R. C. J. Koo .....	233
Impact Forces and Tomato Bruising, Richard C. Fluck and Lawrence H. Halsey .....	238
Ascorbic Acid Content of Tomato Varieties, R. F. Matthews, Pat Crill and D. S. Burgis .....	242
The Effects of Cultural and Postharvest Practices on Postharvest Decay and Ripening of Two Tomato Cultivars, R. H. Segall, C. M. Geraldson and P. H. Everett ..	246
Viscometry Affected by Pectic Constituents in 45° Brix Frozen Concentrated Orange Juice, A. H. Rouse, L. G. Albrigo, R. L. Huggart and E. L. Moore .....	249
Oils Recovered from Celery Packinghouse Waste, E. D. Lund, C. J. Wagner, Jr. and W. L. Bryan .....	255
Improved Method for the Extraction of Pectin, Joseph M. G. Huang .....	260
Dried Citrus Juice Sacs for the Food and Beverage Industries, R. J. Braddock and J. W. Kesterson .....	261
Wines from Florida Grapes, E. A. Grosz, Jr., R. P. Bates and J. A. Mortensen .....	264
Furfural as an Indicator of Flavor Deterioration in Canned Citrus Juices, M. D. Maraulja, J. S. Blair, R. W. Olsen and F. W. Wenzel .....	270
Potential By-Products from Waste Citrus Peel Emulsion, W. L. Bryan, O. W. Bissett, C. J. Wagner, Jr., and R. E. Berry .....	275
Intermittent Warming of Grapefruit to Avoid Rind Injury During Storage, Paul L. Davis .....	280
Handling Florida Seedless Grapefruit to Reduce Decay, A. A. McCornack .....	284
Interregional Competition in Processed Tomato Products, G. H. Sullivan, A. J. Minden and L. F. Schrader .....	289
The Economic Outlook for Potato Production in the Hastings Area of Florida, Richard A. Levins and Max R. Langham .....	296
Phenolic Contaminants in Florida Citrus Packinghouse Effluents: Sources and Regulations, Mohamed A. Ismail and W. F. Wardowski .....	299

#### KROME MEMORIAL INSTITUTE

Seventy-Five Years of USDA Research at Miami, A. K. Burditt, Jr., P. K. Soderholm, D. H. Spalding and R. J. Knight, Jr. ....	303
--	-----

Cytospora Canker of Peach in Florida, S. A. Alfieri, Jr., C. P. Seymour and W. J. French .....	308
Bacterial Canker of Peach in Florida, W. J. French and John W. Miller .....	310
Sprinkler and Soaker Irrigation of Peach Trees to Reduce Plant Water Stress and Increase Fruit Size, P. L. Ryan, J. F. Bartholic and D. W. Buchanan .....	311
Field Performance of Plastic and Clay Drain Tile in a Flatwoods Soil Peach Orchard, D. S. Harrison and D. W. Buchanan .....	315
Losses of Nutrients in Drainage Water from a Mature Peach Orchard, H. T. Phung, J. F. Bartholic and D. W. Buchanan .....	317
Effects of Nitrogen, Potassium and Magnesium Fertilization on 'Persian' Limes on Sandy Loam Soil. T. W. Young and R. C. J. Koo .....	322
Mango Anthracnose Control, R. T. McMillan, Jr. ....	326
Enhancement of Red Color on Mangos with an Antitranspirant, Charles R. Barmore, Donald H. Spalding and Robert T. McMillan, Jr. ....	328
Fungicidal Control of Bunch Grape Diseases in Florida, D. L. Hopkins .....	329
The Effect of Rust ( <i>Tranzschelia discolor</i> (F. Chl.) Trans. & Litr.) on the Tree Performance and Fruit Yield of 'Early Amber' Peach and 'Sungold' Nectarine, Phares Decker and D. W. Buchanan .....	333
Seed Chalcid Damage, Distribution, and Control on Central Florida Bunch Grapes, W. C. Adlerz and J. A. Mortensen .....	335
Muscadine Grapes for Florida: Yields and Other Characteristics of 48 Cultivars, J. A. Mortensen and C. F. Balerdi .....	338
Suitability for Mechanical Harvest in Cultivars of Muscadine Grape ( <i>Vitis rotundifolia</i> Michx.), C. F. Balerdi and J. A. Mortensen .....	342
An Avocado Planting on Flatwoods Sand with Drip Irrigation, William L. Blackwell ....	345
Influence of Rootstock on Cold Hardiness of Avocados, A. H. Krezdorn .....	346
The 'Tommy Atkins' Mango, Carl W. Campbell .....	348
Diced Mango-Orange Salad Gels with Low Sugar Content, A. H. Rouse, C. R. Barmore and E. L. Moore .....	351
The Future of Tropical Fruit Growing in Dade County, Harold E. Kendall .....	354
Can Tropical Agriculture Move to the Sandlands?, N. P. Brooks .....	356
The Potential for Tropical Fruits in Metropolitan Areas, Carl W. Campbell .....	357
A Researcher's View of the Potential for Tropical Fruits on Sandy and Organic Soils of Florida, T. W. Young .....	358
The Impact of Urbanization on Dade County's Subtropical Fruit Industry, Allan R. Bly .....	359
Effect of Urbanization on the Fruit Industries of Central Florida, C. L. Anderson ....	361

## ORNAMENTAL SECTION

Influence of Temperature and Duration of Curing, Storage, Shipping and Forcing Periods on Caladium Growth, F. W. Marousky and J. C. Raulston .....	363
--	-----

Influence of Shade Level and Soil Temperature on Forcing of <i>Caladium bicolor</i> , C. A. Conover and R. T. Poole .....	369
Influence of Dolomite and Micronutrients on Yield of Leatherleaf Fern, R. T. Poole and C. A. Conover .....	372
Control of Ageotropic Response in Snapdragon Flower Spikes, J. N. Joiner, T. J. Sheehan and K. F. Mitchell .....	374
Susceptibility of Corms of Gladiolus Cultivars to <i>Fusarium oxysporum</i> F. sp. <i>Gladioli</i> Synd. & Hans. at Different Temperatures, G. J. Wilfret and S. S. Woltz .....	376
Root-Knot Nematode Control in Gerbera Daisy Transplants, D. E. Stokes, J. R. McFarlin and A. L. Taylor .....	378
Effectiveness of Ancymidol on Reducing Height of Easter Lilies Grown Under Different Environments, Charles R. Johnson .....	380
Effects of Shade and Dwarfing Compounds on Growth and Quality of <i>Pachystachys lutea</i> , J. N. Joiner, E. R. Gruenbeck and C. A. Conover .....	382
Effects of the NH <sup>+4</sup> :NO <sup>-3</sup> Ratio, Chloride, N-Serve, and Simazine on Carnation Flower Production and Plant Growth, J. L. Green, W. D. Holley and B. Thaden .....	385
Corynespora Leaf Spot of Zebra Plant, J. J. McRitchie and J. W. Miller .....	389
Evaluation of Chrysanthemum Cultivars as Single-Plant Pots for Mass Market Outlets, G. J. Wilfret, F. J. Marousky and J. C. Raulston .....	391
Development of Dwarf Ornamental Tomato Varieties and Evaluation of Soil Media and Fertilizer Requirements, Pat Crill, W. E. Waters, D. S. Burgis and A. P. Lorz .....	395
Cultural Techniques for the Commercial Production of Annual Statice ( <i>Limonium</i> Spp. Mill.) in Florida, G. J. Wilfret, J. C. Raulston, S. L. Poe and A. W. Engelhard .....	399
Product Mix and Market Outlets for Florida Foliage Plants, Cecil N. Smith, E. F. Scarborough and Kate F. Gholston .....	404
Utilization of a Continuous Rotary Soil Pasteurizer for Mixing Nursery Potting Soils, Lawrence N. Shaw and Dennis B. McConnell .....	408
The Economics of Ornamental Nursery Management, George R. Perkins .....	411
The Influence of A-Rest Upon Growth and Flowering of <i>Ixora coccinea</i> cv. 'Nora Grant,' P. L. Neel .....	415
Colletotrichum Needle Necrosis of Norfolk Island Pine, W. H. Ridings .....	418
Rhizoctonia Blight of Syngonium, J. F. Knauss .....	421
The Influence of Sodium Azide and Carbofuran on Crop Response, Nematode and Weed Control for <i>Chrysanthemum morifolium</i> , A. J. Overman .....	425
Crown Rot and Wilt of Baby's Breath ( <i>Gypsophila paniculata</i> L.) Caused by the Soil Fungus <i>Phytophthora parasitica</i> Dast., Arthur W. Engelhard.....	428
Two-Spotted Spider Mite Populations on Outdoor Chrysanthemum, S. L. Poe and A. J. Overman .....	431
Effects of Several Herbicides on Shoot and Root Growth of 'Tifdwarf' Bermudagrass, G. S. Smith .....	434

Ring Nematode Injury to Centipedegrass Lawns and Possible Control, Daniel E. Mullins .....	438
Pesticide Phytotoxicity to Ornamental Plants, D. E. Short and D. B. McConnell .....	439
Deactivation of Kerb With Sewage Sludge, Topdressing and Activated Charcoal, H. G. Meyers, W. L. Currey and D. E. Barnes .....	442
Deactivation Effects of Activated Charcoal on Kerb Treated <i>Poa annua</i> , H. G. Meyers and C. M. Sligh .....	445
Nutrient Variability in Grass Tissue From Two Dade County Golf Courses, P. G. Orth and J. D. Dalton .....	448

## GARDEN AND LANDSCAPE SECTION

<i>Dombeya</i> 'Seminole' and <i>D.</i> 'Pinwheel', New Cultivars for Landscaping in the Sub-tropics, P. K. Soderholm .....	452
Problems of the Home Gardener, Frank J. Jasa .....	454
Florida Will be Only as Beautiful as You and I Make It, Edwin A. Menninger .....	456
A Combination Landscape Box Scraper, Dozer and Scarifier for Small Tractors, Lawrence N. Shaw .....	458
New Potentials in Amaryllis Breeding, William D. Bell .....	462
Expenditure Patterns for Landscape Plantings and Lawns by Homeowners in Florida, Cecil N. Smith and Merton B. Badenhop .....	466
The Palm: <i>Butia capitata</i> x <i>Arecastrum romanzoffianum</i> , Charles S. Bush.....	470
Garden Mums for Florida Landscapes, Gary J. Wilfret and J. C. Raulston .....	474
Commonly Available Foliage Plants Best Adapted to Interior Environments, D. B. McConnell and C. A. Conover .....	478
Lethal Yellowing of Coconut Palm in Florida, C. Poucher .....	480
Salt-Tolerant Silt Grass ( <i>Paspalum vaginatum</i> Sw.,), Julia F. Morton .....	482
Deep Root Injection Feeding, Theory and Practice in Tree and Shrub Maintenance, H. C. Bardsley and C. P. Johnson .....	490
Expenditure Patterns for Landscape Plantings and Lawns by Homeowners in the South, Merton B. Badenhop and Cecil N. Smith .....	493
Introduction of <i>Willardia schiedeana</i> to South Florida as a New, Ornamental Flowering Tree, Carl E. Gerické .....	497
Extending a Helping Hand, G. S. Smith .....	498
Effect of Various Antibiotics on Development of Lethal Yellowing in Coconut Palm, R. E. McCoy .....	503
Jacaranda Propagation by Cleft Grafting, S. John Lynch and Margaret J. Mustard ..	506
The Economics of Municipal Street Trees, P. W. Stanley and B. D. Crossmon .....	512

## ANNUAL REPORTS

Report of the Executive Committee .....	513
Financial Statement .....	515
List of Members .....	516
Index .....	531
Conversions: U. S. Measures to Metric .....	546
Available Proceedings .....	547