

Dora Pilar Maul, Ph.D.

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Education

Florida Institute of Technology Melbourne, FL	Ph.D. Biology/Cell and Molecular Biology	2002
Louisiana State University Baton Rouge, LA	M.Sc. Science/Biochemistry	1996
National Agricultural University La Molina, Lima, Peru	B.S. Biology/Genetics	1981

Professional Experience

St. Thomas University, School of Science

Professor of Biology 08/2017 - present

Associate Professor of Biology 08/2013 – 07/2017

Assistant Professor of Biology 08/2007 – 07/2013

- Courses taught: *Undergraduate*: Genetics, Genetics Laboratory, Plant Physiology, Microbiology for Nursing, General Biology I and II, Biology laboratory I and II courses, Earth Sciences, Undergraduate Biological Research I, II, and Advanced Research I and II including Senior Thesis.
Graduate: Cell and Molecular Biology
- Biology Program Coordinator (Undergraduate) since 2017
- Director of the iCATCH Program at STU 2016-present. Funded by USDA-HSI Agricultural Education Grant. “Innovative Curriculum for Agricultural Training and Career for Hispanics” Co-PD together with Florida International University, Miami Dade College (North campus and Homestead campus) and Interamerican University in Puerto Rico-San German. This Program trains Hispanic and Minority students in Plant Biology and Agricultural Sciences and teaches them skills to successfully apply to USDA jobs in Agriculture. Program funded 2016-2020.
- Director of the FCCAgE Program at STU. 2011-2016. Funded by USDA-HSI Agricultural Education Grant. “Florida-Caribbean Consortium for Agriculture Education and Hispanic Workforce Development” Co-PD together with Florida International University (leading institution), Miami Dade College and Inter-american University in Puerto Rico.
- Grant Writing:
 - iCATCH USDA-grant. Accepted for funding 2016.
 - FCCAgE USDA-grant. Accepted for funding 2011.
 - BE-STEM in collaboration with Morgan State University (Washington, DC) and Universidad de Puerto Rico, Mayaguez. Submitted to NOAA on April 2016. It was not funded.

- Attended Research Proposal writing workshop at STU 2015. Training was by The Grantsmanship Center.
- Established research collaborations with
 - USDA –ARS (Miami, Fort Lauderdale and Fort Pierce Research stations. 2010 - present
 - Universidad Peruana Cayetano Heredia (Genomics Unit, Lima, Peru). 2012-present
 - NOVA University Oceanographic Center. 2015-present
- These collaborations resulted in the preparation of around 50 research posters, one thesis, one manuscript (recently submitted for peer-review) and 2 manuscripts in preparation.
- Current research projects include: Molecular characterization of native potato germplasm screening for frost resistance, microbiome analysis after vermicompost-based organic fertilization, fingerprinting in medicinal herbs, gene expression of antioxidant genes in plants.
- Created a Research Organic garden at STU, together Carlos Vazquez and students. 2013 to present. From choosing location, securing a well and a water pump, setting up an automated drip-irrigation system, to growing organic crops for student research projects. Numerous research posters have been presented at Symposia at STU and at FIU, and at the Florida Academy of Sciences Annual meetings.
- Mentored Haiti-Café Cocano-STU School of Science-STU Community Engagement Center. “Baseline Comparison of Home-Made Methanol-Ethanol Solution for Mass Trapping of *Hypothenemus hampei*.” Three students and Carlos Vazquez travelled to Haiti to implement the project. Results presented as both an oral and poster presentations at numerous symposia and 2 conferences.
- Conducted workshop at CNRA (Centre National de Recherche Agronomique) in Cote d’Ivoire, Africa: “Capacity Building on Cocoa Swollen Shoot Virus detection techniques”. In collaboration with the USDA. 2012
- Participated in the USDA HSI Priority Setting Workshop in Washington, D.C. 2012
- 2009 Awarded USDA Kika de la Garza Science Fellowship (Training consisted in 1 week in USDA headquarters in DC and one month training at USDA, Miami)

**University of Florida, Dept of Environmental Horticulture, Fort Pierce, FL
Postdoctoral Research Associate 10/2005 - 05/2007**

- Field of expertise: functional genomics
- Expertise in utilizing Affymetrix Citrus genome microarray chips and qPCR for gene expression.

**US Department of Agriculture, ARS, USHRL, Fort Pierce, FL
Postdoctoral Research Associate 7/2002 – 9/2005**

- Project: identification and characterization of citrus genes associated with abiotic stress conditions.
- Acquired proficiency in the use of high throughput robotics systems for handling of candidate clones, use of differential display system, real time and semi-quantitative RT-PCR for gene expression analysis.

Florida Institute of Technology, Melbourne, FL 1997-2002

- PhD degree. Dissertation title: “Identification of genes in early stages of somatic embryogenesis in *Cucumis melo* L. using differential display and quantitative real time RT-PCR”.

Teaching assistantship: Plant Physiology lab

Industry experience: B & W Quality Growers, Fellsmere, FL 1997-2002

- Responsible for meristem cultures for virus eradication and propagation of watercress through tissue culture. Created a new watercress genetic line by chromosome doubling using colchicine.

Louisiana State University Baton Rouge, LA 1989 – 1995

- Master of Science degree in the Biochemistry Department. Masters’ thesis was entitled: *Identification of histidines required for enzymatic activity of spinach carbonic anhydrase.*

Teaching assistantship: Biology labs, Biochemistry labs

International Potato Center – Lima Peru 1984- 1989

Research Associate Plant Physiology/Tissue Culture Laboratory

Honors/Awards/memberships/Presentations/Certificates

- Member of the Society for In Vitro Biology – Plants
- Member of the American Society for Horticultural Sciences.
- Member of the Florida Academy of Sciences
- Member of the Florida Native Plant Society
- 2009 USDA Kika de la Garza Science Fellowship
- 2001 Sigma Xi Research Award for dissertation research

Student Awards

2018

1st place oral presentation Summer Research Institute symposium. Luz Ruiz

1st place poster presentation Summer Research Institute symposium. Stephanie Rosario

2016

1st place oral presentation in Agricultural Sciences. Florida Academy of Sciences Annual Meeting. Laynet Cornelio.

1st place poster presentation in Agricultural Sciences. Florida Academy of Sciences Annual Meeting. Luis Cendan.

2nd place oral presentation Summer Research Symposium STU. Jose Calera.

2nd place poster presentation Summer Research Symposium STU. Luis Cendan.

2015

1st place poster presentation. Cell Symposium STU

Peer-reviewed Publications

Madeira, Paul T., Jordan Facey, Paul D. Pratt, Dora P. **Maul** and Gregory Wheeler. 2016. Are three colonies of *Neostromboceros albicomus*, a candidate biological control agent for *Lygodium microphyllum*, the same host biotype? *Biocontrol Science and Technology* 3: 440-445.

Cendan, L. A., C. Vazquez and D. P. **Maul**. 2016. Contrasting Effects of Vermiculture-based Fertilizers on Growth of *Brassica oleracea* var. sabellica. *MOL2NET*, 2016, 2, <http://sciforum.net/conference/mol2net-02>.

Russo, D. C. Balisteri, A. Tapanes-Castillo¹, D.P. **Maul**, M. Pina. 2016. Analysis of Oyster Plant (*Tradescantia spathacea*) Extracts via Maceration, Soxhlet Extraction, Thin Layer Chromatography and Cytotoxicity Assays. *MOL2NET*, 2016, 2, <http://sciforum.net/conference/mol2net-02>.

The following manuscripts are in preparation:

Effect of vermicompost-based fertilizers on growth and rhizosphere microbiome in arugula (*Eruca sativa*)

Calera, J.; L. Cendan, C. Vazquez, R. Karns, J. Lopez, C. Easson and D.P. **Maul**. Microbiome analysis of arugula rhizospheres in plants fertilized with aqueous vermicompost solutions (ready for submission).

De Souza, L.; L. Cornelio, A. W. Meerow and D.P. **Maul**. In vitro tetraploid induction and generation of tetraploids from mixoploids in *Hippeastrum* using oryzalin. (Submitted to *HortScience*, Rejected March 2017. In revision).

Published before 2013:

Maul, P., McCollum, G., Guy, C.L., Porat, R. 2011. Temperature conditioning alters transcript abundance of genes related to chilling stress in 'Marsh' grapefruit flavedo. *Postharvest Biol. Technol.* 60:177-185

Maul, D.P., McCollum, G., Popp, M., Guy, C.L., Porat, R. 2008. Transcriptome profiling of grapefruit flavedo following exposure to low temperature and conditioning treatments uncovers principal molecular components involved in chilling tolerance and susceptibility. *Plant Cell Environ.* 31:752-768.

Maul, D.P., McKendree, W., Bausher, M., McCollum, T.G. 2007. Ethylene induces transcription of phosphoenolpyruvate carboxykinase in grapefruit flavedo. *J. Hortic. Sci. Biotechnol.* 82:61-68.

Maul, D.P., Bausher, M., McCollum, T.G., Mozoruk, J., Niedz, R. 2006. CsHPt1, a putative histidine-containing phosphotransmitter protein induced during early somatic

embryogenesis in Valencia sweet orange (*Citrus sinensis* L. Osbeck). Plant Science 170:44-53.

Sapitnitskaya, M., **Maul**, P., McCollum, G.T., Guy, C.L., Weiss, B., Samach, A., Porat, P. 2006. Postharvest heat and conditioning treatments activate different molecular responses and reduce chilling injuries in grapefruit. J Exptal. Bot 57:2943-2953.

McCollum, T.G. and **Maul**, D.P. 2006. 1-Methylcyclopropene inhibits degreening but stimulates respiration and ethylene biosynthesis in grapefruit. HortScience 41:1-6.

McCollum, T.G., **Maul**, D.P. 2004. Effects of ethylene and 1-MCP on gene expression in grapefruit flavedo. Proceedings of the International Society of Citriculture X Congress.

Presentations

“Developing a reliable assay for Cacao Swollen Shoot Virus using quantitative PCR” Pilar Maul, David N. Kuhn, Donald S. Livingstone III, Juan Carlos Motamayor and Raymond J. Schnell. Presented at the Plant and Animal Genome Meeting, San Diego, California, Jan 14-18,2012.

“Relationship between *Candidatus Liberibacter asiaticus* and Starch Accumulation in *Citrus sinensis*”. Rhiannon Pichel, Dora Pilar Maul and T. Greg McCollum. Florida Academy of Sciences Annual Meeting 2014.

Poster Presentations with STU students. Presented at various undergraduate symposia at St. Thomas University, FIU Agroecology Symposia and/or Barry University, at the Florida Academy of Sciences Annual Meetings and at the American Society for Microbiology. Poster titles are presented below:

2010

“*In vitro* propagation of *Lupinus aridorum* and *Crotalaria avonensis*, two federally protected Florida endangered species”. Lionel Fonkoua and Pilar Maul.

“Induction of Root Formation in Tissue Cultures of *Lupinus westianus* var. *aridorum*, a Federally Protected Florida Rare Plant”. Vanessa Sanchez, Emer Bajuelos, Pilar Maul, Cheryl Peterson

“Developing Plant Tissue Culture Techniques for Chromosome Doubling in *Hippeastrum*”. Marcela Jaramillo, Vanessa Sanchez, Pilar Maul, Alan Meerow

“Developing histological methods for the study of self-pollinating flowers”
Maya D. Williams and Pilar Maul

“Biological control of invasive weeds: *Gratiana graminea* and tropical apple soda”. Hyaptia Mata, Pilar Maul and Amy Roda.

“Detecting, capturing and reducing the presence of fruit flies in tropical crops”. Saskya Renault, Pilar Maul, and Nancy Epsky.

2011

“Developing a Sensitive Quantitative SYBR Green Reverse Transcriptase Polymerase Chain Reaction Assay for the Detection of Avocado Sunblotch Viroid (ASBVd)”. Marcela Jaramillo, Vanessa Sanchez, Pilar Maul, Cecile Tondo, David Kuhn and Raymond Schnell (Undergraduate thesis and Poster presentation).

“Micropropagation and the development of an *in vitro* method for long term storage of *Jusiticia coolley*”i. Rosalina Moreno, Carlos Vazquez, Cheryl L. Peterson and Pilar Maul

“*In vitro* callus induction in important cacao cultivars”

Claudia Arevalo, Natalia Pelaez, Raymond J. Schnell and Pilar Maul

“Developing *in-vitro* methods for organogenesis and somatic embryogenesis in *Hippeastrum*”. Luisa de Souza, Pilar Maul and Alan Meerow.

“Trapping Caribbean fruit flies with plant essential oils and fruit odors, a pilot study”.

Garrick Amedee, Micah Gill, Nancy D. Epsky and Pilar Maul

2012

“Phylogenetics of the *Zamia pumila* complex”. Melanio A. Bruceta, Dayana Salas, D. Pilar Maul and Alan W. Meerow.

“The invasive plant *Rhodomyrtus tomentosa* and its natural enemies: *Carea varipes* and *Neostauropus alternus*”. Karenyn Herdocia, Vanessa Valentin, D. Pilar Maul and Paul Pratt.

“Optimization of *Agrobacterium*-mediated Transformation Protocol for *Theobroma cacao L.*”. Claudia Arevalo, D. Pilar Maul, Marissa Kenzakoski, Sharon Pishak, Siela Maximova and Mark Gultinan.

“Exploring Anther Culture in *Theobroma cacao*”. Judy Stervil and D. Pilar Maul.

“Finding a Biocontrol Agent for the Cactus Mealybug” Claudia Galdames, Scott Weihman, D. Pilar Maul and Amy Roda.

“USDA, APHIS, Animal Care, Smithsonian National Zoo, Washington D.C., A Work Experience Internship” Karen Vergara and D. Pilar Maul.

“Keeping Exotic Pests out of the USA: a study of the behavior of Caribbean Fruit Flies(*Anastrepha suspensa*)”. Rogelio de la Rosa, D. Pilar Maul, Micah Gill and Nancy Epsky.

“C002 Gene Detection in two Hemipteran Species: Brown Citrus Aphid (*Toxoptera citricidus*) and Whitefly (*Bemisia argentifolii*)”. Siffredi Ramos, D. Pilar Maul and Wayne B. Hunter.

“Methodology Development for the Extraction of Anthocyanins in *Griffinia espiresentis*”

Carlos Alvarez, Chris Dunn, D.P. Maul, Stuart Reed and Alan W. Meerow.

“Summer Training at the USDA Food Safety Inspection Services: Providing the Consumer with Safe Meat, Poultry, and Egg Products Everyday”. Jeny Misdraji, D. Pilar Maul and Paul E. Loulis.

“Timber Management at the National Forests in Fairplay, Colorado: My experience as a forestry technician” Garrick Amedee, D. Pilar Maul, Chris Kuennen and Jim Fiorelli.

2013

“STU Organic Garden: Creating a Setting for Applied Field Studies”. Jeny Misdraji , Karen Vergara, Melanio Bruceta, Tomas Pendola, Siffredi Ramos, Carlos Vazquez, Vanessa Valentin , Karenyn Herdocia, Luisa de Souza, Jose Judy Stervil, Jordan Facey, Garrick Amedee , Anderson Mai , Alberto Varela and D. Pilar Maul.

“Polyploidy Induction in *Hippeastrum* using Oryzalin”. Luisa De Souza, J.J. Stervil, L. Cornelio, A. Meerow, and D. Pilar Maul.

“Somatic Embryogenesis in *Theobroma cacao* Floral Explants”. Claudia Arevalo, Jose Judy Stervil, David Kuhn, Osman Gutierrez and D. Pilar Maul.

“Effect of Precipitation and Temperature in the Population Distribution of *Anastrepha spp.* during FY2007-2013 in Puerto Rico, Vieques, Culebra, St. Thomas and St. Croix. Data collection and indexing”. G. Amedee, P. Maul, J. Otero, J. Rodriguez, C. Ruiz, J. Vazquez, M. Sossa.

“*Lilioceris* Species Determination for the Biological Control of *Dioscorea bulbifera*”. Anakrystine Vallin, D. Pilar Maul and Paul T. Madeira.

“RNA extraction and analysis of *Mangifera indica* cultivars for a SNP database”. Karenyn Herdocia, Jordan Facey, Pilar Maul, Barbara Freeman, David Kuhn

“Career training at the USDA-APHIS, Plant Protection and Quarantine (PPQ): Insect mounting and professional scientific photography”. Vanessa Valentin, William Tang, and D. Pilar Maul

“Environmentally Sustainable Practices for Urban Gardening”. Melanio A. Bruceta, Carlos Vazquez, and D. Pilar Maul.

“Irrigation Regime Comparison for Summer Harvest of *Allium wakegi* using a drip irrigation system”. Carlos E. Vazquez, Jeny Misdraji, Siffredi Ramos and Pilar Maul.

“*Caring for Giants: A Work Experience at Zoo Miami*”. Karen Vergara and Dr. P. Maul.

“Designing, Building and Testing A Solar Food Dehydrator”. Siffredi Ramos, Karen Vergara, D. Pilar Maul, and Alberto Varela

2014

“Relationship between *Candidatus Liberibacter asiaticus* and Starch Accumulation in *Citrus sinensis*”. Rhiannon Pichel, Dora Pilar Maul and T. Greg McCollum.

“Towards the Molecular Characterization of Native Potato Germplasm Screened for Frost Resistance”. Karenyn Herdocia, Laynet Cornelio, Carlos Merino Mendez, Diana Martinez, Emi Murata, Luz Noemi Zuñiga, Dora Pilar Maul .

“Molecular Phylogenetics Analysis in *Neostromboceros albicomus* (Tenthredinidae), a Candidate Biological Control Agent for *Lygodium microphyllum*”. Jordan Facey, Dora Pilar Maul, and Paul T. Madeira.

“RNA Extraction and Phenotypic Data Collection of *Mangifera indica* Cultivars for SNP Discovery and Gene Expression”. Jose Judy Stervil, Barbara Hyacinthe, Dora Pilar Maul, Barbara Freeman, and David Kuhn.

“The Effect of Solar Radiation on Chlorophyll Content in Leaves of *Abelmoschus esculentus*”. Karen Vergara, Jose Calera, Carley Distasio, Haydee Torres, Francisco Oliva, Carlos Vazquez, Alberto Varela, and Dora Pilar Maul.

“Establishing a Baseline for Determining the Effects of Soil Mixture and Planter Type on the Growth of *Pinus elliottii* var. *densa*”. Jose Calera, Carlos Vazquez, and Dora Pilar Maul

“Designing and Building an Aquaponics Unit at STU”. Jeny Galeas, Jose Calera, Carlos Vazquez and Pilar Maul.

“Molecular Biology and Bioinformatics Training in *Zamia* at the USDA-ARS-SHRS”. Karenyn Herdocia, Dora Pilar Maul, Kyoko Nakamura, Alan W. Meerow.

“Vermicomposting Module Construction and Testing Using Cornmeal as a Dietary Supplement for *Eisenia fetida*”. Jose Calera, Carlos Vazquez, and Dora Pilar Maul

“Modification and Testing of a Summer Solar Food Dehydrator”. Karen Vergara, Jose Calera, Carlos Vazquez, Dora Pilar Maul, and Alberto Varela.

2015

In vitro citrus micropropagation as a potential system for the study of Huanglongbing disease (HLB) Jose Calera¹, Dora Pilar Maul¹ and Greg McCollum²

Thin Layer Chromatography and Spectrophotometry: Chlorophyll Analysis in Okra (*Abelmoschus esculentus*) and Everglades Tomato (*Solanum pimpinellifolium*) Plants Grown in Different Light Conditions. Anne Noel, Katerine Cortes, Ariana Ablan, Franklin Rodriguez, Jean Pierre Harland¹, Swan Pierre¹, Luis Cendan, Carlos Vazquez, Dora Pilar Maul and Maria Pina

Baseline Comparison of Home-Made Methanol-Ethanol Solution for Mass Trapping of *Hypothenemus hampei*. Laynet Cornelio¹, Indira Perez¹, Tony St. Hubert³, Emmanuel Buteau², Carlos Vazquez¹, Anthony P. Vinciguerra², and Dora Pilar Maul¹

Effects of Soil Mixture and Planter Type on *Pinus Elliotti Var. Densa* Plantlets. Vanessa Jean Francois, Jose Calera, Carlos Vazquez, and Dora Pilar Maul.

Contrasting Effects of Vermiculture-based Fertilizers on Development of *Eruca sativa*. Luis Alfredo Cendan, Vanessa Jean Francois, and Dora Pilar Maul

Differential gene expression in drought-tolerant and drought-susceptible Andean native potato varieties from Peru. Laynet Cornelio, Indira Perez, Carlos Vazquez¹, Diana Martinez, Olga Patricia Ponce, Emi Murata, Luz Noemi Zuñiga³, Carlos Merino Mendez and Dora Pilar Maul.

2016

Comparing the Differential Expression of Selected Genes in Native Peruvian Potatoes in Response to Early and Late Drought Conditions. Laynet Cornelio¹, Indira Perez¹, Carlos Vazquez¹, Diana Martinez², Olga Patricia Ponce², Emi Murata², Yerisf Torres², Luz Noemi Zuñiga³ Gisella Orjeda², Dora Pilar Maul¹ and Carlos Merino².

Comparing Primer Sets in Polymerase Chain Reaction Analysis of *Candidatus Liberibacter asiaticus*. Oriana Chacin and Dora Pilar Maul.

Bacterial Communities in Arugula Rhizospheres Associated with Vermicompost-based Fertilizers. Putri Prawita and Dora Pilar Maul². ¹Miami Dade College North Campus, Miami, FL, ²St. Thomas University, Miami Gardens, FL

Confirming Huanglongbing in Miami Dade County. Daniel G. Diaz¹ and Dora Pilar Maul². ¹Miami Dade College North Campus, Miami, FL, ²St. Thomas University, Miami Gardens, FL

Bacterial Communities Associated with Rhizospheres of Four Organically-Grown Plant Species. Andrea Gonzalez and Dora Pilar Maul

Contrasting Effects of Aqueous Vermicompost Extract Mixtures on Growth of *Brassica oleracea* var. *sabellica*. Luis Alfredo Cendan, Carlos Vazquez and Dora Pilar Maul

A Comparison of Liquid Organic Fertilizers in the growth of Okinawan Spinach (*Gynura bicolor*), an Asian Medicinal Plant. Luis Alfredo Cendan, Tiffany Brown, Carlos Vazquez and Dora Pilar Maul.

Microbiome analysis of arugula rhizospheres in plants fertilized with aqueous vermicompost solutions. Jose Calera¹, Luis Cendan¹, Carlos Vazquez¹, Rachael Karns², D. Pilar Maul¹, Cole Eason², Jose Lopez².

2017

Comparing *Dioscorea bulbifera* (Air Potato) Leaves vs. Bulbils as Ovipositional Substrates for Biotypes (China and Nepal) of the Asian Beetle *Liloceris egena*. Tiffani Wilson, F. Allen Dray Jr., and Dora Pilar Maul.

Differential Expression of Native Potatoes Genes in Response to Drought Conditions. Yanexis Zarut, Laynet Cornelio, Diana Martinez, Olga Patricia Ponce, Dora Pilar Maul

Primer Design for Detection of Antioxidant Genes Ascorbate Peroxidase and Catalase in *Spinacea oleracea*, *Camellia sinensis*, and *Daucus carota*. Grecia Cotto-Gonzalez and Dora P. Maul

Analysis of Microbial Communities Reflect Diel Vertical Migration in the Gulf of Mexico
Claudia A. Gorbea¹, Amanda Lobato¹, Reinaldo Sanchez-Arias¹, Pilar Maul¹, Kevin Boswell², Cole Eason³, Jose V. Lopez³

Dehydration conditions affect gene expression of cytosolic ascorbate peroxidase in spinach (*Spinacia oleracea*)
Valeria Nazaire and Dora Pilar Maul.

Gene Expression of Chloroplastic Antioxidant Ascorbate Peroxidases during Dehydration Conditions in Spinach Leaves. Cristina Pappaterra and Dora Pilar Maul.

¹Miami Dade College, North Campus, Miami, FL. / ²St. Thomas University, Miami Gardens, FL.

Using Molecular Gut-Content Analysis to Identify Predator Feeding on a Classical Biological Control Agent, *Neomusotima conspurcatalis*. Susana Gutierrez, Paul T. Madeira, Ian M. Jones, J. Zizah Blair, Dora Pilar Maul

2018

Allelopathy in *Casuarina equisetifolia* and *Pinus elliottii*. Amanda P. Concepcion, Luis Alfredo Cendan, Dora Pilar Maul.

Biological Control of *Dioscorea bulbifera*. Amanda G. Lobato¹, F. Allen Dray, Jr.², D. Pilar Maul¹, J. Zizah Blair², Paul T. Madeira²

Using MAS to increase yield of the *Theobroma cacao* tree in Indonesia. Yanexis Zarut¹, Claudia Gorbea¹, Ana Ibarra², Don Livingstone², Dora Pilar Maul¹.

Do Earthworm Diets Affect Nutrient Content in Vermicompost-based Fertilizers? Amanda Pineda, Luis Alfredo Cendan, Dora Pilar Maul

Adventitious Root Formation for Propagation of Two Medicinal Plants with 1-Naphthaleneacetic Acid (NAA). Stephanie Rosario and D. Pilar Maul

DNA Fingerprinting Using Restriction Enzyme Analysis of Chloroplastic Regions in Plants. Amanda Lobato¹, Yanexis Zarut¹, D. Pilar Maul¹

DNA Fingerprinting for the Identification of Medicinal Plants. Luz Ruiz and D. Pilar Maul