

UF/IFAS 2012

High Impact RESEARCH PUBLICATIONS



Potnis, N., K. Krasileva, V. Chow, N. F. Almeida, P. B. Patil, R. P. Ryan, M. Sharlach, F. Behlau, J. M. Dow, MT. Momol, F. F. White, J. F. Preston, B. A. Vinatzer, R. Koebnik, J. C. Setubal, D. J. Norman, B. J. Staskawicz and J. B. Jones. 2011. Comparative Genomics Reveals Diversity Among Xanthomonads Infecting Tomato and Pepper. *BioMed Central Genomics*. 12:146.

Quesenberry, K. H., J. M. Dampier, Y. Y. Lee, R. L. Smith and C. A. Acuña. 2010. Doubling the Chromosome Number of Bahiagrass via Tissue Culture. *Euphytica*. 175:43-50.

Ryu, M-S., B. Langkamp-Henken, S-M.Chang, M. N. Shankar and R. J. Cousins. 2011. Genomic Analysis, Cytokine Expression, and MicroRNA Profiling Reveal Biomarkers of Human Dietary Zinc Depletion and Homeostasis. *Proceedings of the National Academy of Sciences*. 108:20969-20974.

Silveira, M. L., A. K. Obour, J. M. Vendramini and L. E. Sollenberger. 2011. Using Tissue Analysis as a Tool to Predict Bahiagrass Phosphorus Fertilization Requirement. *Journal of Plant Nutrition*. 34:14,2193-2205.

Srivastava P., D. J. Mailhot, B. Leite, J. J. Marois, D. L. Wright and R. L. Nichols. 2010. *Fusarium verticillioides* (Saccardo) Nirenberg Associated with Hardlock of Cotton. *Current Microbiology*. DOI 10.007/s00284-009-9578-5

Tabachnick, W. J. 2010. Challenges in Predicting Climate and Environmental Effect on Vector-borne Disease Epistemics in a Changing World. *The Journal of Experimental Biology*. 213:946-954.

Tripet, F., L. P. Lounibos, D. Robbins, J. Moran, N. Nishimura and E. M. Blosser. 2011. Competitive Reduction by Satyrization? Evidence for Interspecific Mating in Nature and Asymmetric Reproductive Competition between Invasive Mosquito Vectors. *The American Journal of Tropical Medicine and Hygiene*. 85(2):265-270.

Vogel, J. G., L. J. Suau, T. A. Martin and E. J. Jokela. 2011. Long-term Effects of Weed Control and Fertilization on the Carbon and Nitrogen Pools of a Slash and Loblolly Pine Forest in North-central Florida. *Canadian Journal of Forest Research*. 41:552-567.

Wu, J., J. Lu, C. Wilson, Y. Lin and H. Lu. 2010. Effective Liquid-liquid Extraction Method for Analysis of Pyrethroid and Phenylpyrazole Pesticides in Emulsion-prone Surface Water Samples. *Journal of Chromatography A*. 1217:6327-6333.

Yao, Y., B. Gao, M. Inyang, A. R. Zimmerman, X. Cao, P. Pullammanappallil, L. Yang. 2011. Biochar Derived from Anaerobically Digested Sugar Beet Tailings: Characterization and Phosphate Removal Potential. *Bioresource Technology*. 102:6273-6278.

Ye, R., A. L. Wright, W. H. Orem and J. M. McCray. 2010. Sulfur Distribution and Transformations in Everglades Agricultural Area Soil as Influenced by Sulfur Amendment. *Soil Science*. 175(6):263-269.

Zhang, Y., J. E. Luc and W. T. Crow. 2010. Evaluation of Amino Acids as Turfgrass Nematicides. *Journal of Nematology*. 42(4):292-297.

Zhang, Z., D. J. Huber and J. Rao. 2011. Ripening Delay of Mid-climatic Avocado Fruit in Response to Elevated Doses of 1-Methylcyclopropene and Hypoxia-mediated Reduction in Internal Ethylene Concentration. *Postharvest Biology and Technology*. 60:83-91.

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IFAS scientists are truly changing the world through the impacts of their research. New knowledge generated by IFAS researchers is evaluated and validated by the scientific community and shared through our research publications.

The impacts of our research are broad and manifested in many different ways, including impacts on

- science, by extending the frontiers of fundamental scientific understanding;
- agricultural production, by improving agricultural practices and creating new agricultural varieties and technologies;
- human welfare, by improving human health;
- the environment, by providing the key for environmentally sustainable practices; and
- the economy, by spawning new products, technologies, businesses, and jobs.

Below are 45 of the recent UF/IFAS publications that are recognized as having especially important impacts. The 8 publications printed in **blue** below were selected for special recognition at the 2012 UF/IFAS Research Awards Ceremony.

Alagely A., C. J. Krediet, K. B. Ritchie and M. Teplitski. 2011. Signaling-mediated Cross-talk Modulates Swarming and Biofilm Formation in a Coral Pathogen *Serratia marcescens*. *The ISME Journal*. doi: 10.1038/ismej.2011.45:1-12.

Allen Jr., L. H., V. G. Kakani, J. C. V. Vu and K. J. Boote. 2011. Elevated CO₂ Increases Water Use Efficiency by Sustaining Photosynthesis of Water-Limited Maize and Sorghum. *Journal of Plant Physiology*. 168:1909-1918.

Basu, N. B., G. Destouni, J. W. Jawitz, S. E. Thompson, N. V. Loukinova, A. Daracq, S. Zanardo, M. Yaeger, M. Sivapalan, A. Rinaldo and P. S. C. Rao. 2010. Nutrient Loads Exported from Managed Catchments Reveal Emergent Biogeochemical Stationarity. *Geophysical Research Letters*. 37(L23404):1-5.

Bohn, K. K., P. J. Minogue and E. C. Pieterse. 2011. Control of Invasive Japanese Climbing Fern (*Lygodium japonicum*) and Response of Native Ground Cover During Restoration of a Disturbed Longleaf Pine Ecosystem. *Ecological Restoration*. 29(4):346-356.

Brown, C. T., A. G. Davis-Richardson, A. Giongo, K. A. Gano, D. B. Crabb, N. Mukherjee, G. Casella, J. C. Drew, J. Ilonen, M. Knip, H. Hyöty, R. Veijola, T. Simell, O. Simell, J. Neu, C. H. Wasserfall, D. Schatz, M. A. Atkinson and E. W. Triplett. 2011. Gut Microbiome Metagenomics Analysis Suggests a Functional Model for the Development of Autoimmunity for Type 1 Diabetes. *PLoS ONE*. 6(10):e25792. doi:10.1371/journal.pone.0025792

Carey, R. O., K. W. Migliaccio, Y. Li, B. Schaffer, G. A. Kiker and M. T. Brown. 2011. Land Use Disturbance Indicators and Water Quality Variability in the Biscayne Bay Watershed, Florida. *Ecological Indicators*. 11:1093-1104.

Chaskopoulou, A., M. D. Latham, R. M. Pereira, R. Connelly, J. A. S. Bonds and P. G. Koehler. 2011. Efficacy of Aerial Ultra-Low Volume Applications of Two Novel Water-Based Formulations of Unsynergized Pyrethroids Against Riceland Mosquitos In Greece. *Journal of the American Mosquito Control Association*. 27(4):414-422.

Daroub, S. H., S. Van Horn, T. A. Lang and O. A. Diaz. 2011. Best Management Practices and Long-Term Water Quality Trends in the Everglades Agricultural Area. *Critical Reviews in Environmental Science and Technology*. 41:6,608-632.

Deng, Z. and B. K. Harbaugh. 2010. UFGE 4141, UFGE 7014, UFGE 7015, UFGE 7023, UFGE 7032, and UFGE 7034: Six New Gerbera Cultivars for Marketing Flowering Plants in Large Containers. *HortScience*. 45(6):971-974.

Dhekney, S. A., Z. T. Li and D. J. Gray. 2011. Grapevines Engineered to Express Cisgenic *Vitis vinifera* Thaumatin-like Protein Exhibit Fungal Disease Resistance. *In Vitro Cellular & Developmental Biology - Plant*. 47:458-466.

El Yacoubi, B., I. Hatin, C. Deutsch, T. Kahveci, J-P. Rousset, D. Iwata-Reuyl, A. G. Murzin and V. de Crécy-Lagard. 2011. A Role for the Universal Kae1/Qri7/YgjD (COG0533) Family in tRNA Modification. *The EMBO Journal*. 30:882-893.

Fan, X., B. Gu, E. A. Hanlon, Y. Li, K. W. Migliaccio and T. W. Dreschel. 2011. Investigation of Long-term Trends in Selected Physical and Chemical Parameters of Inflows to Everglades National Park, 1977-2005. *Environmental Monitoring and Assessment*. 178:525-536.

Fletcher, Jr., R. J., M. A. Acevedo, B. E. Reichert, K. E. Pias and W. M. Kitchens. 2011. Social Network Models Predict Movement and Connectivity in Ecological Landscapes. *Proceedings of the National Academy of Sciences*. 108:19282-19287.

Fouquet, R., F. Martin, D. S. Fajardo, C. M. Gault, E. Gómez, C-W. Tseung, T. Policht, G. Hueros and A. M. Settles. 2011. Maize *Rough Endosperm3* Encodes an RNA Splicing Factor Required for Endosperm Cell Differentiation and has a Nonautonomous Effect on Embryo Development. *The Plant Cell*. 23:4280-4297.

Gao, Z., L. O. House, F. G. Gmitter, Jr., M. F. Valim, A. Plotto and E. A. Baldwin. 2011. Consumer Preferences for Fresh Citrus: Impacts of Demographic and Behavioral Characteristics. *International Food and Agribusiness Management Review*. 14(1):23-40.

Gonzalez-Benecke, C. A., T. A. Martin, A. Clark III and G. F. Peter. 2010. Water Availability and Genetic Effects on Wood Properties of Loblolly Pine (*Pinus taeda*). *Canadian Journal of Forest Research*. 40:2265-2277.

Hendricks, G. S. and S. Shukla. 2011. Water and Nitrogen Management Effects on Water and Nitrogen Fluxes in Florida Flatwoods. *Journal of Environmental Quality*. 40:1844-1856.

House, L. O., Z. Gao, T. H. Spreen, F. G. Gmitter, Jr., M. F. Valim, A. Plotto and E. A. Baldwin. 2011. Consumer Preference for Mandarins: Implications of a Sensory Analysis *Agribusiness. An International Journal*. 27:450-464.

Hughes, C., Y. Davoodi-Semiromi, J. C. Colee, T. Culpepper, W. J. Dahl, V. Mai, M. C. Christman and B. Langkamp-Henken. 2011. Galactooligosaccharide Supplementation Reduces Stress-induced Gastrointestinal Dysfunction and Days of Cold or Flu: A Randomized, Double-blind, Controlled Trial in Healthy University Students. *The American Journal of Clinical Nutrition*. 93:1305-1311.

Humbard, M. A., H. V. Miranda, J-M. Lim, D. J. Krause, J. R. Pritz, G. Zhou, S. Chen, L. Wells and J. A. Maupin-Furlow. 2010. Ubiquitin-like Small Archaeal Modifier Proteins (SAMPs) in *Haloferax volcanii*. *Nature*. 463:54-62.

Lamm, A. J., E. B. Rhoades, T. A. Irani, T. G. Roberts, L. J. Unruh Snyder and J. Brendemuhl. 2011. Utilizing Natural Cognitive Tendencies to Enhance Agricultural Education Programs. *Journal of Agricultural Education*. 52(2):12-23.

Lewis, D. S., J. P. Cuda and B. R. Stevens. 2011. A Novel Biorational Pesticide: Efficacy of Methionine Against *Heraclides (Papilio) cresphontes*, a Surrogate of the Invasive *Princeps (Papilio) demoleus* (Lepidoptera: Papilionidae). *Journal of Economic Entomology*. 104(6):1986-1990.

Liang, Z., Z. He, C. A. Powell and P. J. Stoffella. 2011. Survival of *Escherichia coli* in Soil with Modified Microbial Community Composition. *Soil Biology & Biochemistry*. 43:1591-1599.

McGroary, P. C., J. L. Cisar, G. H. Snyder, J. E. Erickson, S. H. Daroub and J. B. Sartin. 2011. Water Use of St. Augustinegrass and Bahiagrass under Varying Nitrogen Rates. *Agronomy Journal*. 103(1):100-106.

McLamore, E. S. and D. M. Porterfield. 2011. Non-invasive Tools for Measuring Metabolism and Biophysical Analyte Transport: Self-referencing Physiological Sensing. *Chemical Society Reviews*. 40:5308-5320.

Million, J. B., J. T. Ritchie, T. H. Yeager, C. A. Larsen, C. D. Warner and J. P. Albano. 2011. CCR0P – Simulation Model for Container-grown Nursery Plant Production. *Scientia Horticulturae*. 130:874-886.

Monaghan, P. F., L. S. Forst, J. A. Tovar-Aguilar, C. A. Bryant, G. D. Israel, S. Galindo-Gonzalez, Z. Thompson, Y. Zhu and R. J. McDermott. 2011. Preventing Eye Injuries Among Citrus Harvesters: The Community Health Worker Model. *American Journal of Public Health*. 101(12):2269-2274.

Moore, K. A., S. Greenhut and W. Vendrame. 2011. Greenhouse Production of *Jatropha*, a Potential Biofuel Crop *HortTechnology*. 21(2):193-197.

Obour, A. K., M. L. Silveira, J. M. B. Vendramini, J. Jawitz, G. A. O'Connor and L. E. Sollenberger. 2011. A Phosphorus Budget for Bahiagrass Pastures Growing on a Typical Florida Spodosol. *Agronomy Journal*. 103:611-616.

Ozgul, A., D. Z. Childs, M. K. Oli, K. B. Armitage, D. T. Blumstein, L. E. Olson, S. Tuljapurkar and T. Coulson. 2010. Coupled Dynamics of Body Mass and Population Growth in Response to Environmental Change. *Nature*. 466:482-485.

Ploetz, R. C., J. M. Pérez-Martínez, J. A. Smith, M. Hughes, T. J. Dreaden, S. A. Inch and Y. Fu. 2011. Responses of Avocado to Laurel Wilt, Caused by *Raffaelea lauricola*. *Plant Pathology*. Doi: 10.1111/j.1365-3059.2011.02564.x

Porazinska, D. L., R. M. Giblin-Davis, A. Esquivel, T. O. Powers, W. Sung and W. K. Thomas. 2010. Ecometagenetics Confirms High Tropical Rainforest Nematode Diversity. *Molecular Ecology*. 19:5521-5530.