

2013 UF/IFAS High Impact RESEARCH PUBLICATIONS

Schmidt, J. A., R. McCleery, J. R. Seavey, S. E. Cameron Devitt and P. M. Schmidt. 2012. Impacts of a Half Century of Sea-Level Rise and Development on an Endangered Mammal. *Global Change Biology*. 18:3536-3542.

Tieman, D., P. Bliss, L. M. McIntyre, A. Blandon-Ubeda, D. Bies, A. Z. Odabasi, G. R. Rodriguez, E. van der Knaap, M. G. Taylor, C. Goulet, M. H. Mageroy, D. J. Snyder, T. Colquhoun, H. Moskowitz, D. G. Clark, C. A. Sims, L. Bartoshuk and H. J. Klee. 2012. The Chemical Interactions Underlying Tomato Flavor Preferences. *Current Biology*. 22(11):1035-9.

Trenholm, L. E., J. B. Unruh and J. B. Sartain. 2012. Nitrate Leaching and Turf Quality in Established 'Floritam' St. Augustinegrass and 'Empire' Zoysiagrass. *Journal of Environmental Quality*. 41: 793-799.

Wang, C-Y., S. Jenkitkasemwong, S. Duarte, B. K. Sparkman, A. Shawki and B. Mackenzie. 2012. ZIP8 is an Iron and Zinc Transporter Whose Cell-Surface Expression is Upregulated by Cellular Iron Loading. *The Journal of Biological Chemistry*. 287(41):34032-34043.

Yao, Y., B. Gao, H. Chen, L. Jiang, M. Inyang, A. R. Zimmerman, X. Cao, L. Yang, Y. Xue and H. Li. 2012. Adsorption of Sulfamethoxazole on Biochar and its Impact on Reclaimed Water Irrigation. *Journal of Hazardous Materials*. 209-210;408-413. DOI: 10.1016/j.jhazmat.2012.01.046.

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An Equal Opportunity Institution. Florida Agricultural Experiment Station, Institute of Food and Agricultural Sciences, University of Florida, Dr. John Hayes, Dean for Research, publishes this information to further programs and related activities. Information about alternate formats is available from IFAS Communications, University of Florida, PO Box 110810, Gainesville, FL 32611-0810.



2013 UF/IFAS HIGH IMPACT RESEARCH PUBLICATIONS

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 in our research publications.

The significance of our research is 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 practice; and
- the economy by spawning new products, technologies, businesses, and jobs.

Below are 40 of the recent UF/IFAS publications that are recognized as having especially important impacts. The eight publications printed in **blue** were selected for special recognition at the 2013 UF/IFAS Research Awards Ceremony.

Adams, D. C., A. N. Bwenge, D. J. Lee, S. L. Larkin and J. R. R. Alavalapati. 2011. Public Preferences for Controlling Upland Invasive Plants in State Parks: Application of a Choice Model. *Forest Policy and Economics*. 13(6):465-472.

Alto, B. W., J. Malicoate, S. M. Elliott and J. Taylor. 2012. Demographic Consequences of Predators on Prey: Trait and Density Mediated Effects on Mosquito Larvae in Containers. *PLOS ONE*. 7: e45785. doi:10.1371/journal.pone.0045785

Bachmann, R. W., D. L. Biggam, M. V. Hoyer and D. E. Canfield, Jr. 2012. Factors Determining the Distributions of Total Phosphorus, Total Nitrogen, and Chlorophyll *a* in Florida Lakes. *Lakes and Reservoir Management*. 28:10-26.

Barrick, R. K., M. M. Samy, T. G. Roberts, A. C. Thoron and R. G. Easterly. 2011. Assessment of Egyptian Agricultural Technical School Instructors' Ability to Implement Experiential Learning Activities. *Journal of Agricultural Education*. 52(3):6-15.

Chakraborty, D., V. D. Nair., W. G. Harris and R. D. Rhue. 2012. Environmentally Relevant Phosphorus Retention Capacity of Sandy Coastal Plain Soils. *Soil Science*. 177:701-707.

Chang, J-H, Y. Xiao, H. Hu, J. Jin, J. Yu, X. Zhou, X. Wu, H. M. Johnson, S. Akira, M. Pasparakis, X. Cheng and S-C. Sun. 2012. Ubc13 Maintains the Suppressive Function of Regulatory T Cells and Prevents their Conversion into Effector-Like T Cells. *Nature Immunology*. 13:481-490.

Chaudhari, S., B. A. Sellers, S. V. Rockwood, J. A. Ferrell, G. E. MacDonald and K. E. Kenworthy. 2012. Nonchemical Methods for Paragrass (*Urochloa mutica*) Control. *Invasive Plant Science and Management*. 5(1):20-26.

Chen, C., P. Cancalon, C. Haun and F. Gmitter, Jr. 2011. Characterization of Furanocoumarin Profile and Inheritance Toward Selection of Low Furanocoumarin Seedless Grapefruit Cultivars. *Journal of the American Society for Horticultural Science*. 36(5):358-363.

Chu-Agor, M.L., R. Muñoz-Carpena, G. Kiker, A. Emanuelsson and I. Linkov. 2011. Exploring Vulnerability of Coastal Habitats to Sea Level Rise Through Global Sensitivity and Uncertainty Analyses. *Environmental Modelling & Software*. 26(5):593-604. doi:10.1016/j.envsoft.2010.12.003.

Dorcas, M. E., J. D. Wilson, R. N. Reed, R. W. Snow, M. R. Rochford, M. A. Miller, W. E. Meshaka, P. T. Andreadis, F. J. Mazzotti, C. M. Romagosa, and K. M. Hart. 2012. Severe Mammal Declines Coincide with Proliferation of Invasive Burmese Pythons in Everglades National Park. *Proceedings of the National Academy of Sciences of the United States of America*. 109:2418-22.

Erickson, J. E., A. Soikaew, L. E. Sollenberger and J. M. Bennett. 2012. Water Use and Water-Use Efficiency of Three Perennial Bioenergy Grass Crops in Florida. *Agriculture*. 2(4):325-338.

Fan, Y. H., D. Borovsky, C. Hawkings, A. Ortiz-Urquiza and N. O. Keyhani. 2012. Exploiting Host Molecules to Augment Mycoinsecticide Virulence. *Nature Biotechnology*. 30:35-37.

Flory, S. L., K.A. Lorentz, D. R. Gordon and L. E. Sollenberger. 2012. Experimental Approaches for Evaluating the Invasion Risk of Biofuel Crops. *Environmental Research Letters*. 7 045904 doi:10.1088/1748-9326/7/4/045904.

Galdiano Jr., R. F., E. G. M. Lemos, R. T. Faria and W. A. Vendrame. 2012. Cryopreservation of Dendrobium Hybrid Seeds and Protocorms as Affected by Phloroglucinol and Supercool X1000. *Scientia Horticulturae*. 148:154-160.

Gillen, M. and D. N. Loeffler. 2012. Financial Literacy and Social Work Students: Knowledge *is* Power. *Journal of Financial Therapy*. 3(2):28-38.

Goyal, G., G. S. Nuessly, D. R. Seal, G. J. Steck, J. L. Capinera and K. J. Boote. 2012. Alternative Plants for Development of Picture-Winged Fly Pests of Maize. *Entomologia Experimentalis et Applicata*. 143:177-184.

Hannah, L. C., B. Futch, J. Bing, J. R. Shaw, S. Boehlein, J. D. Stewart, R. Beiriger, N. Georgelis and T. Greene. 2012. A *shrunkn-2* Transgene Increases Maize Yield by Acting in Maternal Tissues to Increase the Frequency of Seed Development. *The Plant Cell*. 24(6):2352-63.

Hekkala, E., M. H. Shirley, G. Amato, J. D. Austin, S. Charter, J. Thorbjarnarson, K. E. Vliet, M. L. Houck, R. DeSalle and M. J. Blum. 2011. An Ancient Icon Reveals New Mysteries: Mummy DNA Resurrects a Cryptic Species Within the Nile Crocodile. *Molecular Ecology*. 20: 4199-4215. doi: 10.1111/j.1365-294X.2011.05245.x.

Inglett, K. S., P. W. Inglett, K. R. Reddy and T. Z. Osborne. 2012. Temperature Sensitivity of Greenhouse Gas Production in Wetland Soils of Different Vegetation. *Biochemistry*. 108:77-90.

Israel, G. D., B. E. Myers, A. J. Lamm and S. Galindo-Gonzales. 2012. CTE Students and Science Achievement: Does Type of Coursework and Occupational Cluster Matter? *Career and Technical Education Research*. 37(1):3-20.

Kessler, D., C. Diezel, D. G. Clark, T. A. Colquhoun and I. T. Baldwin. 2012. Petunia Flowers Solve the Defence/Apparency Dilemma of Pollinator Attraction by Deploying Complex Floral Blends. *Ecology Letters*. 16: 299-306. doi: 10.1111/ele. 12038.

Kim, H., L. A. House, G. Rampersaud and Z. Gao. 2012. Front-of-Package Nutrition Labels and Consumer Beverage Perceptions. *Applied Economics Perspectives and Policy*. 34:599-614.

Köhler, T., C. Dietrich, R. H. Scheffrahn and A. Brune. 2012. High-Resolution Analysis of Gut Environment and Bacterial Microbiota Reveals Functional Compartmentation of the Gut in Wood-Feeding Higher Termites (*Nasutitermes* spp.). *Applied and Environmental Microbiology*. 78(13):4691-4701.

Li, Z. T., K-H. Kim, J. R. Jasinski, M. R. Creech and D. J. Gray. 2012. Large-Scale Characterization of Promoters from Grapevine (*Vitis* spp.) Using Quantitative Anthocyanin and GUS Assay Systems. *Plant Science*. 196: 132-142.

Liang, Z., Z. He, X. Zhou, C. A. Powell, Y. Yang, M. G. Roberts and P. J. Stoffella. 2012. High Diversity and Differential Persistence of Fecal Bacteroidales Population Spiked in Freshwater Microcosm. *Water Research*. 46: 247-257.

Lu, J., J. Wu, P. J. Stoffella and P.C. Wilson. 2012. Isotope Dilution-Gas Chromatography/Mass Spectrometry for the Analysis of Environmental Estrogens in Food Crops. *Journal of Chromatography A*. 1258:128-135.

MacKenzie, S. J. and N.A. Peres. 2012. Use of Leaf Wetness and Temperature to Time Fungicide Applications to Control Anthracnose Fruit Rot of Strawberry in Florida. *Plant Disease*. 96:522-528.

Mann, R. S., J. G. Ali, S. L. Hermann, S. Tiwari, K. S. Pelz-Stelinski, H. T. Alborn and L. L. Stelinski. 2012. Induced Release of a Plant-Defense Volatile 'Deceptively' Attracts Insect Vectors to Plants Infected with a Bacterial Pathogen. *PLoS Pathogens*. 8(3) e1002610.

McCray, J. M., R. W. Rice, Y. Luo and S. Ji. 2012. Phosphorus Fertilizer Calibration for Sugarcane on Everglades Histosols. *Communications in Soil Science and Plant Analysis*. 43:2691-2707.

McGrath, B., M. A. Brennan, P. Dolan and R. V. Barnett. 2012. Adolescents and Their Networks of Social Support: Real Connections in Real Lives? *Child & Family Social Work*. DOI: 10.1111/j.1365-2206.2012.00899.x

Mersha, Z., S. Zhang and R. N. Raid. 2012. Evaluation of Systemic Acquired Resistance Inducers for Control of Downy Mildew on Basil. *Crop Protection*. 40:83-90.

Minogue, P. J., M. Miwa, D. L. Rockwood and C. L. Mackowiak. 2012. Removal of Nitrogen and Phosphorus by Eucalyptus and Populus at a Tertiary Treated Municipal Wastewater Sprayfield. *International Journal of Phytoremediation*. 14(10):1010-1023.

Padmanabha H., F. Correa, M. Legros, H. F. Nijhout, C. Lord and L. P. Lounibos. 2012. An Eco-Physiological Model of the Impact of Temperature on *Aedes aegypti* Life History Traits. *Journal of Insect Physiology*. 58:1597-1608.

Pannu, M.W., G. S. Toor, G. A. O'Connor and P. C. Wilson. 2012. Toxicity and Bioaccumulation of Biosolids-Borne Triclosan in Food Crops. *Environmental Toxicology and Chemistry*. 31:2130-2137.

Rodgers, J. C., S. L. Bird, J. E. Larson, N. DiLorenzo, C. R. Dahlen, A. Dicostanzo and G. C. Lamb. 2012. An Economic Evaluation of Estrous Synchronization and Timed Artificial Insemination in Suckled Beef Cows. *Journal of Animal Science*. 90:4055-4062.