Curriculum Vitae

Kelly T. Morgan
Assistant Professor, Soil and Water Science
Southwest Florida Research and Education Center
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Education:

PhD Major: Soil & Water Science — University of Florida — 2004
Soil fertility and nutrient uptake
Minor: Agricultural and Biological Engineering
Crop modeling and precision agriculture
Grade Point Average: 3.82
Dissertation: Nitrogen and Biomass Distribution, and Nitrogen and Water Uptake Parameters for Citrus

MS Plant Pathology — University of Florida — 1982
Soil-borne plant pathogens and saprophytic fungi
Grade Point Average: 3.34
Thesis: The Effect of Plant Species, Saprophytic Fungi, and Nitrogen Source on Fusarium oxysporum f. sp. Citri.

BS Plant Pathology — University of Florida — 1980
Grade Point Average: 3.22

Job Experience:

Assistant Professor - University of Florida — November 2004 - Present
Soil and Water Science Department, Southwest Florida Research and Education Center
Research emphasizes the study of soil ecosystems of Southwest Florida necessary to improve crop productivity and sustainability of agricultural operations. Research focus is nutrient transformations in soil and sediment as they relate to efficient use of nutrients in agricultural production systems. Additional activities relate to development and improvements of best management practices that limit offsite movement of nutrients. Crops of interest are citrus, vegetables, and sugarcane.

Scientific Project Manager — University of Florida — June 1999 – November 2004
Manage 120 acre citrus field research site at the Water Conserv II project near Orlando, Fl. Research projects include irrigation scheduling, young and mature tree nutrition, fertilizer nitrogen uptake, improved production methods, and evaluation of new citrus selections. Developed automated soil water content data collection and irrigation control systems needed for research applications. Design research setup, treatments, and data collection including horticultural evaluation, nutritional status analysis, and yield and trees size measurements.

IPM Consultant Citrus Consultants January 1993 – January 2000
Monitored seasonal mite populations in citrus groves on a block-by-block basis for application of IPM practices.

Senior Biological Scientist University of Florida January 1993 – June 1999
Responsible for soil water uptake data collection and analysis using neutron probes, tensiometers, and capacitance sensors. Developed data logging and automated grove irrigation control systems.

Grower Support Director Ven-Mar Irrigation January 1992 – December 1992
Developed a program for assisting growers in irrigation scheduling and system maintenance, and established an irrigation water quality laboratory.

Product Manager Troxler Electronics January 1990 – December 1991
Developed capacitance soil water content sensors in conjunction with engineering team, and wrote user manuals and sensor sales publications.

Biological Scientist University of Florida January 1988 – January 1990
Collected and analyzed soil water content and frost protection field study data.

Grove Consultant Morgan Enterprises June 1985 – January 1988
Managed 400 acres of citrus groves for absentee owners. Determined and contracted nutritional and pest management applications, fruit sales and harvesting, and wrote profit and loss statements.

Assist. Production Manager Adams Citrus Nursery May 1982 – June 1985
Managed 20,000 square feet of greenhouse grown citrus trees from seedlings to field-ready.

Recognition:

Robertson Fellowship Univ. of Florida, Soil & Water Science Department 2003
Employee of the Year Citrus Research and Education Center 1999
Presidents Award Florida State Horticultural Society 1993
Morgan. K.T. 1993. Determination of Evapotranspiration Rates in Citrus Groves with Electronic Soil Moisture Probes. Proc. Fla. State Hort. Soc. 105:63-68.

External Funding as PI or Co-PI:

Currently Funded Projects:
"Evapotranspiration Estimation for Ridge Citrus" funded by the Southwest Florida Water Management District, three-year project total funding $60,000.
"Effects of Irrigation Rate on Hamlin Orange" funded by Florida Citrus Production Research Advisory Council, four-year project total funding $72,000.
"Irrigation and Cold Protection Study Using Automated Weather Sites" jointly funded by

Southwest Florida Water Management District and Florid Department of Agriculture and Consumer Services, four-year project total funding $225,000.

"Implementation of In-Season Irrigation and Nutrient Tools for Minimizing Environmental Impacts of Flatwoods Citrus and Sugarcane Production" funded by Florida Department of Environmental Protection, five year-project total funding $367,068.

"Controlled Release Fertilization for Ridge Citrus N-BMPS" funded by Florida Department of Agriculture and Consumer Services, five-year project total funding $136,500.

"Slow-Release Nitrogen Fertilizer Trial on Young Citrus Trees" funded by Georgia-Pacific, Inc. total funding $71496.

"Integration and Verification of Water Quality and Crop Yield Models for BMP Planning" funded by Florida Department of Agriculture and Consumer Services, 5 year project total funding $1,600,523.

Refereed Publications:

Wheaton, T. A., **K. T. Morgan**, and L. R. Parsons. 2006. Simulating Annual Irrigation Requirement for Citrus on the Central Florida Ridge. HortScience In Press.

Morgan, K. T., T. A. Obreza, and J. M. S. Scholberg. 2006. Orange Tree Root Distribution in Space and Time. J. Am. Soc. Hort. Sci. In Press.

Morgan, K. T., T. A. Obreza, J. M. S. Scholberg, L. R. Parsons, and T. A. Wheaton. 2006. Citrus Water Uptake Dynamics on a Sandy Florida Entisol. Soil Sci. Soc. Am. J. 70(1):90-97.

Morgan, K. T., J. M. S. Scholberg, T. A. Obreza, and T. A. Wheaton. 2006. Size, Biomass, and Nitrogen Relationships with Sweet Orange Tree Growth. J. Am. Soc. Hort. Sci. 131(1):149-156.

Morgan, K. T., T.A. Obreza, T.A. Wheaton, and L.R. Parsons. 2002. Comparison of Soil Matric Potential Measurements Using Tensiometric, and Resistance Methods. Proc. Soil and Crop Sci. Soc. Fla. 61:63-66.

Scholberg, J. M., L.R. Parsons, T.A. Wheaton, B.L. McNeal, and **K.T. Morgan.** 2002. Soil Temperature, Nitrogen Concentration, and Residence Time Affect Nitrogen Uptake Efficiency in Citrus. J. Environ. Quality 31:759-768.

Fares, A., L.R. Parsons, J. Simunek, M.T. van Genuchten, T.A. Wheaton, and **K.T. Morgan**. 2001. Effects of Emitter Distribution Patterns and Soil Type on Water and Solute Distribution. Soil and Crop Sci. Soc. Fla. Proc. 61:46-56.

Morgan, K.T., L.R. Parsons, and T.A. Wheaton. 2001. Soil Water Retention Curve Determination Using Tensiometric, Resistance, and Capacitance Methods. Plant and Soil 234:153-158.

Mills, T.M., **K.T. Morgan**, and L.R. Parsons. 1999. Canopy Position and Leaf Age Affect Stomatal Response and Water Use of Citrus. J. Crop Production 2(2):163-179.

Morgan, K.T., L.R. Parsons, T.A. Wheaton, D.J. Pitts, and T.A. Obreza. 1999. Field Calibration of a Capacitance Water Content Probe in Fine Sand Soils. Soil Sci. Soc. Am. J. 63:987-989.

Morgan, K.T. and L.W. Timmer. 1984. Effects of Inoculum Density, Nitrogen Source and Saprophytic Fungi on Fusarium Wilt of Mexican Lime. Plant and Soil 1(2):302-210.

Morgan, K.T. and L.W. Timmer. 1983. Fusarium Wilt of Citrus: Host Range, Disease Severity, and Soil Populations of Fusarium oxysporum f.sp. citri Under Greenhouse Conditions. Proc. Soil and Crop Sci. Soc. Fla. 42: 61-65.

Non-Refereed Publications:

Morgan, K.T. 2004. Development and Use of a Web and PC Based Irrigation Model for Citrus. Paper # 042091 ASAE Technical Library.

Fares, A., L.R. Parsons, T.A. Obreza, and **K.T. Morgan**. 2004. Spatial and Temporal Plant Water Use and Rain Inputs as Affected by Citrus Canopy and Microsprinkler Irrigation System. Irrig. Assoc. Roceedings. Pp 37-45.

Morgan, K.T., J. W. Jones, J.M.S. Scholberg, and K.J. Boote. 2003. Development of TREEGRO: A Fruit Tree Model for DSSAT. Paper #033071 ASAE Technical Library.

Morgan, K.T. 2003. Role of Irrigation on Nutrient Management. Chapter 9 *In S. Futch (ed):* Nutrient Management for Optimum Citrus Tree Growth and Yield Short Course pp 66-81. October 29, 2003 Lake Alfred, Florida.

Fares, A., L.R. Parsons, J. Simunek, T.A.Wheaton. and **K.T. Morgan**. 2001. Simulated Drip Irrigation with Different Soil Types. Proc. Fla State Hort. Soc. 114:22-24.

Parsons, L.R., **K.T. Morgan**, T.A. Wheaton, and W.S. Castle. 2001. Wastewater and Reclaimed Water– Disposal Problem or Potential Resource? Proc. Fla. State Hort. Soc. 114:97-100.

Parsons, L.R., **K.T. Morgan**, and T.A. Wheaton. 2000. Using Soil Water Measurements to Schedule Irrigation. Citrus Industry. 81(3):21-22.

Scholberg, J.M., L.R. Parsons, T.A. Wheaton, and **K.T. Morgan**. 2000. Procedures for Determining the Effects of Environmental Conditions on Plant Nitrogen Uptake: An Alternate Approach. Soil and Crop Sci. Soc. Fla. Proc. 60:40-49.

Scholberg, J. M. S., L.R. Parsons, T.A. Wheaton, and **K.T. Morgan**. 2000 Physiological and Production Considerations for Improving Nitrogen Uptake Efficiency of Citrus. Proceedings of the International Society of Citriculture Orlando, Florida.

Paolillo, A.M., J.M.S. Scholberg, L.R. Parsons, T.A. Wheaton, and **K.T. Morgan**. 1999. Water and Nitrogen Status Modify Root Growth of Two Citrus Rootstock Seedlings. Proc. Fla. State Hort. Soc.112:18-22.

Obreza, T.A., D.J. Pitts, L.R. Parsons, T.A. Wheaton, and **K.T. Morgan**. 1997. Soil Water-Holding Characteristic Affects Citrus Irrigation Scheduling Strategy. Proc. Fla. State Hort. Soc. 110:36-39.

Parsons, L.R., **K.T. Morgan**, and T.A. Wheaton. 1997. Microirrigation Management to Reduce Over-Irrigation and Chemical Leaching. Citrus Industry. 78(11):28-31.

Parsons, L.R., **K.T. Morgan**, and T.A. Wheaton. 1995. Microsprinkler Irrigation Management--What's Your Application Rate? Citrus Industry 76(4):25-27.

Morgan. K.T. 1993. Determination of Evapotranspiration Rates in Citrus Groves with Electronic Soil Moisture Probes. Proc. Fla. State Hort. Soc. 105:63-68.

Parsons, L.R., **K.T. Morgan**, and T.A. Wheaton. 1993. Effects of Microsprinkler Precipitation Rate, Soil Type, and Water Depletion on Depth of Soil Wetting. Proc. Fla. State Hort. Soc. 106:38-41.

Tucker, D. P., C. G. Erickson and **K. T. Morgan**. 1997. Middles Management Methods in Citrus Affect Soil Moisture Retention and Vegetation Species. Proc. Fla. State Hort. Soc. 110:39-43.

Morgan, K.T. and A.C. Tarjan. 1980. Management of Sting Nematode on Centipedegrass with Kelp Extracts. Proc. Fla. State Hort. Soc. 93:97-99.

Abstracts:

K.T. Morgan, J.M.S. Scholberg and T.A. Obreza. 2004. Seasonal and Long-term Nitrogen Balance Changes in Citrus. Oral presentation to Soil Science Society of America annual meeting November 1-3, 2004, Seattle, Washington.

Morgan, K.T., T.A. Obreza, and J.M.S. Scholberg. 2003. Long Term and Seasonal Accumulation of Biomass and Nitrogen by Citrus Grown on Sandy Soils in Central Florida. Oral presentation to Soil and Crop Science Society of Florida annual meeting, May 21-23, 2003, Daytona Beach, Florida. Abstract in Soil and Crop Sci. Soc. Fl. Proc.

Morgan, K.T., J.M.S. Scholberg, T.A. Wheaton, T.A. Obreza, and P.A. Brown. 2003. Nitrogen Interception Capacity of Mature Citrus Trees Grown on Sandy Soils in Central Florida. Poster presentation to annual meeting of Soil Science Society of America, November 2-4, 2003, Denver Colorado.

Wu, L., **K.T. Morgan**, J.M.S. Scholberg, T.A. Wheaton, T.A. Obreza, and P.A. Brown. 2003. Development of an Expert System for Improved Irrigation Scheduling and N

Management of Citrus. Oral presentation to annual meeting of Soil Science Society of America, November 2-4, 2003, Denver Colorado.

Morgan, K. T., Obreza, T. A., Wheaton, T. A. and Parson, L. R. 2002 Field-Determined Soil Water Release Curve in Apopka Fine Sand Using Capacitance, Tensiometric, and Resistance Methods. Proc.Soil and Crop Sci. Soc. Fla. 61:91.

Fares, A., L.R. Parsons, J. Simunek, T.A. Obreza, M.T. van Genuchten, T.A. Wheaton, and **K.T. Morgan**. 2002. Effective Rainfall in Citrus Groves under Central Florida Conditions: field and Modeling Approach. Soil Am. Soc. of Agr. Southern Branch Annual Meeting, Orlando Florida, February 2-6 2002.

Fares, A., J. Simunek, L.R. Parsons, M.T. van Genuchten, T.A. Wheaton, and **K.T. Morgan**. 2001. Evaluation of the Performance of HYDRUS-2D in Simulating Effects of Shading and Irrigation on Soil Water Content and Temperature. Amer. Geo. Phy. Union. Fall Meeting, San Francisco, Ca, December 10-14, 2001

Morgan, K.T., T.A. Wheaton, L.R. Parsons, J.M.S. Scholberg, and T.A. Obreza. 2001. Citrus Water Use Model for Florida Fine Sand Soils. HortSci. 36(3) 611.

Scholberg, J.M. L.R. Parsons, T.A. Wheaton, and **K.T. Morgan**. 1999. Effects of Environmental Conditions on Nitrogen Uptake of Citrus. Amer. Soc. Agron. Abstracts. P 215.

Scholberg, J.M., L.R. Parsons, T.A. Wheaton, and **K.T. Morgan**. 1999. Effects of Soil Moisture Status on the Growth and Nitrogen Uptake of Citrus Seedlings. Amer. Soc. Agron. Abstracts P 316.

Mills, T., **K.T. Morgan**, L. Parsons, and T. Wheaton. 1998. Measurement and Calculation of Total Plant Water Use of Citrus. HortSci. 33(3):490.

Morgan, K.T. and L.W. Timmer. 1982. Effects of Inoculum Density, Saprophytic Fungi and Citrus Species on Wilt Severity and Soil Populations of Fusarium oxysporum f. sp. Citri. Phytophathology 72:360.