

**Rao S. Mylavarapu**  
Associate Professor

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## PROFESSIONAL

<b>Employer/Department</b>	<b>Position</b>	<b>Dates</b>
University of Florida Soil & Water Science	Assistant Professor	1998-present
Clemson University Faculty of Soils	Research & Extension Soil Scientist	1996-1998
USDA-ARS Environmental Chemistry Lab	Soil Scientist	1995-1996
A.P. Agric. University, India Soil Science	Assistant Professor/ Asst. Soil Chemist (permanent position)	1985-1989
Texas Valve Actuators Ltd., India	Management Executive	1983-1985

## EDUCATIONAL

<b>University</b>	<b>Field of Study</b>	<b>Degree</b>	<b>Year</b>
Clemson University	Soil Science	Ph.D.	1996
G.B. Pant Univ., India	Soil Science	M.Sc. (Ag)	1983
A.P. Agric. Univ, India	Agriculture	B.Sc. (Ag)	1980

## Current Responsibilities

This is primarily an Extension position, with a complementary research emphasis to provide expertise and leadership in soil and nutrient management for economically and environmentally sustainable crop production. This position requires development of a highly visible and progressive educational program promoting the principles of nutrient management in the state of Florida with the following specific responsibilities:

A. Develop and execute progressive and highly visible educational programs in the area of nutrient management targeted to the public and private sectors and to the agricultural, urban, and environmental communities. This program emphasizes a holistic approach in the production of a wide variety of agronomic and horticultural crops. Cooperative research and educational programs will involve strong interaction with county and state faculty on and off campus, commodity specialists, advisory committees, soil/water scientists, and government agencies. The research program will relate to soil-test correlation/calibration, nutrient and soil/ water management and/or analytical methodology. Supervise and advise graduate students by serving as the Chair or a member on their Advisory Committees.

B. Address critical nutrient management issues such as crop nutrient requirements, soil and tissue testing, nutrient related environmental concerns and interdependence with water management.

C. Serve as the Director of UF/IFAS Extension Soil Testing and Analytical Research Laboratories (ESTL and ARL). Address all technical and administrative issues at the ESTL/ARL. Successful implementation of the UF/IFAS Extension Soil Testing Program and QA/QC Protocols for NELAP Certification at the Analytical Research Lab through resource optimization is emphasized.

**Current Assigned Activity - Total - 100%**

Teaching- 5%; Research- 25%; Extension- 45%; Administration- 30%

**TEACHING AND ADVISING**

Course Title: Soil, Tissue and Water Diagnostic Testing, Course No. SOS 6932 Sec. 0952  
 Taught Summer A - 2.0 credit hours.

Topics include basic soil science, soil fertility, soil, tissue and water diagnostic testing, soil water and nutrient management, project work providing interpretations by applying diagnostic testing tools to field samples.

Guest Lectures: ‘Precision Agriculture’ -AOM 4434 (Ag & Bio-engineering Department), ‘Introduction to Soils’ -SOS 3022 and ‘Tropical Soil Management’ -SOS 5132 (Soil & Water Science Department), ‘Integrated Plant Medicine -Capstone Course’ - ALS 5932 (Integrated Plant Medicine), and ‘Applied Field Crop Production’ -AGR 4214C (Agronomy Department).

**GRADUATE FACULTY STATUS** 1999-present

**GRADUATE STUDENT COMMITTEES**

Role	Graduate Student	Research Topic	Dept.	Dates
<b>Chair, Ph.D. Committees</b>	Yandi Fan	Cover Crop Management to Minimize Nitrogen Loss Potential	SWSD	2006-2010
	Elizabeth Kennelley	Method evaluations and correlations for P species analyses in sub-tropical soils	SWSD	2000 -2006
	Fernando Munoz	Improving Nitrogen Management In Potatoes Through Crop Rotation and Enhanced Uptake	SWSD	2001-2004
	Jaime Sanchez	Water and Nitrate Movement in Poultry Litter Amended Soils	SWSD	2000 -2004
<b>Chair, Master’s Committees</b>	Veronica Villasenor	Characterization of Soil and Plant Tissue Properties Using Spectral Reflectance	SWSD	2006-2008
	Subodh Acharya	Lateral Movement of Subsurface Water in Seepage Irrigated Areas in St. Johns Watershed Area	SWSD	2006-2008

	Dennis Gee	N/A (DPM)	SWSD	2003 -2006
	Daniel Herrera	Relationships Among Mehlich-1, Mehlich-3, and Water-Soluble Phosphorus Levels in Manure-Amended, Inorganically Fertilized, and Phosphatic Soils	SWSD	8/2001 - 12/2003
<b>Member, Ph.D. Committees</b>	Zhiwei Chen	Improving Nitrogen Use Efficiency Using Slow Release Sources	Hort Sciences	2006-2010
	Sindy M. Interrante	Shoot and Root Dynamics of Bahiagrass Genotypes in Response to Extended Daylength and Fertilization	Agronomy	2003 2007
	Christine Worthington	Identification of Environmental Stressors and cultural Practices That Influence Development of Internal Heat Necrosis in Potato	Hort Sciences	2002 -2007
	Gisele Martin	Characterization and Manipulation of Root and Shoot Growth Flushes of <i>in vitro</i> and Greenhouse Grown Sweet Viburnum	Environ Horticulture	2000 -2004
<b>Member, Master's Committees</b>	Jamba Gyeltsin	DPM	DPM Program	2004-2006
	Jeffrey Pack	Characterization of Release of Polymer-coated Nitrogen Controlled-Release Fertilizers and Effects on Potato Production and Nutrient Leaching in Florida	Horticultural Science	2002 -2004
	Juan Herrera	Spectral Based Phosphorus sensing in the Lake Okeechobee Basin	Agricultural & Biological Engineering	2002 -2004

## RESEARCH

Soil & Nutrient Management from economically and environmentally sustainable agricultural production. (**CRIS Project: FAES-SWS-03865**)

### Major Regional and Statewide Projects

- Comparison of Southern Soil Phosphorus Indices
- Assessment of Nutrient Requirements for Optimum Economic Production of Bahiagrass on South Florida Soils
- Rapid Analysis of Soil And Plant Tissue Properties Using Infrared Reflectance Spectroscopy
- Lateral Subsurface Water Flow in Vegetable Production Areas under Seepage Irrigation in Northeast Florida
- N Mineralization in Poultry Litter Amended Soils for Successful Melon Production under Plastic Mulch in North Florida
- Rapid Assesment Tool for Soil Analysis Using NIR Spectroscopy
- Training for Comprehensive Nutrient Management Planning for Third Party Vendors

- Evaluating Effectiveness of Best Management Practice (BMP) For Animal Waste Fertilizer Management To Reduce Nutrient Inputs Into Ground Water In Suwannee Basin: Phase I, II & III
- Effectiveness of Tailwater Recovery Systems for Nursery Production Areas in New Jersey to Minimize Nutrient Runoff
- Manure Phosphorus Management for the Suwannee River Basin: A Model For Highly Leachable Soils
- Development of a Reflectance Spectroscopic P-Sensor for Terrestrial And Aquatic Ecosystems in the Lake Okeechobee Drainage Basin
- Utilization of Legumes in Crop Rotation Programs to Reduce Nitrate Leaching From Potato Production into the Lower St. Johns River Watershed
- Towards The Development Of Environmental Soil Phosphorus Critical Levels In Agricultural Soils Of Puerto Rico
- Comparison of Mehlich-1 and Mehlich-3 Soil Extraction Procedures for Sandy Mineral Soils of Florida
- Comparison of Spectroscopic and ICP Methods for Phosphorus Determination

**MAJOR GRANTS**

Total: \$4,547,873      My share: \$ 2,177,459    (include both direct and indirect costs)

<b>Funding Period</b>	<b>Role</b>	<b>Project/Agency</b>	<b>Amount</b>
2005-2008	PI	Assessment of Nutrient Requirements for Optimum Economic Production of Bahiagrass on South Florida Soils	\$89,000
2006-2008	PI	Rapid Analysis of Soil And Plant Tissue Properties Using Infrared Reflectance Spectroscopy (FDACS)	\$402,000
2006-2008	PI	Capacity Building for Environmental Water Quality Laboratory (FDACS)	\$250,000
2005-2007	PI	Lateral Subsurface Water Flow in Vegetable Production Areas under Seepage Irrigation in northeast Florida (St. Johns River Water Management District)	\$128,000 (\$30,000 equipment & supplies)
2004-2006	Co-PI	Rapid Assessment Tool for Soil Analysis: NIR Spectroscopy (FDACS)	\$202,000
2005-2006	PI	N Mineralization in poultry litter amended soils for successful melon production under plastic mulch in north Florida (FDACS)	\$12,000
2005-2006	Co-PI	Rapid Response Project-Nursery Nutrient Management in New Jersey (Rutgers University)	\$10,750

2004-2006	Co-PI	Utilization of legumes in crop rotation programs to reduce nitrate leaching from potato production into sensitive Florida watersheds (FDEP 319)	\$302,575
2002-2006	PI	Training for Comprehensive Nutrient Management Planning for Third Party Vendors (FDACS)	\$452,638
2003-2006	Co-PI	Manure Phosphorus Management for the Suwannee River Basin:- A Model for Highly Leachable Soils (USDA-IFAFS)	\$671,368
2003-2005	Co-PI	Development of Reflectance Spectroscopic P-Sensor for Terrestrial and Aquatic Ecosystems in Lake Okeechobee Basin (FDACS)	\$399,300
2001-2004	Co-PI	Utilization of Legumes in Crop Rotation Programs to Reduce Nitrate Leaching from Potato Production into the Upper St. Johns River Watershed (FDACS)	\$189,000
1999-2004	Co-PI	Evaluating Effectiveness of Best Management Practice (BMP) for Animal Waste Fertilizer Management to Reduce Nutrient Inputs into Ground Water in Suwannee Basin: Phase II (FDEP)	\$263,863
1998-2004	Co-PI	Evaluating Effectiveness of Best Management Practice (BMP) for Animal Waste Fertilizer Management to Reduce Nutrient Inputs into Ground Water in Suwannee Basin: Phase I (FDEP)	\$755,589
2000-2003	PI	Towards the Development of Environmental Soil Phosphorus Critical Levels in Agricultural Soils of Puerto Rico (USDA-CBAG79)	\$97,480
1999-2000	Co-PI	Best Nutrient Management Practices for Home Lawns in Florida ( Florida FIRST)	\$15,000

## PUBLICATIONS

### REFEREED

- Osmond, D. M. Cabrera, S. Feagley, G. Hardee, C. Mitchell, P. Moore, R. Mylavarapu, J. Oldham, J. Stevens, W. Thom, F. Walker, and H. Zhang. 2006. Comparing Southern Phosphorus Indices. Journal of Soil & Water Conservation. J. Soil & Water Conservation. 61(6):325-337.

- Munoz, F., Mylavarapu, S. Hutchinson, C. M. Portier, K.M. 2006. Root Distribution under Seepage-Irrigated Potatoes in Northeast Florida. *American J. of Potato Research*. 83:453-462.
- Mylavarapu, R.S. and V.L. Quisenberry. 2005. Spatial Distribution of Drainage from Uniform Soil Columns. *Soil Science*. 170(1):38-46.
- Munoz, F., R.S. Mylavarapu and C.M. Hutchinson. 2005. Environmentally Responsible Potato Production Systems- A Review. *Journal of Plant Nutrition*. 28:1287-1309.
- Mylavarapu, R.S., J.P. Smith and F. Munoz. 2005. Soil and Nutrient Management Influences on Collards Nutrition. *HortTechnology*. 15(1):7-12.
- Sotomayor, D.R., G.A. Martinez, O. Santana, R.S. Mylavarapu and J. L. Guzman. 2004. Phosphorus soil tests for environmental assessment in sub-tropical soils. *Comm. Soil Sci. Plant Anal*. 35 (11&12):1485-1503.
- Zinati, G.M., Y. Li, H.H. Bryan, R. Mylavarapu and M. Codallo. 2004. Distribution and fractionation of phosphorus, cadmium, nickel, and lead in calcareous soils amended with composts. *J. Environ. Sci. Health*. B39(1):209-223.
- Mylavarapu, R.S. 2003. Role of an Extension Soil Testing Program in the Development of Best Management Practices: A Florida Case Study. *Journal of Extension*. 45(4) pp9.
- Lee, W.D., J.F. Sanchez, R.S. Mylavarapu and Choi. 2003. Evaluation of Soil Nutrient Levels Using Spectroscopy. *Transactions of ASAE*. 46(5):1443-1453.
- Hutchinson, C.M., R.S. Mylavarapu. 2003. Evaluation of nitrogen best management practices for potato production in northeast Florida. *Acta Hort*. 619:279-283.
- Mylavarapu, R.S., J.F. Sanchez, J.H. Nguyen, and J. M. Bartos. 2002. Evaluation of Mehlich-1 and Mehlich-3 Extraction Procedures for Plant Nutrients in Acid Mineral Soils of Florida. *Comm. Soil Sci. Plant Anal*. 33(5&6):807-820.
- E. D. Kennelley and R.S. Mylavarapu. 2002. Low-level Phosphorus Analysis in the Presence of Silicate. *Proceedings of the 7<sup>th</sup> International Symposium on Soil & Plant Analysis: In Comm. Soil Sci. Plant Anal. Special Issue*. 33(15-18):3189-3201.
- Isensee, A. R., A. M. Sadeghi, and R. S. Mylavarapu. 1998. Impact of burn-down herbicides on atrazine washoff from vegetation. *Chemosphere*. 36(1):13-19.
- M. S. Rao and V.S. Tomar. 1989. Effect of different irrigation levels on the performance of wheat cultivars in shallow water table conditions. *Current Research*. 18:111-112.
- M. S. Rao and V.S. Tomar. 1988. Root distribution of wheat cultivars in shallow water table conditions under different irrigation levels. *New Botanist*. 15(2-3):139-144.

## NON-REFEREED PUBLICATIONS

- Mylavarapu, R.S. and S. Curry. 2006. Technical Service Provider Training Activities- A Florida Practicum. Proceedings Southern Plant Nutrient Management Conference, Olive Branch, Mississippi, Oct 3-4, p73-76.
- Munoz, F\*, R.S. Mylavarapu and C.M. Hutchinson. 2004. Nitrogen Management in Potatoes through Crop Rotation in Northeast Florida. Proc. Southern Plant Nutrient Management Conference, Memphis, Oct 5-6.
- Olczyk, T., Y.C. Li, E. Simonne and R. S. Mylavarapu. 2004. Reduced phosphorus fertilization effects on yield and quality of sweet corn grown on a calcareous soil. Proc. Fla. State Hort. Soc.
- C. M. Hutchinson, Mylavarapu, R.S. and F. Munoz\*. 2002. Nutrient Management for Successful Potato Production in Florida. Utilization of legumes in crop rotation programs to reduce nitrate leaching from potato production into the lower St. Johns River watershed. Proc. Southern Soil Fertility Conference, Memphis, Oct 8-9, p78-82.
- R. S. Mylavarapu, R.B. Brown, R. Nordstedt, S. Curry\*, G. Hendricks, and S. Boetger. 2002. Nutrient Management Training for Third Party Vendor Certification in Florida. Proc. Southern Soil Fertility Conference, Memphis, Oct 8-9, p83-85.
- Mylavarapu, R.S. and C. M. Hutchinson. 2001. Utilization of legumes in crop rotation programs to reduce nitrate leaching from potato production into the lower St. Johns River watershed. Proc. Southern Soil Fertility Conference, Memphis, Oct 9-10, p44-48.
- Li, Y., S. O'Hair, R. Mylavarapu, T. Olczyk and M. Lamberts. 2000. Demonstration of phosphorus fertilizer management for potato grown in a calcareous soil. Proc. Fla. State Hort. Soc. 113:237-239.
- Mylavarapu, R.S. 2000. Nutrient Management Activities in Florida. Proc. Southern Soil Fertility Conference October 10-11, p128-133.
- Mylavarapu, R.S. 1998. Soil Fertility Research Report for South Carolina. Proc. Southern Soil Fertility Conference, October 6-7, Memphis, TN, p64-65.

### **Selected Published Abstracts**

- Cornejo, C., R.S. Mylavarapu, Hutchinson, C.M., Li, Y., Ouyang, Y., Acharya, S. 2007. Lateral Movement of Subsurface Water in Seepage Irrigated Fields. National Water Quality Conference, Jan 28 - Feb1st, Savannah, GA, USA.
- Graetz, D.A., W.D. Graham, G.J. Hochmuth, M.D. Dukes, and R.S. Mylavarapu. 2005. BMP Implementation on Agricultural Lands in the Suwannee River Basin of North

Florida: Soil and Groundwater Monitoring for Nitrate-N. In Annual Meetings Abstracts, [CD-ROM]. ASA, CSSA and SSSA, Madison, WI.

- Boetger, S.P. and R.S. Mylavarapu. 2004. Nutrient Management on a Florida Poultry Operation. *In Annual Meetings Abstracts, [CD-ROM].* ASA, CSSA, and SSSA, Madison, WI.
- Zinati, G.M. and R.S. Mylavarapu. 2004. Nutrient Management in Nursery Crops. *In Annual Meetings Abstracts, [CD-ROM].* ASA, CSSA, and SSSA, Madison, WI.
- Herrera, D. A\*., R.S. Mylavarapu and W. Harris. 2004. Relationship between Water-soluble, Mehlich-1 and Mehlich-3 Phosphorus in Phosphatic, Manure Amended and Inorganically Fertilized Soils. Sustainable Land Application Conference, Jan 4-8, Lake Buena Vista, FL, USA.
- Kennelley, E.D\*., A. Wilkie and R.S. Mylavarapu. 2004. Soil Phosphorus Determination in the Field: A Quick and Easy New Method. Sustainable Land Application Conference, Jan 4-8, Lake Buena Vista, FL, USA.
- Sanchez, J. F\*., R. S. Mylavarapu., D.A. Graetz, and K. Portier. 2004. Soil Nutrient Management Strategies: Scenarios Technique as a Field Tool for Poultry Manure Management. Sustainable Land Application Conference, Jan 4-8, Lake Buena Vista, FL, USA.
- Sanchez, J. F\*., and R. S. Mylavarapu. 2003. Evaluation and forecasting of soil nitrate status in North Florida soils under long term poultry litter application. *In Annual Meetings Abstracts, [CD-ROM].* ASA, CSSA, and SSSA, Madison, WI.
- Boetger, S. and R.S. Mylavarapu. 2003. Comprehensive Nutrient Management Plan for a Florida Dairy. *In Annual Meetings Abstracts, [CD-ROM].* ASA, CSSA, and SSSA, Madison, WI.
- Mylavarapu, R. S., G.M. Zinati, and J.F. Sanchez. 2003. Nutrient Management Using Compost. *In Annual Conference Abstracts. [CD-ROM].* International Society for Horticultural Science, Belgium.
- Herrera, D. A\*., and R.S. Mylavarapu. 2003. Effect of Soil Phosphorus Source on Water, Mehlich-1 and Mehlich-3 Extractable Concentrations. *In Annual Meetings Abstracts, [CD-ROM].* ASA, CSSA, and SSSA, Madison, WI.
- Munoz, F\*., R.S. Mylavarapu and C.M. Hutchinson. 2003. Effect of Nitrogen Levels on Potato Root Distribution. *In Annual Meetings Abstracts, [CD-ROM].* ASA, CSSA, and SSSA, Madison, WI.

- Mylavarapu, R. S., S. Curry \*, S. Boetger and G. Hendricks. 2003. Nutrient Management Training for Technical Service Providers. *In Annual Meetings Abstracts*, [CD-ROM]. ASA, CSSA, and SSSA, Madison, WI.
- Sanchez, J. F.\* and R.S. Mylavarapu. 2003. Scenarios technique as a tool for evaluation of BMP impact on nitrate movement in poultry litter amended soils. *In Annual Meetings Abstracts*, [CD-ROM]. ASA, CSSA, and SSSA, Madison, WI.
- Sanchez, J.F.\* and R.S. Mylavarapu. 2002. Leach-M performance in sandy soils of North Florida. *In Annual Meetings Abstracts*, [CD-ROM]. ASA, CSSA, and SSSA, Madison, WI.
- Sanchez, J.F.\* and R.S. Mylavarapu. 2002. Impact of different organic manure fertilization strategies on soil water retention characteristics. *In Annual Meetings Abstracts*, [CD-ROM]. ASA, CSSA, and SSSA, Madison, WI.
- Mylavarapu, R.S., D. Sotomayor and J.A. Nguyen\*. 2002. Evaluation of Environmental Impacts through Phosphorus Sorption Capacities of Soils. *In Annual Meetings Abstracts*, [CD-ROM]. ASA, CSSA, and SSSA, Madison, WI.
- Zinati, G. M., H. H. Bryan, R. McSorley and R. S. Mylavarapu. 2002. Sustainable cropping systems for tomato production in south Florida. International Horticultural Congress, Toronto, Canada, Aug 13-17.
- Munoz, F\*. and R.S. Mylavarapu .2002. Effect of Soil and Nutrient Management Practices on Collards Performance. *In Annual Meetings Abstracts*, [CD-ROM]. ASA, CSSA, and SSSA, Madison, WI.
- Herrera, D.A.\* and R.S. Mylavarapu. 2002. Relationship between water soluble and Mehlich-1 Phosphorus in Manure Amended and Inorganically Fertilized Soils. *In Annual Meetings Abstracts*, [CD-ROM]. ASA, CSSA, and SSSA, Madison, WI.
- Hutchinson, C. M., R.S. Mylavarapu and F. Munoz\*. 2002. Evaluation of BMPs for potato production in Northeast Florida. *In Annual Meetings Abstracts*, [CD-ROM]. ASA, CSSA, and SSSA, Madison, WI.
- Hutchinson, C.M. and R.S. Mylavarapu. 2002. Evaluation of nitrogen best management practices for potato production in northeast Florida. American Journal of Potato Research.
- Nair, V.D., D.A. Graetz, W.G. Harris, G. Kidder, Mylavarapu, R.S. and R.D. Rhue. 2001. Florida Phosphorus Index Applied to Soils with High Leaching Risk. *In Annual Meetings Abstracts*, [CD-ROM]. ASA, CSSA, and SSSA, Madison, WI.

- Sotomayor, D.R., Martinez, G., and Mylavarapu, R. S. 2001. Development of Environmental Soil Tests for Tropical Soils. *In Annual Meetings Abstracts*, [CD-ROM]. ASA, CSSA, and SSSA, Madison, WI.
- Zinati, G.M., H.H. Bryan and R.S. Mylavarapu. 2001. Degradation of sunnhemp and its effect on soil organic carbon. *In Annual Meetings Abstracts*, [CD-ROM]. ASA, CSSA, and SSSA, Madison, WI.
- Mylavarapu, R.S. and Sanchez, J. F\*. 2001. Spatial and temporal nutrient distribution in North Florida sands under intensive crop management. *In Annual Meetings Abstracts*, [CD-ROM]. ASA, CSSA, and SSSA, Madison, WI.
- Mylavarapu, R. S., Boetger, S. P., Nair, V. D., Graetz, D. A., Hendricks, G. 2001. Nutrient Management in Florida. *In Annual Meetings Abstracts*, [CD-ROM]. ASA, CSSA, and SSSA, Madison, WI.
- Mylavarapu, R. S., Sotomayor, D. R. 2001. Phosphorus Sorption Characteristics as Indicators of Environmental Impact. *In Annual Meetings Abstracts*, [CD-ROM]. ASA, CSSA, and SSSA, Madison, WI.
- Lee, W. D., R. S. Mylavarapu, J. S. Choe, J.D. Whitney. 2001. Study on Soil Properties and Spectral Characteristics in Florida. ASAE Annual Meetings, July 3-7, Sacramento, California.
- Mylavarapu, R.S., Ngyuen, J. A\*., Bartos, J. M\*. 2000. Method Comparison for analysis of organic matter in sandy soils of Florida. *Annual Meetings Abstracts*, ASA, SSSA and CSSA, p361.
- Kidder, J., R.S. Mylavarapu, J. A. Ngyuen\*, J. M. Bartos\*. 2000. Assessment of Fertility Status Through Client-submitted Soil Samples in Florida. *ASA Annual Meetings Abstracts*, ASA, SSSA and CSSA, p361.
- Zinati, G. M., Mylavarapu, R.S., Li, Y. C., Bryan, H. H., Basti, B., Codallo, M. 2000. Temporal variation of soil microbial biomass under various cover crops. *Annual Meetings Abstracts*, ASA, SSSA and CSSA, p239.
- Mylavarapu, R. S., J. E. Albrecht and R. E. Franklin. 1999. Copper and Zinc Accumulation in SC Soils due to Application of Animal Wastes. *Annual Meetings Abstracts*, ASA, SSSA and CSSA, p311.
- Isensee, A.R., R. S. Mylavarapu and A. M. Sadeghi. 1996. Effect of burn-down herbicides on atrazine washoff from vetch and rye grass. *Annual Meetings Abstracts*, ASA, SSSA and CSSA, p268.

- A. M. Sadeghi, R. S. Mylavarapu and A. R. Isensee. 1996. Influence of texture and tillage practice on herbicide transport. Annual Meetings Abstracts, ASA, SSSA and CSSA, p268.
- Mylavarapu R.S. and V.L. Quisenberry. 1995. Effect of negative pressures on the spatial variability of the effluent flow in sand and soil columns. Annual Meetings Abstracts, ASA, SSSA and CSSA, p112.
- O. Mandiringana, R.S. Mylavarapu and V.L. Quisenberry. 1992. Preferential flow characteristics among four classes of soils. Annual Meetings Abstracts, ASA, SSSA and CSSA, p106.

## PRESENTATIONS

### A. INTERNATIONAL

- Mylavarapu, R.S. 2006. Nutrients and Water Quality. Invited Presentation. JN Technological University, Hyderabad, India, June 28, 2006. 2hrs. Attendance: 100
- Mylavarapu R.S. 2005. Hazardous Waste Management, invited workshop, International Conference on Environmental Management, Hyderabad, India, October 26-30, 2005, Duration 4 hrs. Attendance: 40
- Mylavarapu, R. (Presenter). "Phosphorus Mineralization in a Poultry Manure Amended Soil." at International Soil & Plant Analysis Council Symposium, 01/30/2005, Cancun, Mexico. (Poster Display).
- E.D. Kennelley\* and Mylavarapu, R.S. 2005. Phosphorus Mineralization in a Poultry Manure Amended Soil. Poster Presentation at the 9th International Soil & Plant Analysis Council Symposium, Cancun, Mexico, Jan 30-Feb 4.
- Herrera, D. A\*., R.S. Mylavarapu and W. Harris. 2004. Relationship between Water-soluble, Mehlich-1 and Mehlich-3 Phosphorus in Phosphatic, Manure Amended and Inorganically Fertilized Soils. Sustainable Land Application Conference, Jan 4-8, Lake Buena Vista, FL.
- Kennelley, E.D\*. A. Wilkie and R.S. Mylavarapu. 2004. Soil Phosphorus Determination in the Field: A Quick and Easy New Method. Sustainable Land Application Conference, Jan 4-8, Lake Buena Vista, FL, USA.
- Sanchez, J. F\*., R. S. Mylavarapu., D.A. Graetz, and K. Portier. 2004. Soil Nutrient Management Strategies: Scenarios Technique as a Field Tool for Poultry Manure Management. Sustainable Land Application Conference, Jan 4-8, Lake Buena Vista, FL.

- Mylavarapu, R.S. and E.D. Kennelley\*. 2003. Comparison of colorimetric and Inductively Coupled Plasma Techniques for Phosphorus Determination in Mehlich-1 Soil Extracts. Poster Presentation at the 8th International Soil & Plant Analysis Council Symposium, Cape Town, South Africa, Jan 12-17.
- Zinati, G. M., H. H. Bryan, R. McSorley and R. S. Mylavarapu. 2002. Sustainable cropping systems for tomato production in south Florida. Oral Presentation at the International Horticultural Congress, Toronto, Canada, August 10-17.
- Hutchinson, C.M. and R.S. Mylavarapu. 2002. Evaluation of nitrogen best management practices for potato production in northeast Florida. Oral Presentation, Potato Association of America Annual Conference, Toronto, ON, Canada, August 10-17.
- Kennelley, E.D.\* and R.S. Mylavarapu. 2001. Low level Phosphorus Analysis in the presence of Silicates. Poster presentation at the 7th International Soil & Plant Analysis Council Symposium, Edmonton, Canada, July 23-28.

#### B. NATIONAL/REGIONAL/STATE

##### Invited (2 as Panelist)

- Mylavarapu, R.S. 2006. Nutrient Management Team Activities. Southern Region Water Quality Program Review, Orlando, FL., May 11. Attendees: 58
- Mylavarapu, R.S. 2006. Organic Nutrient Sources. Certified Crop Adviser Program, Immokalee, FL., April 12. Attendees: 61
- Mylavarapu, R.S. 2004. The Florida Phosphorus Index. Oral presentation, American Society of Agricultural Engineers-Florida Chapter, Hutchinson Island, FL., June 2-4. Attendees: 30.
- Mylavarapu, R.S., S. Curry\*, S.P. Boetger and T.O. Obreza. 2004. Nutrient Management Training for Technical Service Providers in Florida. Regional Water Quality Workshop on Nutrient Management Coordination, Atlanta, April 4-5. Attendees 35.
- Mylavarapu, R.S., W.G.Harris, D.A. Graetz, V.D. Nair and W. Reve. 2004. USDA-NRCS National Phosphorus Index Committee visit, Oral presentations and field demonstrations, Live Oak, FL, Feb 19. Attendees 15.
- Mylavarapu, R.S. 2003. UF/IFAS Extension Soil & Plant Tissue Diagnostic Testing Program. Oral Presentation and Panelist, Certified Crop Adviser Training, Seabring, Florida, April 22-24. Attendees 60; Continuing Education Credits-2.0
- Mylavarapu, R.S. 2003. Soil Sampling and Interpretation. Precision Agriculture Workshop for Agents and Industry, Cocoa, FL., February 13-14.

- Mylavarapu, R.S. 2002. UF/IFAS Soil Testing Program and Development of Best Management Practices. Oral Presentation, Soil & Water Conservation Symposium, Southern Association of Ag-Scientists Conference, Orlando, Feb 4. Attendees: 25.
- Mylavarapu, R.S. 2001. Soil Sampling Strategies for Precision Farming. Oral Presentation, Precision Agriculture Workshop for Agents and Industry, Madison, Florida, May 24-25. Attendees 45.
- Mylavarapu, R.S. 2000. Nutrient Management through Soil Testing: Master Gardeners and consultants Training, Oral Presentation, Largo, Florida, January 23. Attendees 65.
- Mylavarapu, 2000. Micronutrients Supply through Foliar Spraying. Oral Presentation, Growers Meeting, Hendry County Extension (through County Agent Eugene McVoy), SWFREC, Immokalee, Florida, April 19. Attendees 20.
- Mylavarapu, 2000. Nutrient Uptake in Plants. Oral Presentation, In-service Training, SMP FL-107 on Vegetables, IRREC, Ft. Pierce, Florida, April 24-25. Attendees 18.
- Mylavarapu, 2000. Soil Testing as a Diagnostic Tool for Successful Crop Production. Master Gardeners Training for Marion & Citrus Counties (through Carla Chapman, Extension Agent). Oral Presentation and ESTL Tour, Gainesville, FL, October 5. Attendees 22.
- Mylavarapu, R.S. 1999. Philosophy of Soil Testing. Oral Presentation and Panelist, Certified Crop Adviser Training, Seabring, Florida, April, 21-22. Attendees 65; Continuing Education Credits-2.0
- Mylavarapu, R.S. 1998. High Soil Phosphorus, What's Next? Oral Presentation, Annual Mid Atlantic Soil & Plant Analysis Workgroup Meetings, Richmond, Feb 23-24.
- Mylavarapu, R.S. 1998. Nutrient Management for SC: Circular 476. Oral Presentation, Ag Expo, Columbia, SC. Attendees 45; Continuing Education Credits-0.5
- Mylavarapu, R.S. 1998. Verification of Clemson's P & K Fertilizer Recommendations. Oral Presentation, Ag Expo, Columbia, SC. Attendees 45; Continuing Education Credits -0.5
- Mylavarapu, R.S. 1998. Fertility Studies on Collards. Oral Presentation, Ag Expo, Columbia, SC. Attendees 45; Continuing Education Credits-0.5
- Mylavarapu, R.S. 1998. Soil Fertility Status of SC Soils' Oral Presentation, Ag Expo, Columbia, SC. Attendees 45; Continuing Education Credits-0.5

- Mylavarapu, R.S. 1998. High Soil Phosphorus, What's next? Oral Presentation, Agricultural and Natural Resources Forum, Clemson University, SC. Attendees: 30; Continuing Education Credits-1.0
- Mylavarapu, R.S. 1998. Strategic Value of Soil Testing to Landgrant Universities. Oral Presentation, SERA-IEG-6 Annual Meeting, Lexington, KY, June 9-11. Attendees 45.
- Mylavarapu, R.S. 1998. Soil Testing Program: A Public Service Mission at Landgrant Universities. Oral Presentation, Southern Region ANR Program Leaders Meeting, Clemson, SC, May 28. Attendees 20.

**Contributed** (2 as Session Moderator)

- Mylavarapu, R.S. 2006. The Florida Phosphorus Index. Fall CCA Training, October 17, 2006, Lake Alfred, FL. Duration: 1 hr. Attendance: 67.
- Mylavarapu, R.S. 2005. Role of Extension Soil Testing Program in the Development of Best Management Practices: A Florida Case Study. Oral Presentation, National Water Quality Conference, February 6-11, 2005, San Diego, USA. Duration: 25 mins. Attendance: 45
- Mylavarapu, R.S. 2005. Routine Soil Testing and Water Quality. Oral Presentation, Southern Plant Nutrient Conference, October 3-5, Olive Branch, MS. Duration: 30 mins. Attend: 48.
- Mylavarapu, R.S. 2005. Can Routine Soil Testing Address Water Quality Concerns? Oral Presentation, Fall CCA Training, October 12, 2005, Ft. Pierce, FL. Duration: 1 hr. Attendance: 65.
- Mylavarapu, R.S. 2004. Basic Soil Science and Soil Fertility. Oral presentation, Technical Fundamentals of CAFOs, US EPA Training, Atlanta, Sep 27-30.
- Mylavarapu, R.S. 2004. The Florida Phosphorus Index. Oral presentation, Annual Meetings, National Association of County Extension Agents, Orlando, FL., June 12-16. Attendees: 12.
- Mylavarapu, R.S. 2004. The Florida Phosphorus Index. Oral presentation, CCA Training, Immokalee, FL., June 10. Attendees: 26. Continuing Education Credits-1.0
- Mylavarapu, R.S. 2004/2003/2002. Soil and Plant Tissue Diagnostic Testing. Oral presentations (twice a year). Nutrient Management for the TSPs-Florida Practicum Training, May/June and Nov/Dec at Okeechobee and Live Oak, FL. Continuing Education Credits-1.0

- Mylavarapu, R.S. 2004/2003/2002. The Florida Phosphorus Index. Oral presentations (twice a year). Nutrient Management for the TSPs-Florida Practicum Training, May/June and Nov/Dec at Okeechobee and Live Oak, FL. Continuing Education Credits-1.0
- Mylavarapu, R.S. and E.D. Kennelley\*. 2004. Soil fertility assessments based on analysis at the IFAS Extension Soil Testing Laboratory. Annual Meeting, Soil & Crop Science Society of Florida, May 19-21, Tallahassee. Session Moderator.
- Mylavarapu, R.S. 2004. Basic Soil Fertility and Nutrient Management. Oral presentation, CCA Training, South Florida Community College, Avon Park, FL., Mar 18<sup>th</sup>, 2 hrs. Attendees 28. Continuing Education Credits-2.0
- Mylavarapu, R.S., T. O. Obreza, W.G. Harris, V.D. Nair, J.B. Sartain and W. Reve. 2004. Nutrient management and Water Quality, Oral presentations and field demonstration. IFAS In-service Training, Gainesville, Feb 26, 8 hrs. Attendees 14.
- Sanchez, J.F.\* and R.S. Mylavarapu. 2002. Cacao Production in Ecuador: Soils and Production. Soil & Crop Science Society of Florida, Clearwater Beach, Florida, May 22-24.
- Tripathi, N., S. Bhattarya, W. Lee and R.S. Mylavarapu. 2002. Temporal Variation of Soil Ca, Mg, and K using Precision Agriculture in Florida. Poster Presentation, ASAE Annual Conference, Florida Section, Key Largo, May 9-10.
- Mylavarapu, R.S. 2002. Basic Soil Fertility, Nutrient Management and Water Quality. Oral Presentations, In-service Training, Gainesville, Florida, February 20, 8 hrs. Attendees: 18.
- Mylavarapu, R.S., D. Sotomayor and J.A. Nguyen. 2002. Evaluation of Environmental Impacts through Phosphorus Sorption Capacities of Soils. Poster Presentation, Annual Meetings, ASA, SSSA and CSSA, Indianapolis, Nov 11-14.
- Munoz, F. and Mylavarapu, R.S. 2002. Effect of Soil and Nutrient Management Practices on Collards Performance. Poster Presentation, Annual Meetings, ASA, SSSA and CSSA, Indianapolis, Nov 11-14.
- Herrera, D.A. and Mylavarapu, R.S. 2002. Relationship between Water Soluble and Mehlich1 Phosphorus in Manure Attended and Inorganically Fertilized Soils. Poster Presentation, Annual Meetings, ASA, SSSA and CSSA, Indianapolis, Nov 11-14.
- Hutchinson, C. M., R.S. Mylavarapu and F. Munoz. 2002. Evaluation of BMPs for potato production in Northeast Florida. Poster Presentation, Annual Meetings, ASA, SSSA and CSSA, Indianapolis, Nov 11-14.

- Nair, V.D., D.A. Graetz, W.G. Harris, G. Kidder, Mylavarapu, R.S. and R.D. Rhue. 2001. Florida Phosphorus Index Applied to Soils with High Leaching Risk. Poster Presentation Annual Meetings, ASA, CSSA, SSSA, Charlotte, October 22-25.
- Sotomayor, D.R., Martinez, G., and Mylavarapu, R. S. 2001. Development of Environmental Soil Tests for Tropical Soils. Poster Presentation, Annual Meetings, ASA, CSSA, SSSA, Charlotte, October 22-25.
- Zinati, G.M., H.H. Bryan and R.S. Mylavarapu. 2001. Degradation of sunnhemp and its effect on soil organic carbon. Poster Presentation, Annual Meetings, ASA, SSSA and CSSA, Charlotte, October 22-25.
- Mylavarapu, R.S. and Sanchez, J. F. 2001. Spatial and temporal nutrient distribution in North Florida sands under intensive crop management. Poster Presentation, Annual Meetings, ASA, CSSA, SSSA, Charlotte, October 22-25.
- Mylavarapu, R. S., Boetger, S. P., Nair, V. D., Graetz, D. A., Hendricks, G. 2001. Nutrient Management in Florida. Poster Presentation, Annual Meetings, ASA, CSSA, SSSA, Charlotte, October 22-25.
- Mylavarapu, R. S., Sotomayor, D. R. 2001. Phosphorus Sorption Characteristics as Indicators of Environmental Impact. Poster Presentation, Annual Meetings, ASA, CSSA, SSSA, Charlotte, October 22-25.
- Lee, W. D, R. S. Mylavarapu, J. S. Choe, J.D. Whitney. 2001. Study on Soil Properties and Spectral Characteristics in Florida. Oral Presentation, American Society of Agricultural Engineers, Sacramento, California, July 3-7.
- Mylavarapu, R. S., Sanchez, J. F. 2001. Spatial distribution of drainage in uniform soil columns. Oral Presentation, Soil & Crop Science Society of Florida, Stuart, FL, June 10-12.
- Sanchez, J. F., Mylavarapu, R. S. 2001. Robust regression techniques for improved prediction of soil nutrients. Oral Presentation, Soil & Crop Science Society of Florida, Stuart, FL, June 10-12.
- Mylavarapu, R.S., Ngyuen, J. A., Bartos, J. M. 2000. Method Comparison for analysis of organic matter in sandy soils of Florida. Poster Presentation, Annual Meetings, ASA, CSSA, SSSA, Nov 5-9, Minnesota.
- Kidder, J., R.S. Mylavarapu, J. A. Ngyuen, and J. M. Bartos. 2000. Assessment of Fertility Status Through Client-submitted Soil Samples in Florida. Poster Presentation, Annual Meetings, ASA, CSSA, SSSA, Nov 5-9, Minnesota.

- Zinati, G. M., Mylavarapu, R.S., Li, Y. C., Bryan, H. H., Basti, B., Codallo, M. M. 2000. Temporal variation of soil microbial biomass under various cover crops. Poster Presentation, Annual Meetings, ASA, CSSA, SSSA, Nov 5-9, Minnesota.
- Mylavarapu, R.S. 2000. Correlation between Mehlich-1 and Mehlich-3 extraction procedures for plant available nutrients in acid mineral soils of Florida. Annual Meeting, Soil & Crop Science Society of Florida, Tallahassee. Session Moderator
- Mylavarapu, R.S., G. Kidder and J. M. Bartos. 2000. Fertility Status of Florida Soils-An Assessment through the Extension Soil Testing Program. Annual Meeting, Soil & Crop Science Society of Florida, Sep 19-21, Tallahassee.
- Mylavarapu, R.S. 1999. Soil Testing Procedures for Successful Turfgrass Production. Florida Turfgrass Association ESTL Tour, Oral Presentation, August 9-12, Attendees 95.
- Mylavarapu, R. S., J. E. Albrecht and R. E. Franklin.1999. Copper and Zinc Accumulation in SC Soils due to Application of Animal Wastes. Poster Presentation, Annual Meetings, ASA, CSSA, SSSA, Salt Lake City, Oct 31-Nov 4.
- Isensee, A.R. R. S. Mylavarapu and A. M. Sadeghi. 1996. Effect of burn-down herbicides on atrazine washoff from vetch and rye grass. Poster Presentation, Annual Meetings, ASA, CSSA, SSSA, Indianapolis, IN, Nov 3-8.
- A. M. Sadeghi, R. S. Mylavarapu and A. R. Isensee. 1996. Influence of texture and tillage practice on herbicide transport. Poster Presentation, Annual Meetings, ASA, CSSA, SSSA, Indianapolis, IN, Nov 3-8.
- Mylavarapu R.S. and V.L. Quisenberry. 1995. Effect of negative pressures on the spatial variability of the effluent flow in sand and soil columns. Poster Presentation, Annual Meetings, ASA, CSSA, SSSA, St. Louis, MO, Oct 29-Nov3.
- O. Mandiringana, R.S. Mylavarapu and V.L. Quisenberry. 1992. Preferential flow characteristics among four classes of soils. Poster Presentation, Annual Meetings, ASA, CSSA, SSSA, Minneapolis, MN, Nov 7-14.

## **EXTENSION PROGRAMS**

### **A. Regional Extension Programs**

#### 1. Southern Region Water Quality Program

- Nutrient Management – Team Leader
- Animal Waste Management – Team Leader

#### 2. SERA-IEG-6 on Nutrient Analysis of Soils, Plants, Water and Waste Materials

- Vice Chair- 2006-2008

- Secretary - 2004-2006
  - (Chair- 2008-2010)
  - Member- representing UF/IFAS- 1999-present
  - Member- representing Clemson University- 1996-1998
3. SERA-17 on Phosphorus
- Member – 2005-present

## **B. State Extension Programs**

1. Training for Comprehensive Nutrient Management Planning for Technical Service Providers
2. Nutrient Management and Fertilizer Recommendations
  - i. UF/IFAS Extension Soil Testing Program
  - ii. In-service Training
  - iii. UF/IFAS Nutrient Management Core Group
3. Development of the 'Florida Phosphorus Index'
4. Development of Commodity Related Nutrient BMPs

## **Reviewed Extension Publications (95)**

### **(i) Regional**

- 1) Mylavarapu, R.S., H. Savoy and C.R. Crozier. 2004. Soils and Soil Fertility. *In* Vegetable Crop Guidelines for the Southeastern U.S. Ed. D.C. Sanders, North Carolina Vegetable Growers Association, NC, pp9.
- 2) Sikora, F.J., D. Hardy, R. Tucker, R. Franklin, R.S. Mylavarapu. 2004. Conversion Equations for Soil Test Extractants: Mehlich-1 and Mehlich-3. Southern Regional Fact Sheet, SERA-IEG-6. <http://soils.rs.uky.edu/M3vsM1.htm>

### **(ii) Selected State Extension (Total 93)**

- Mylavarapu, R.S., D. Wright, G. Kidder and C.G. Chambliss 2006. UF/IFAS Standardized Fertilization Recommendations for Agronomic Crops. SL129, Soil & Water Science, Cooperative Extension Service, IFAS. p9.
- E.A. Hanlon, Rao Mylavarapu, I.V. Ezenwa Development of Bahiagrass Fertilization Recommendations: 1990-2005. SL 237, Soil & Water Science, Cooperative Extension Service, IFAS. p9.
- Mylavarapu, R.S. 2004. Irrigation and Household Water Test and Interpretation. 2004. SL 219, Soil & Water Science, Cooperative Extension Service, IFAS, pp4.
- Hurt, G.W., R.S. Mylavarapu and S.P. Boetger. 2004/2002 UF/IFAS Nutrient Management Series: Computational Tools for Field Implementation of the Florida Phosphorus Index- *Escambia County Florida*. CIRC1280, Soil & Water Science, Cooperative Extension Service, IFAS, p21.

- Hurt, G.W., R.S. Mylavarapu and S.P. Boetger. 2004/2002. UF/IFAS Nutrient Management Series: Computational Tools for Field Implementation of the Florida Phosphorus Index- *Jackson County Florida*. CIRC1281, Soil & Water Science, Cooperative Extension Service, IFAS, p22.
- Hurt, G.W., R.S. Mylavarapu and S.P. Boetger. 2004/2002. UF/IFAS Nutrient Management Series: Computational Tools for Field Implementation of the Florida Phosphorus Index-*Pasco County Florida*. CIRC1303, Soil & Water Science, Cooperative Extension Service, IFAS, p21.
- Hurt, G.W., R.S. Mylavarapu and S.P. Boetger. 2004/2002. UF/IFAS Nutrient Management Series: Computational Tools for Field Implementation of the Florida Phosphorus Index-*Polk County Florida*. CIRC1304, Soil & Water Science, Cooperative Extension Service, IFAS, p21.
- Hurt, G.W., R.S. Mylavarapu and S.P. Boetger. 2004/2002. UF/IFAS Nutrient Management Series: Computational Tools for Field Implementation of the Florida Phosphorus Index-*Osceola County Florida*. CIRC1305, Soil & Water Science, Cooperative Extension Service, IFAS, p20.
- Hurt, G.W., R.S. Mylavarapu and S.P. Boetger. 2004/2002. UF/IFAS Nutrient Management Series: Computational Tools for Field Implementation of the Florida Phosphorus Index-*St. Lucie County Florida*. CIRC1306, Soil & Water Science, Cooperative Extension Service, IFAS, p21.
- Hurt, G.W., R.S. Mylavarapu and S.P. Boetger. 2004/2002. UF/IFAS Nutrient Management Series: Computational Tools for Field Implementation of the Florida Phosphorus Index-*Martin County Florida*. CIRC1307, Soil & Water Science, Cooperative Extension Service, IFAS, p21.
- Hurt, G.W., R.S. Mylavarapu and S.P. Boetger. 2004/2002. UF/IFAS Nutrient Management Series: Computational Tools for Field Implementation of the Florida Phosphorus Index-*Palm Beach County Florida*. CIRC1308, Soil & Water Science, Cooperative Extension Service, IFAS, p20.
- Hurt, G.W., R.S. Mylavarapu and S.P. Boetger. 2004/2002. UF/IFAS Nutrient Management Series: Computational Tools for Field Implementation of the Florida Phosphorus Index-*Hendry County Florida*. CIRC1309, Soil & Water Science, Cooperative Extension Service, IFAS, p20.
- Hurt, G.W., R.S. Mylavarapu and S.P. Boetger. 2004/2002. UF/IFAS Nutrient Management Series: Computational Tools for Field Implementation of the Florida Phosphorus Index-*Broward County Florida*. CIRC1310, Soil & Water Science, Cooperative Extension Service, IFAS, p20.

- Hurt, G.W., R.S. Mylavarapu and S.P. Boetger. 2004/2002. UF/IFAS Nutrient Management Series: Computational Tools for Field Implementation of the Florida Phosphorus Index-*Hillsborough County Florida*. CIRC1317, Soil & Water Science, Cooperative Extension Service, IFAS, p21.
- Hurt, G.W., R.S. Mylavarapu and S.P. Boetger. 2004/2002. UF/IFAS Nutrient Management Series: Computational Tools for Field Implementation of the Florida Phosphorus Index-*Brevard County Florida*. CIRC1328, Soil & Water Science, Cooperative Extension Service, IFAS, p21.
- Hurt, G.W., R.S. Mylavarapu and S.P. Boetger. 2004/2002. UF/IFAS Nutrient Management Series: Computational Tools for Field Implementation of the Florida Phosphorus Index-*St. Johns County Florida*. CIRC1331, Soil & Water Science, Cooperative Extension Service, IFAS, p21.
- Hurt, G.W., R.S. Mylavarapu and S.P. Boetger. 2004/2002. UF/IFAS Nutrient Management Series: Computational Tools for Field Implementation of the Florida Phosphorus Index-*Putnam County Florida*. CIRC1332, Soil & Water Science, Cooperative Extension Service, IFAS, p21.
- Hurt, G.W., R.S. Mylavarapu and S.P. Boetger. 2004/2002. UF/IFAS Nutrient Management Series: Computational Tools for Field Implementation of the Florida Phosphorus Index-*Alachua County Florida*. CIRC1263, Soil & Water Science, Cooperative Extension Service, IFAS, p21.
- Mylavarapu, R.S. and E.D. Kennelley\*. 2002. UF/IFAS Extension Soil Testing Laboratory Analytical Procedures and Training Manual. Soil and Water Science, CIRC 1248, Cooperative Extension Service, IFAS, p19.
- Mylavarapu. R.S. and Wonsuk Lee. 2002. Soil Sampling Strategies for Precision Agriculture. SL190, Soil & Water Science, Cooperative Extension Service, IFAS, p4.
- Mylavarapu. R.S. 2002. The Process of Standardized Nutrient Recommendation Development for Successful Crop Production and Environmental Protection. SL189, Soil & Water Science, Cooperative Extension Service, IFAS, p3.
- Mylavarapu, R. S., Sanchez, J. F\*. *Hoja de Informacion para Analisis de Jardines y Huertos*. (Spanish) SL-136-SP, Soil & Water Science, Cooperative Extension Service, IFAS, p2.
- Mylavarapu, R. S., Sanchez, J. F\*. *Hoja de Informacion de Analisis para el Productor*. (Spanish) SL-135-SP Soil & Water Science, Cooperative Extension Service, IFAS, p2.
- Mylavarapu, R. S., Sanchez, J. F\*. *Hoja de Informacion para Analisis de Medios de Materos*. (Spanish) SL-134-SP Soil & Water Science, Cooperative Extension Service, IFAS, p2.

- Mylavarapu, R. S., Sanchez, J. F\*. *Hoja de Informacion para Analisis de Aguas.* (Spanish) SL-133-SP Soil & Water Science, Cooperative Extension Service, IFAS, p2.
- Mylavarapu, R. S., Sanchez, J. F.\* *Hoja de Informacion para Analisis de Suelos de Viveros de Pino.* (Spanish) SL-132-SP Soil & Water Science, Cooperative Extension Service, IFAS, p2.
- Mylavarapu, R. S., Sanchez, J. F\*. *Hoja de Informacion para Analisis de Tejidos Vegetables.* (Spanish) SL-131-SP Soil & Water Science, Cooperative Extension Service, IFAS, p2.
- Kidder, G., C.G. Chambliss, and R. Mylavarapu. 2002. UF/IFAS Standardized Fertilization Recommendations for Agronomic Crops. SL129, Soil & Water Science, Cooperative Extension Service, IFAS. p9.
- Mylavarapu, R., T. Yeager and J.M. Bartos. 2001. UF/IFAS Nutrient Management Series: Container Media Nutrient Test Interpretations. SL 180, Soil & Water Science, Cooperative Extension Service, IFAS. p3.
- Kidder, G., H.H. Van Horn, L.W. Schnell, J.P. Jacob, R. Mylavarapu. 2001. Introduction to Preparing Nutrient Management Plans. Circular 1247, Soil & Water Science, Cooperative Extension Service, IFAS. p54.
- C.G. Chambliss, G. Kidder, and R.S. Mylavarapu. 2000. Liming for Production of Forage Crops in Florida. SS-AGR-46, Soil & Water Science, Cooperative Extension Service, IFAS. p7.
- Mylavarapu, R..S. 1999. Plant Tissue Test Information Sheet. SL-131, Soil & Water Science, Cooperative Extension Service, IFAS. p2.
- Mylavarapu, R. S. 1999. Pine Nursery Soil Test Information Sheet. SL-132, Soil & Water Science, Cooperative Extension Service, IFAS. p2.
- Mylavarapu, R..S. 1999. Water Test Information Sheet. SL-133, Soil & Water Science, Cooperative Extension Service, IFAS. p3.
- Mylavarapu, R. S. 1999. Container Media Test Information Sheet. SL-134, Soil & Water Science, Cooperative Extension Service, IFAS. p3.
- Mylavarapu, R.S. 1999. Producer Soil Test Information Sheet. SL-135, Soil & Water Science, Cooperative Extension Service, IFAS. p3.
- Mylavarapu, R. S. 1999. Landscape and Vegetable Garden Test Information Sheet. Soil & Water Science, Cooperative Extension Service, IFAS. p3.

- Mylavarapu, R.S. and R.E. Franklin. 1998. Nutrient Management for South Carolina Based on Soil-Test Results. Extension Circular 476, Clemson University, Clemson, SC 29634, 79p.
- Mylavarapu, R.S. and K. Moore. 1998. Subsoil sampling protocol and adjustments for Potassium, Magnesium and Sulfur. IL 68, Coop Extension Service, Clemson University. <http://virtual.clemson.edu/groups/agsrvlb/newsle~1.txt>
- Mylavarapu, R.S. and G. Kessler. 1998. Nutrient Management for Christmas Trees. IL 69, Coop Ext. Service, Clemson University. [http://www.clemson.edu/extfor/christmas\\_trees/nutrients.htm](http://www.clemson.edu/extfor/christmas_trees/nutrients.htm)
- Mylavarapu, R.S. and R. E. Franklin. 1998. Field trials on validation of phosphorus and potassium recommendations in SC during 1996-97. IL65, Coop Extension Service, Clemson University. <http://soils.clemson.edu/verify.htm>
- Franklin, R.E., K. Moore, H. Deaton and R. S. Mylavarapu. 1998. Comparison of the Standard and a Modified Adams-Evans Lime Requirement Test. SB 674, Clemson University, SC 29634, p11. <http://www.clemson.edu/agcomm/pubs/Pages/AGRO/SB674.pdf>
- Mylavarapu, Rao, S. 1997. Soil Sampling for Precision Farming. IL63, Coop Extension Service, Clemson University. <http://soils.clemson.edu/Sampling2.htm>

#### **Trade Magazines**

- Zinati, G.M., H. H. Bryan and R.S. Mylavarapu. 2001. Methyl Bromide Alternative Tactics for Vegetable Production in South Florida. FACTS Proceedings, Lakeland, FL, May 22-23, p33-36.

#### **Newsletters**

- Mylavarapu, R.S. and S. Curry. 2005/2006. Nutrient Management, CSREES Southern Region Water Quality Program, Regional Newsletters.
- Mylavarapu, R.S. and S. Curry. 2004/2003. UF/IFAS Nutrient Management Education Core Group, Newsletter Issue #4, 5 &6.
- Mylavarapu, R.S. and S. Curry. 2002. UF/IFAS Nutrient Management Education Core Group, Newsletter Issue #3, December, p19.
- Mylavarapu, R.S. 2001. Proceedings of the FDEP 319 Prioritization Meeting In UF/IFAS Nutrient Management Education Core Group, Gainesville, FL: e-Newsletter Issue 2, March, p8.
- Mylavarapu, R.S. 2000. UF/IFAS Nutrient Management Education Core Group, Gainesville, FL, Newsletter Issue #1, December, p12.

## CREATIVE WORKS OR ACTIVITIES

### A. CD-ROM/Videos/Exhibits

- Mylavarapu, R.S. The Florida Phosphorus Index. Electronic tool for county-wise computation of the Florida P-Index. CD-ROM, IFAS.
- Mylavarapu, Rao, T.A. Obreza, R. Nordstedt and S. Curry. 2006. IFAS/NRCS Nutrient Management Planning- A Florida Practicum for Technical Service Providers, CD-ROM, Dec 4-6, Okeechobee, FL.
- Mylavarapu, Rao, T.A. Obreza, R. Nordstedt and S. Curry. 2004. Nutrient Management Planning- A Florida Practicum for Technical Service Providers, CD-ROM, May 24-26, Okeechobee, FL.
- Mylavarapu, Rao. 2004. Nutrient Management and Water Quality. IFAS In-Service Training. CD-ROM on nitrogen and phosphorus management. February 25-26, Gainesville, FL.
- Mylavarapu, Rao and S. Curry. 2004. USDA-NRCS National Phosphorus Management Team, an IFAS folder consisting of research and extension highlights including a CD-ROM, February 19, Live Oak, FL.
- Mylavarapu, Rao, T.A. Obreza, R. Nordstedt and S. Curry. 2003. IFAS/NRCS Nutrient & Pest Management Training-A Florida Practicum for CNMP Elements 2&3.CD-ROM. Dec 2-5, Live Oak, FL.
- Mylavarapu, Rao. 2003. UF/IFAS Extension Soil Testing Laboratory. Two promotional two laminated banner stand with colored pictures and text with lighting. Exhibits selected for display at the 2004 Gator Day in Tallahassee (April 15<sup>th</sup>) and at the 2003 Florida Agricultural Extension Professionals Meetings in Jacksonville (Sep 8-11).
- Mylavarapu, Rao, R.B. Brown, R. Nordstedt and S. Curry. 2003. Nutrient Management Training. A CD-ROM consisting of power point presentations, reference material and notes for Certification as Technical Service Providers, May 20-23, Okeechobee, FL.
- Mylavarapu, Rao, R.B. Brown, R. Nordstedt and S. Curry. 2002. Nutrient Management Training. A CD-ROM for IFAS/NRCS Nutrient Management Training for third party vendor certification, November 19-22, Live Oak, FL.
- Mylavarapu, Rao, R.B. Brown, R. Nordstedt and S. Curry. 2002. Nutrient Management Training. A CD-ROM consisting of power point presentations, reference material and notes, IFAS/NRCS Nutrient Management Training for third party vendor certification, June 4-6, Okeechobee, FL.

- Mylavarapu, Rao. 2002. Basic Soil Fertility, Nutrient Management and Water Quality. A CD-ROM consisting of power point presentations, reference material and notes, In-Service Training, February 20, Gainesville.
- Mylavarapu, Rao. 2001. “Extension Soil Testing Program”, promotional display highlighting available soil testing services, sampling tips, distribution of brochures, Soil & Water Science Departmental Forum, September 6.
- Mylavarapu, Rao and James DeVore. 2000 and 2001. “UF/IFAS Extension Soil Testing Laboratory”, promotional pictorial display to include the mission, soil, water and plant analyses, sampling tips, sample submission forms, and related information dissemination. Florida Ag Extension Professionals Annual Meetings, Sept 17, 2000 and Sep 13, 2001.
- Mylavarapu, Rao. 1999. UF/IFAS Analytical Research Laboratory, a video-film promoting services of the ARL, different analyses and instruments, quality control, sample scheduling, 4.30 minutes in length.
- Mylavarapu, Rao. 1999. UF/IFAS Extension Soil Testing Laboratory, a video-film promoting services of the ESTL, soil testing philosophy, different analyses and instruments, sample collection tips, etc., 4.35 minutes in length.

## B. WEBSITES (3)

- A website for my soil and nutrient management program consisting of information about the research projects and extension programs, graduate student research, with links to the soil testing labs and other relevant sites. Revised August 2004. URL: [nutrients.ifas.ufl.edu](http://nutrients.ifas.ufl.edu)
- A website for the UF/IFAS Extension Soil Testing Laboratory consisting of information about the laboratory mission, services provided, fee schedules, sample submission forms, personnel, etc. Revised August 2004. URL: [soilslab.ifas.ufl.edu](http://soilslab.ifas.ufl.edu)
- A website for the UF/IFAS Analytical Research Laboratory consisting of information about the laboratory mission, services provided, fee schedules, QA information, instruments, personnel, etc. Revised August 2004. URL: [arl.ifas.ufl.edu](http://arl.ifas.ufl.edu)

## ADMINISTRATIVE SERVICE

a. Administrative Service as the Director of UF/IFAS Analytical Research and Extension Soil Testing Laboratories (ARL and ESTL), Wallace Building, UF Campus, Gainesville and IFAS Livestock Waste Testing laboratory, Live Oak.

(i) Mission Statements

In view of distinctly different roles that each of the Labs is responsible for playing, the following two unique mission statements were developed to explicitly set the tone.

The ARL Mission Statement-

*“to offer UF/IFAS researchers high quality analytical services for an appropriate selection of standard tests in a timely manner, through adoption of NELAP Certification protocols”*

The ESTL Mission Statement-

*“to serve the citizens of Florida, by providing selected soil, plant, and water testing,, interpretations and recommendations as an educational component of the Cooperative Extension Service to guide management decisions affecting lime and fertilizer use efficiency”*

(ii) Laboratory Automation

- A fully-functional LIMS software was implemented at the Labs in 2003, after two years of development and testing phases.
- Most functions have been automated, including data acquisition, transfers, QA qualifiers, electronic client reports, and billing and managerial summary reports.
- The ESTL test reports have been re-designed with graphic charts added to significantly improve comprehension and clarity.
- The ARL research reports now contain all of the QA/QC data on the same report as required by funding and regulatory agencies compared to separate manual insertions previously.
- Two web sites, one for each lab, were developed to provide necessary information on various analytical services available, fee schedules and to provide the sample submission forms.
- A web site of my nutrient management program provides scientific information in support of the ESTL services on soil fertility, soil testing, interpretations, recommendations, and links to all the educational information through IFAS extension web site (EDIS). This web site serves as a valuable resource, particularly to the county extension faculty in the state.
- Web based request forms for ARL analyses have been developed and are being tested currently. This procedure is expected to vastly improve client-ARL interaction.
- Additional modifications to the LIMS are being made to integrate the new People Soft protocols.

(iii) Equipment and Analyses

The ESTL typically processes nearly 12,000 samples a year and the ARL analyzes nearly 100,000 samples a year. In response to the rapidly climbing demands and researchers' needs for more and newer laboratory services, particularly at the ARL, additional analytical instruments were acquired and new analyses were implemented. The Certification of the ARL was critical for several IFAS researchers and their projects. The ARL acquired Florida Department of Environmental Protection certification (until 2003) and through the Florida Department of Health, the certification under National Environmental Laboratory Accreditation Program (NELAP) from 2004 onwards.

- The ARL has successfully obtained the NELAC Certification for its analytical procedures in 2004 and has successfully renewed it through June 2005.

- After a significant testing phase, the ARL has implemented, a low-level (parts per billion) phosphorus analysis, to aid researchers working particularly on the Everglades and Okeechobee restoration projects.
- Two new Inductively Coupled Plasma Spectrophotometers (ICPs), costing approximately \$100,000 each, have been acquired to replace previous old and inefficient ICPs.
- Two new autoanalyzers (\$45,000 each) have been purchased for nitrate, ammonia and phosphorus analysis in addition to the three already present. One of the machines is dedicated to run low level phosphorus analysis.
- A new autoclave, muffle furnace and digestion block were purchased to increase sample digestion capacity.

(iv) Personnel Resources

The Labs originally had a total of 8 permanent USPS employees and a Laboratory Coordinator (A&P faculty) managing day-to-day activities. In order to support the growth of the Labs, personnel resources were successfully secured and enhanced, after formal national/regional search and screen processes.

- In 2006/2007, two new positions- Chemist/QA Officers are being created and recruited for establishing the new Environmental Water Quality Lab in addition to the ARL and ESTL.
- In 2006, a front-office assistant position was created moving from a traditional office assistant to include the accounting responsibilities.
- In 1999, a new chemist and ARL QA Officer position was created and a permanent USPS employee was hired.
- In 2000, a new Coordinator was hired for the Labs.
- In 2003/2004, one computer operator and one laboratory analyst have retired. Replacements were successfully hired in each of those positions.
- Addition of a half-time Program Fiscal Assistant at the Labs has been approved for which hiring process will be initiated shortly.
- Plans are being drawn for 3 more anticipated retirements of the personnel including options such as revamping the positions to reflect the current and future needs.
- Annual evaluation forms for use by the Coordinator were developed. Annual evaluation of the Coordinator is conducted directly by me and recommendations are forwarded to the Chair.
- Have successfully counseled several personnel including the Coordinator with regards to improving the staff morale and efficiency. Several confidence building measures are in place, including one-one and group meetings, open discussions, and one-time bonuses to an employee annually who performs duties over and above the routine assignments. Annual retreats and seasonal food functions for the lab personnel are routinely being organized.

(v) Fiscal Resources

- an estimated \$80,000 a year in 2000 of revenue has now increased to approximately \$400,000 a year between ARL and the ESTL.

### **Professional Activities:**

- Nominated to the Editorial Board of 'Communications in Soil Science and Plant Analysis' an international peer-reviewed journal emphasizing soil, plant and water analysis and nutrient management – April, 2004-present.
- Chair, Search Committee, Senior Chemist, Chemist, and Computer Operator at the UF/IFAS Analytical Research & Extension Soil Testing Laboratories (2004).
- Chair, Search & Screen Committee for Coordinator, Research Programs (A&P) at the UF/IFAS Analytical Research & Extension Soil Testing Laboratories (2002).
- Chair, Search Committee for Coordinator, Extension Programs (A&P), for third party vendor training and certification program, a multi-year grant funded position (2002).
- Member, Editorial Board, Soil & Water Science Department Newsletter, 2000-2001.

### **Inter-Departmental/IFAS Committees:**

- UF/IFAS Representative to SERA-IEG-6
- UF/IFAS Member on statewide P-Index Committee
- Design Team Member, Nutrient Management, SMP FL 107 on Vegetable Production
- Design Member, Nutrient Management, SMP FL 116 on Turfgrass Management
- Design Team, SMP FL 412 on Comprehensive Water Quality
- Design Team, SMP FL 411 on Irrigation Management
- Design Team, SMP FL 130 on IFAS Diagnostic Services
- Design Team, SMP FL 106 on Animal Manures and Wastes
- Member, Nutrient Management, SMP FL 101 on Agronomic Crops
- Ex-Officio member ARL/ESTL Oversight Committee
- IFAS-FDACS Committee member for Forage grass BMP Development
- Guest member, UF/IFAS Plant Nutrient Oversight Committee
- Member, Suwannee River Basin Fertilizer Work Group
- Member, Livestock Waste Testing Laboratory Advisory Committee, NFREC, Live Oak.
- Member, Limpograss Fertilization Work Group
- Member, Search & Screen Committee for Coordinator, Livestock Waste Testing Lab, NFREC, Suwannee
- Member, Search & Screen Committee for Coordinator, Suwannee Partnership, Live Oak.

### **University Committees:**

Member, Faculty Senate, 2000-2002

### **INTERNATIONAL ACTIVITIES**

- 1) Participant in two workshops in 2007- Agricultural Knowledge Initiative- India-US Collaboration for Capacity Building and Water Management by ANGRAU and PAU in India.
- 2) Participating in the the 10<sup>th</sup> International Soil & Plant Analysis Council Symposium in Budapest, Hungary in June, 2007.

- 3) Participating in discussions with Earth University, Costa Rica, to develop and implement a soil & nutrient management program, April 2007.
- 4) Participated in an international workshop and a seminar in 2005 and 2006 organized by Jawaharlal Nehru Technological University, Hyderabad, India.
- 5) 2000-present - Member, International Continuing Education Credits Committee, Certified Crop Advisers Program, American Society of Agronomy, Madison, Wisconsin. Members of this committee are charged with the responsibility of evaluating and approving the continuing education credits that can be applied to each of the educational/training events, internationally.
- 6) 2000-present - Member, International Soil & Plant Analysis Council with soil fertility specialists from all over the world that meets every two years in one of the member countries. Participated in 2001 and 2003 International Symposia in Edmonton, Canada and Cape Town, South Africa and presented research papers, one of which is published in a peer-reviewed journal. Planning to attend the 2005 Symposium in Cancun, Mexico and present a paper. Abstract has been approved. Currently a member of the Abstract Review Committee for the 2005 ISSPA Council Conference.
- 7) 1999 - Hosted Japanese officials in-charge of international agricultural marketing with support services such as soil testing and fertilizer recommendations. The officials toured the IFAS Extension Soil Testing Laboratory and discussed the soil testing philosophy, goals of cooperative extension and educational service, and value of soil testing for economically and environmentally sustainable crop production. Possibility for future collaboration for developing a soil testing program for Japanese farmers was explored.
- 8) Working on the invitation by Soils faculty at Earth University to visit Costa Rica (in 2003) to discuss the possibility of collaborating on research projects involving soil, water and nutrient management. Planning to visit to Costa Rica at an appropriate time.

## **AWARDS & RECOGNITIONS**

- Hornsby Extension Professorial Award, 2006-2007 awarded by the UF/IFAS
- Elected to the Board, International Soil & Plant Analysis Council, 2007-2009
- Elected Vice-Chair, SERA-IEG-6, 2006-2008
- Nominated to the Technical Advisory Committee, EPA Regions 4 & 6, Nutrient Criteria
- IFAS Image Gold Award 2007, Best Regional Newsletter, Southern Region Water Quality
- Southern Region Water Quality Nutrient Management Team- best team display by CSREES, Washington, DC.
- Jim App Outstanding Team Award 2002- Best Team on Vegetables

## **MEMBERSHIP AND ACTIVITIES IN THE PROFESSION**

Member, American Society of Agronomy, 1992-present  
Member, Soil Science Society of America, 1992-present

Member, International Continuing Education Review Committee, American Society of Agronomy, 1999-present

Member, Werner Nelson Agricultural Productivity Award, American Society of Agronomy, 1999-2001

Member, Soil & Crop Science Society of Florida, 2000-present

Member, Florida State Horticultural Society, 2001-present

Member, Sigma Xi, 2000-present

Member, Suwannee Fertilizer Workgroup

Member, Suwannee Basin BMP Working Group

Member, Forage BMP Development Group, Suwannee basin

Member, Turfgrass BMP Development Team