

SERA-IEG-6**Nutrient Analysis of Soils, Plants, Water, and Waste Materials
Southern Extension and Research Activity Information
Exchange Group 6**

Annual Meeting, June 9-11, 2002, University of Georgia, Athens,
GA

Holiday Inn Conference Center

In Attendance:**1. Administrative:**

Kathy Moore, Chairman

C. Ray Campbell Chair-elect

Bill Thom, Past Chairman

Hugh Savoy, Secretary

Bob Westerman, Administrative Advisor, Research

David Kissel, Administrative Advisor, Extension

2. State Representatives: See Participants Listing on web site**3. Sponsorship:**

a. Perkin Elmer Instruments

b. Spectro Analytical Instruments

c. Thermo Elemental

d. Leeman labs

e. Labfit

Concurrent Poster Session: posters on display throughout the
annual meeting

1. Plank O. "UGFertex: A window based expert system for
generating prescription lime and nutrient guidelines."

2. Vendrell, P. F., Parks, J. D., Mitchell, J. W., Josey, R. W., Spaid, D.
G., and Jain, A. V. "Evaluation of a field test kit for measuring forage
nitrate"

3. Oldham, L. "Mississippi Poultry Litter-based nutrient management
programming- The Newton Experience."

4. Oldham, L. Olsenius, C. , LaSalle, M. " Communication enhancement among Mississippi watershed stakeholders"
5. Donohue, S. J. "Evaluation of soil nutrient variability for development of turfgrass soil test sampling methods.

June 9, 2002

-Registration and Social (Sponsored by Thermo Elemental, Perkin Elmer, Spectro and Leeman labs)

June 10, 2002

-Breakfast, Registration continued

-8:30 a.m., Welcomed by Dr. Gale A. Buchanan, Dean and Director of the College of Agricultural Sciences

Dr. Buchanan stressed the need to stop erosion of funding for our agricultural programs and to work together in making the best use of the resources that we have.

- Opening remarks, Introduction of guests, local arrangements by Kathy Moore**Special Recognition given to:**

Dr. James Woodruff, Dr. J. B. Jones, Dr. Bob Isaac, Mr. Gerald Cooper

-Dr. David Kissel gave the administrative report for extension followed by Dr. Robert Westerman for Research

Dr. Kissel expressed thanks to each of our sponsors represented: Dan Jones and Craig Smith from Perkin Elmer, Mark Johnson and Bruce Moulton from Spectro, Peter Brown from Leeman Labs, Bob Dussich from Thermo Elemental.

Dr. Westerman expressed his thanks for the completion of bulletin 190 and reported on the recent Directors meeting where hot topics discussed were (1) Dealing with animal waste issues and (2) Dealing with tighter budgets.

- USDA CSREES Report (Ray Knighton)

Formula funds flat

President has proposed doubling national research initiative budget to 240 million

National research initiative has been made high priority by the undersecretary for research

IFAS re-authorized in new farm bill

406 water quality funding approximately 13 million. All 10 EPA regions have now received funding for research/extension/teaching activities

9:30 a.m. Publication status reports

- Bulletin 190, Hugh Savoy reporting
- completed and posted on web site
- Savoy will update
- Regional Cotton Fertility Publications: Charlie Mitchell reporting
- reported on completion of bulletin and need for similar information/bulletin for loess derived and associated soils
- Manure Testing Manual: Nancy Wolf reporting
- section drafts of the manual given and near completion
- Meh 1 Vs Meh 3 Fact sheet: Frank Sikora reporting
- Frank requests any data to be incorporated in the fact sheet be received by the end of August.

10:00 a.m. BREAK

10:15 a.m. Report from NCR-13 Representative- Manjula Nathan reporting.

Procedures used in the north central region are posted on the University of Missouri web site.

10:30 a.m. CEC Survey of Data and Methods And Fact Sheet-

Hugh Savoy and Tony Provin reporting.

An outline of fact sheet to be emailed over list server for comment. Virtual sample exchange revealed large range among university labs responding in amounts of lime, P, K recommended for crop production based on the same soil test results. Variation for nitrogen was not as great.

More regional interpretation efforts are perhaps needed such as have been done in the past with cotton and peanuts.

11:10 a.m. North American Proficiency Testing (NAPT), Meh 3 color vs. ICP Phosphorus and lab method precision : Bob Miller reporting.

12:00 noon: LUNCH**1:00 p.m. Development of Standardized Fertilizer**

Recommendations in the Mid-Atlantic Region: Steve Donohue reported on the experience of the Mid-Atlantic region.

1:30 p.m. Phosphorus risk index: How should it be used in a TMDL: Hailin Zhang reported on use of P index in OK

2:00 p.m. BREAK

Following break, a lab tour was conducted by our Georgia hosts during which Labfit conducted a pH unit demonstration.

Dinner at 6:00 p.m. was sponsored by Labfit and Spectro

June 11, 2001

-Breakfast

8:00 a.m. Watershed forum roundtables as held in Mississippi was discussed by Larry Oldham

8:30 - 9:00 a.m. Mission statement and annual reports: Kathy Moore, Nathan Slaton

A motion was made by Kathy Moore and seconded by Charlie Mitchell to accept changes to the mission statement as discussed during the meeting. Motion passed.

Nathan Slaton will take lead in working on any title change for the group.

9:00 a.m. STATE REPORTS

1. VA: Steve Donohue

-processed 45,000 samples in FY2002

- Purchased an AS-3000 pH analyzer from Labfit

- Will probably purchase a new ICP in 2004

- Lost three recently hired technicians in 2001

- Virginia Extension diagnostic labs prepared a web site to train new agents: <http://sudan.cses.vt.edu/html/STL.html>

Soil test web site <http://www.ext.vt.edu/pubs/agronomy/>

VA agronomy handbook

<http://www.ext.vt.edu/vce/specialty/diagnose.html>

VCE diagnostic lab services

2. TN: Gary Lessman, Debbie Joines and Hugh Savoy Reporting
Dr. Lessman is retiring at the end of June and this will be his last official meeting

lab is running about 25,000 samples per year

Two new soils faculty are being hired this year (Soil microbiology and environmental soil scientist)

3 to 4 hard funded graduate assistantships in soils are currently available through Biosystems Engineering and Environmental Science Department

3. TX: Tony Provin reporting

-Client soil samples at 28,000 per year. Non-research forage samples steady at 14,000. Water samples 15000

-field research activities expanded, including K rates for bermuda grass; P rates in Bermuda, corn and sorghum; limestone/soil pH rate studies and turf/sod production runoff studies.

4. SC: Kathy Moore reporting

- Reporting system web based

<http://virtual.clemson.edu/groups/agssrvlb/myweb10/index.htm>-

Sample submission forms are now on lab web site (Omni Forms)

-Increased fees for some animal waste, plant tissue, feed and forage samples

-New pH analyzer purchased from Labfit

-in 2001 conducted 35,297 soil, 1852 plant, 1958 feed, 508 water, 917 animal waste, and 480 other sample analyses

5. OK: reported by Hailin Zhang

-about 35,000 combined soil, water and forage analyses conducted in 2001.

-Old data management system was developed in the early 90's and had little flexibility to make changes. The web reporting program was separate from the lab database, therefore, daily manual uploading data to the web was required. The system has been completely redeveloped and the new system integrates sample login, analytical results and interpretation, accounting, statistics and web reporting into one system. Development took 2 years at a cost of about \$35,000. The new system was put into use on Jan. 1, 2002. So far, everything runs well.

- The web-based reporting system has been improved to allow county Ag. Educators to add additional information electronically before they print the reports. The access to lab results is password protected. Hardcopy reports are still mailed to lab users since majority of our clients prefer hard copies.

- The lab is pleased with the Spectro Ciros ICP installed in late 1999 so far. A second Lachat was recently purchased and another ICP is currently being purchased.

6. NC: Ray Campbell reporting

North Carolina is currently facing a budget crisis. Most recently, NCSU had to close 50 permanent positions. Most are believed to be support staff.

NCDA Agronomic Division representatives could not attend the meeting due to budget constraints. They submitted the following reports to be included in the minutes of the meeting:

Submitted by David Hardy: After 27 years of service Dr. M. Ray

Tucker, Section Chief of Soil Testing, retired on November 30, 2001.

Dr. David H. Hardy was hired in January 2002 to assume his duties.

Approximately 322,000 samples, an all-time record, were analyzed in 2001 and over 300,000 samples will be analyzed for 2002.

Sample volume is expected to increase as nutrient management rules involving nitrogen and phosphorus are implemented in nutrient sensitive watersheds. The lab has the following new equipment: a robotic AS 3000 LabFit pH Analyzer and a 4th ICAP (Thermo Elemental 61E) - arrival expected this summer.

Submitted by Bobby Walls: The Plant/Waste/Solution Laboratory of the NCDA&CS's Agronomic Division has had another record year in terms of samples submitted for analysis. Almost 17,000 plant samples and over 18,000 waste samples have been analyzed this year. This is an all time record for both services. Cotton continues to be the largest plant samples. However, fruits and vegetables samples are growing at a rate that reflects the increase in production across the state. A new thermal flash Nitrogen analyzer has been purchased to assist with the growing numbers of samples.

7. MS: Keith Crouse and Larry Oldham reporting

- Soil sample loads have not changed much
- Soil reports are now available over the Internet
- fees for basic soil test increased from \$3.00 to \$6.00 per sample
- Plant tissue analysis at \$15.00

8. LA: Jim Wang and Rodney Henderson, Jay Stevens reporting

- Plant and Soil labs integrated into one unit (Louisiana State Soil Testing and Plant Analysis Laboratory)
- Samples run in 2001: 13168 routine soil, 409 water analysis, 5580 plant samples
- A new computer program that is able to handle sample processing, analytical reports as well as accounting was implemented in September 1, 2001.
- Lime recommendations, sulfur recommendations based on the crop to be grown are now being made with the new program. Results are sent over email to agents, researchers, and clients.
- Lab is adjusting fees on some categories of analyses including both soil and plant samples and new fees will be effective July 1, 2002.

9. KY: Frank Sikora and Bill Thom reporting

- Routine soil tests up last fall and spring due to a government cost share program using tobacco settlement money. -400/day in Lexington and 200/day in Princeton for several weeks this spring. A maximum capacity run was never needed last year.
- Princeton lab got a new Varian ICP with radial torch. It will be operational this fall. Comparative studies between color and ICP-P

will be done before moving to ICP-P this fall.

- The new soil test program is fully functional. County offices have the option to receive reports as attachments to email or as text data that is imported into a program. Nearly half of the 120 Kentucky counties are using the program option. An upgrade to the program will be available this summer.
- Updated UK soils web site with current county soil data on the web, soil test summaries for 3-year periods, fertilizer calculator
- Amino-sugar test being evaluated at Princeton
- New University President is providing good leadership
- soil extension position filled (Ken Wells position)

10.GA: David Kissel, Paul Vendrell and William Johnson, Jr. reporting

- Jul 1, 2001 through May 31, 2002: 109319 soil, 2718 animal manure, 8000 water, 2446 plant, 2286 feed and forage and 950 waste water samples analyzed, 1000 state environmental division contract samples, 1700 other.
 - Over 95 percent of the animal manures were poultry litter under the free poultry litter testing program
 - New forage testing program underway. Two new extension forage specialists hired
 - Foss NIR purchased to support forage testing program
 - expanded water test implemented includes: alkalinity, common anions and conductance, in addition to measurement of pH and minerals. A saturation index is calculated and used to predict water's corrosiveness.
 - A 3-year contract for analytical services established with the Environmental Protection Division of the GA Department of Natural Resources.
 - Several poultry litter projects underway (Dr. Bush). Other projects include mercury and lead levels in fish, fecal coliform analysis in Big Cedar Creek, and a USDA forest service project on the volatilization of trichloroethylene and tetrachloroethene.
 - Emphasis on soil pH and liming has been increased. Robotics used for pH determination, alternative methods for lime determination being studied, subsoil pH and spatial distribution within the field being studied.
11. FL: Rao Mylavarapu reporting
- FL has 67 extension fact sheets online at IFAS web site
 - new P index
-
- Third party vendor training to be conducted with extension being certifying agency

12. AR: Nathan Slaton and Nancy Wolf reporting

- Dr. Morteza Mozaffari is new Director of the Marianna Soil Test laboratory effective April 2002
- Dr. Leo Espinoza started Oct, 2001 as Extension service soil specialist in Little Rock
- Dr. Don Scott has retired and Dr. Kris Brye (soil physics) and Dr. Mary Savin (Environmental soils) have been hired
- Meh 3 Extraction ratio change to 1:7 from standard 1:10 is still being contemplated
- Organic matter determination changed to LOI effective Oct. 2001
- An autoanalyzer is being purchased to run soil NO₃
- Dr. Mozaffari and lab staff at Marianna will be evaluating our current method for lime requirement determination
- alternative Internet based method of reporting routine soil test and fertilizer recommendations is being considered.

Lab numbers:

Marianna lab July 1, 2001 to Dec. 31, 2001

92952 routine soil, 5332 cotton petiole, 39 percent of soil samples were grid samples, lower sample numbers were submitted Jan 1 to May 1 2002 due to wet soils

Fayetteville lab: July 2001 to May 2002

1592 manure samples, 1090 forage samples, 967 diagnostic plant and soil samples, 4465 research soil samples, 10280 research plant samples, 8848 predigested or extracted samples

- 2002 fertilizer sales slow. Steady acreage of rice, corn, and grain sorghum are expected to maintain fertilizer sales at steady volume

13. AL: Charlie Mitchell, Hamp Bryant and Anna Reynolds reporting

- Processed 32453 routine soil samples, 15,000 special analysis samples, 500 feed/forage samples
- Special analysis includes soils for further analysis, water, plant tissue, animal and/or industrial/municipal wastes, water for irrigation, sundry oddments shipped from researchers, specialists and others
- computer support specialist being sought to bring WEB capabilities up to date
- Exploring new data collection methods and software
- Exploring set up of credit card payments for services offered
- Hope to purchase new equipment for the new facility
- currently enrolled in NAPT, NAFTA and MN Dept of Ag. and Ind. Manure analysis certification programs
- periodic review by administration guides price changes
- requirement to operate as a non-profit but self-supporting service function.

Current routine analysis charges:

<5 samples \$8.00 per sample

5-49 \$7.00 per sample

50 or more \$ 6.00 per sample

in one shipment of samples.

11:30 a.m. Wrap Up

Ray Campbell assumed position of Chair.

Hailin Zhang was nominated and elected as incoming secretary.

Tentative date and location of next meeting will be Oklahoma, June 8
- 10, 2003.

12:00 noon. Meeting adjourned.

Minutes of SERA-IEG-6 June 9-11, 2002 respectfully submitted by
Dr. Hugh Savoy, Secretary