

SERA-IEG-6 ANNUAL MEETING - VPI & SU, Blacksburg, VA

Minutes of Annual Meeting

Monday, June 12, 1995

President Wayne Sabbe (AR) called the Annual Meeting to order promptly at 8 am. He introduced Dr. L. A. Swiger, Dean, College of Agriculture and Life Sciences at VPI & SU. Dr. Swiger welcomed us to Virginia and the campus. He encouraged us to visit the many sites of this area. Dr. Swiger shared some of the funding and staff reductions recently experienced in the College.

All in attendance made self introductions while telling something about their current job responsibilities and the type of appointment.

Host Steve Donohue (VA) welcomed us to the campus and outlined plans for special tours and events during the meeting.

Wayne Sabbe reviewed the agenda for the meeting which included a few small changes.

Dr. Bill Allen (VA), Extension Administrative Advisor welcomed the group to VPI & SU. He spoke of the challenging times for state and Federal funding; Federal proposal is for 2% per year decline. Those in research and extension must overcome budget reductions with an organized effort. It is increasingly important that we prioritize programs and devote major efforts toward achieving an impact on clientele. There are concerns that some states and parts of the Federal system is moving toward privatization of traditional extension and research programs. The Southern Directors are interested in good use of our time and funds. SERA 6 has been a leader in packaging information for the areas in which we focus, and we are challenged to continue these active efforts. This group will need to be alert toward regionalizing some educational programs in neighboring states. This is Dr. Allens' last meeting with this group as he will be retiring in a few days. Wayne Sabbe thanked him for his diligent efforts with the Southern Directors on our behalf.

Dr. George Kriz (NC), Research Administrative Advisor spoke to some Experiment Station related items of interest. There are some issues under the precision farming umbrella that are important to consider: 1) adjoining states need to work closely together to work out some nutrient recommendations; and 2) our group needs to agree on some type of standards for testing and interpretation. Seeking cooperation of our neighboring states is important because state borders are not as important for nutrient use, and tools are now available to many farmers for greatly expanded communication with other states information. Dr. Kriz will evaluate and forward suggestions from the Southern Association of Regional Directors of Experiment Stations for electronic publication procedures. The committee needs to move full speed ahead with expansion of the Regional Fact Sheets. The committee will have a review process and will need to keep a log of Fact Sheets released under a yet to be worked out numbering system.

Ed Hanlon (FL) reviewed the status of Southern Regional Bulletin 190 revisions. The anticipated publication date is July - August 1995. He is looking at CD ROM as an alternate publishing outlet. Ed was encouraged to evaluate World Wide Web as a method for electronic publication. Some problems have been overcome in putting together procedure descriptions from the states.

A further discussion on placing electronic pubs on the World WideWeb followed. Access is through Internet with connections to Ethernet. This system will take text information only or some text and graphic information. Access to such information requires a "search engine" and some type of software filter program. Maurice Watson asked us proceed with caution when putting information on the system, and there will be a possibility of information overload.

Two demonstrations (Steve Hodges - NC and Owen Plank - GA) will be held this evening in Rooms D & E of the Conference Center to view new computer linked projection equipment and information on the World Wide Web.

Ray Campbell (NCDA) reported on the plant analysis bulletin. Additional responses are needed for the remaining chapters. Some reassignments are needed as some prospective authors have cancelled. October 1, 1995 is the deadline for the first draft. Hope to put on the electronic system by January 1, 1996. A hard copy is needed for filing.

The Non-conventional Soil Amendments opportunities and challenges were discussed. Response from committee members to a proposed outline for a bulletin was low. However, interest is high among the SERA Committee. Iowa State has published NC 103 for the North Central Region. Fact Sheets on individual wastes would be appropriate at this time with waste combinations or waste groups to be dealt with later.

Hugh Savoy (TN) reviewed the Nitrogen Testing Fact Sheet. All but 2 questionnaires have been returned. He proposed a format and summarized the approach to be used. The Fact Sheet will contain some interpretative information which will allow each state to add their own information. The Fact Sheet will be out for review by August 1 with a goal of release no later than January 1, 1996.

Bill Baker (AR) spoke on the need for labs to have a quality assurance program. It is especially important in grid sampling and future liability issues. All labs should have the process in writing, and available for review and inspection. This becomes the QA/QC procedure for the lab. He has proposed 20 major areas as elements of Quality Control that will answer questions related to liability, chain-of-custody and handling out-of-line samples. He hopes to have the process in a check-off format for labs to use, and is working with the North Central Region to implement on a broader scale.

Hamp Bryant (AL) reported on the sample exchange program. He prepared 2 soil samples, 2 solutions and 2 plant samples for laboratories in each state to analyze and return results by August 1, 1995. He requests that labs run samples both by routine lab procedures and by the Southern Region Reference Methods. He recognizes that some labs are already participating in the Council's sample exchange program. It may be more important to compare recommendations for sample results between each state. At the current time, it was felt that sample exchanges each

year would be sufficient. There was some discussion on method and procedural differences. Many of these differences are overcome when using the Reference Methods.

Charles Mitchell (AL) reported on activities of the Interpretation and Recommendations Committee. Going through the process of developing and printing the Peanut Recommendation Pub brought considerable harmony to recommendations that previously had considerable variation across state lines. Cotton is the next crop proposed for evaluation. There is an extensive data base in all states growing cotton. It is proposed that in 1995-1996 two Regional Pubs be issued on cotton recommendations. The committee has finished revision of the Organic Matter Fact Sheet which is primarily aimed at interpreting organic matter test results. In the future, this committee would like to issue Fact Sheets by nutrient and later put these into bulletin form.

Owen Plank (GA) reported on activities of the Soil and Plant Analysis Council. August 5-10, 1995 are dates for the International Symposium. A total of 80 labs are participating in the proficiency testing program with 7 warnings issued to date. The next round of sample exchanges will include plant samples. The Council is studying the possibility of coming under the ASA umbrella as a separate committee.

Ed Hanlon, a member of the Board, recently met with a group from USDA that is concerned about the lower sample numbers reported by private and commercial labs. Having more accurate numbers will be important as nutrient management programs become a greater part of future water quality programs.

Fred Cox (NC) reported on some research that is underway at NC State to minimize P runoff from nonpoint sources to protect water quality. They are analyzing P concentrations from runoff water with the following objectives: 1) determine threshold P soil test levels; 2) characterize land transport mechanisms; 3) identify and develop BMP's for reducing P loss; and 4) develop field scale tools for BMP implementation.

A discussion on the ASTM/ASA Workshop in Atlanta ensued. Keith Hoddinott from ASTM is organizing the Workshop to develop national standards for analyzing soils for N, P, K, and other nutrients. The single days events will have speakers to address specific topics in the morning with afternoon discussion groups having the task of writing standards. SERA-6 passed a resolution asking Charles Mitchell and Owen Plank to be official representatives from this group to the Workshop. Wayne Sabbe will correspond with Keith Hoddinott to relay this action.

## STATE REPORTS

Arkansas - Cliff Snyder will be departing on Sept. 30, 1995 to work with PPI. The lab tested a record number of soil samples this past year. They are expanding their programs in cotton petioles, soil nitrate-nitrogen, and soluble salts. Results with the soil nitrate-nitrogen testing for cotton indicate that <5% need > 50 lb N/acre and that 80% need <25 lb N/acre for cotton. With the state requiring both a soil and waste sample before waste application, nearly 1000 samples were handled last year. They tested about 400 dry waste samples this past year and are trying to correlate an NIR technique to reduce turn-around, and they are using the DTPA extractant for determining heavy metals in soils receiving waste application.

Alabama - In a major reporting change, Auburn has dropped the sufficiency index for reporting ranges with soil test results, and they have gone to reporting lbs/acre. The price increase in Oct. 1993 was followed by a drop in sample numbers but is now back to the pre-change numbers. There has been an increase in special analysis requests which resulted in a decreased percentage of income from soil samples.

Florida - Most labs will now carry a price tag. Major efforts are underway in developing BMP's for reducing nitrates in the groundwater. A total 110,443 soil samples were tested in 1994. The lab will be expected to become self supporting in the near future. They are using CPI as an alternate supplier of parts for TJA equipment to reduce costs.

Georgia - A new pesticide and feed analysis lab will be constructed near the existing soil and plant lab. Soil sample charges changed in 1994 to being free for farmers and a \$4 charge for commercial businesses. When charging began about 2 years before, the lab experienced a 52% drop in numbers. Through May 1995, the lab had analyzed about 58,000 soil samples, 3500 plant samples, 1,000 feed samples, 5,500 water samples, and 4,800 miscellaneous samples. A new soil test reporting form is under development that will be more graphic for results.

Kentucky - Total soil sample numbers for 1994 were about the same as 1993 but the lab tested fewer soil samples for growing tobacco. July 1, 1994 saw the sample fee increase \$1 to \$4 and the routine analysis was expanded to now include pH, P, K, Ca, Mg, and Zn. The lab tested 47 animal waste samples in 1994, and they are starting up a new Leco C/N analyzer.

Louisiana - The lab tested 15,300 soil samples in 1994 and just over 100 water samples. They are in the process of comparing ICP measured P with colorimetric measured P. The plant analysis lab just opened with Paul Bell as director.

Mississippi - Wayne Houston retired on January 31, 1995 and Fred Jones will retire soon. The soil testing lab is currently going through a review process. It appears that testing of animal wastes and water will be added. Soil sample volume to date in 1995 is about the same as 1994 with some increase in plant tissue samples.

North Carolina State - Several research projects are underway in the waste and environment area: Comparing wood ash to lime; Comparing P availability of poultry litter vs. TSP; Evaluating elemental availability of lime stabilized sludge; Looking at Zn and Cu toxicity in plants with soils that are high due to animal waste application; Studies on economic critical levels for P; and an international project on P decision support system for low P soils.

North Carolina has about 800,000 acres of cotton in 1995 which is double the 1994 acreage. There has been dramatic increases in the turf industry, and considerable time is spent on supporting nutrient management programs especially with training professionals to write and evaluate these plans.

North Carolina Dept. of Agriculture - The lab tested about 15,000 plant tissue, waste and solution samples last year. New computerization efforts within the lab have been under evaluation and they will be implemented on July 1, 1995 but security remains a major concern. The entire

lab moved into a new building in June 1994. The lab is not a certified EPA facility despite the volume of samples for wastes and other materials. Soil sample volume remains near 250,000 annually. A major cooperative effort with lime handlers increased lime sales this past season.

South Carolina - Bob Lippert is now an Extension Specialist assuming the position held previously by Leonard Parks. Kathy Moore is now the lab supervisor. Responsibility for the lab has shifted to the Extension Service. The lab is working with NIR technique to handle forage and animal waste samples. They have an increased demand to analyze sludge samples for cities.

Oklahoma - not present for 2 years

Tennessee - TVA support of local and special projects has ceased. A large time commitment is devoted to CCA training in the state. They need more information for nutrient management training as the training materials appear to be weak in this area. The lab tested 34,000 soil samples and 1,000 forage samples in 1994.

Texas - The Lubbock, TX lab has increased their coordination and soil fertility support with new positions. They have some commercial labs represented on an advisory committee. They are lessening their environmentally related testing as they cooperate more with private labs. The lab is increasing the data base on correlation and calibration with P so that procedures used will have the highest correlation and not the fastest techniques.

Virginia - The lab issued a new recommendation guide in 1994 and early 1995 covering 175 crops and plants. They are in the process of revising the pub on lab procedures.

#### ENVIRONMENTAL CONCERNS FOR LABS

Most labs that are involved in environmental testing got started due to sludge testing requests. Background soils data is needed before labs embark on active analysis programs. Most sample requests at present appear to be part of the regulatory program, however, there is an increasing need to handle farmer sample requests as they become concerned about protecting the soil resource. Auburn (AL) and LA have declined to get involved. There is considerable data from research and field trials that should be in a single data base for access. Our labs have the necessary expertise to be involved. Perhaps an effort to coordinate labs with Extension and research programs to support efforts aimed at protecting the soil resource is needed.

The host state provided a tour of the VPI & SU lab facilities under the direction of Steve Donohue. The group was interested in methods, and lab techniques used in this lab.

Tuesday, June 13, 1995

Pending approval of the Southern Directors, the following numbering system will be used for the Fact Sheets from this group. The number should appear in the upper right hand corner of the first page.

SERA-IEG-6\*1     Interpreting Soil Organic Matter Tests     Charles Mitchell (AL)

SERA-IEG-6\*2     Soil Nitrogen Testing Methods     Hugh Savoy (TN)

A statement as follows should appear on the bottom of the first page of the Fact Sheets: The Southern Regional Fact Sheet in Soil Testing and Plant Analysis Series presents timely information of interest to users of soil testing and plant analysis services in the Southern Region of the U.S. It is reviewed by the Southern Extension and Research Activities Information Exchange Group #6 (SERA-IEG-6) on Soil Testing and Plant Analysis and published by each cooperating states Agricultural Experiment Station and Cooperative Extension Service.

Letters of thanks should be sent to Southern States Cooperative, U. S. Borax, and Atlantic Dehydrated Foods by the members for sponsoring breaks and the meal. Addresses were provided. Wayne Sabbe will compose a letter of thanks to Bill Allen who is retiring.

A complete list of publications developed by SERA-IEG-6 is included at Charles Mitchells' request.

1. Procedures Used by State Soil-Testing Laboratories in the Southern Region of the United States (So. Coop. Series Bull. 102, June 1965, 49 p.) N. R. Page (SC), editor.
2. Procedures Used by State Soil-Testing Laboratories in the Southern Region of the United States (So. Coop. Series Bull. 190, revised, July 1974, 23 p.) W. E. Sabbe and H. L. Breland (AR), co-editors.
3. Reference Soil Test Methods for the Southern Region of the United States (So. Coop. Series Bull. 289, September 1983, 40 p.) S. J. Donohue (VA), editor.
4. Procedures Used by State Soil Testing Laboratories in the Southern Region of the United States (So. Coop. Series Bull. 190, revised, November 1984, 16 p.) G. V. Johnson (OK), editor.
5. Procedures and Practices Followed by Southern State Soil Testing Laboratories for Making Liming Recommendations (So. Coop. Series Bull. 332, February 1988, 13 p.) G. Kidder (FL), editor.
6. Plant Analysis Reference Procedures for the Southern Region of the United States (So. Coop. Series Bull. 368, May 1992, 71 p.) C. O. Plank (GA), editor.
7. Reference Soil and Media Diagnostic Procedures for the Southern Region of the United States (So. Coop. Series Bull. 347, August 1992, 47 p.) S. J. Donohue (VA), editor.
8. Soil Sampling Procedures for the Southern Region of the United States (So. Coop. Series Bull. 377, March 1994, 40 p.) W. Sabbe (AR) and W. O. Thom (KY), co-editors.
9. Research-based Soil Testing Interpretation and Fertilizer Recommendations for Peanuts on Coastal Plain Soils (So. Coop. Series Bull. 380, May 1994, 33 p.) C. C. Mitchell (AL), editor.

Nutrient management programs are receiving increasing attention in water quality efforts. Each state was asked to briefly mention level and type of involvement.

VA - nutrient management is active in coastal counties, and major inputs are regulatory training.

TX - not pursuing an active role at this time.

TN - coordinating with Ag. Eng. to develop programs for fertilizers and wastes.

SC - developing lab NIR technique, and Jim Cameratto has an active research effort.

NC - program is more generic; recently enacted legislation targeted animal waste; pending

legislation on fertilizer; the Coastal Zone Management Act is driving programs in the coastal counties; there is an agricultural coordinating group with all labs and agencies maintaining a strong agronomic input; and cost share funds are available for land application of wastes.

MS - just starting in waste analysis.

LA - no regulations at present; Ag. Eng. is leading the research effort on poultry and dairy wastes; and there is considerable forage and forested acreage available for land application.

KY - Extension is leading the educational effort that is coordinated with other state and Federal agencies. Two rounds of CCA training have been conducted.

GA - nutrient management is coordinated with water quality programs; Extension is solely involved in educational portion; and precision farming has received some attention.

FL - nutrient management plans are written by NRCS for water management districts; University recommendations are used in plans; Extension has no direct involvement but is acting in a consulting role to NRCS; the Department of Environmental Protection handles regulations; there are animal waste analytical labs in Hydrologic Unit Areas that are used to determine P loading in north FL.

AR - Liquid manure regulations are in place requiring both a soil and waste analysis before land application; NRCS not using AR labs on a regular basis; Extension is not in a leading role; basics for plans was developed through engineers; and research programs have been underway for some time.

AL - Nutrient management effort focused around rapid increase in poultry numbers; nutrients in a ton of broiler litter (60 + 60 + 40) are not as variable as earlier reported; a waste management team in Extension is working with NRCS; research is identifying N efficiency with application rate still a problem; considerable effort is centered around soil testing with NRCS plans based on soil testing and N efficiency research; and the following information is included with soil test results: Mehlich I Phos. >100 ppm gets warning, >125 ppm gets no additional P recommendation until P soil test lowered to 50 ppm.

USDA/CREES (Maurice Horton) - Complimented this group and advisors for maintaining a high level of activity. Lee Sommers from Colorado State has joined CREES for 9 month assignment. The agency is just beginning to fill permanent positions following reorganization. Vivan Jennings retired as Deputy Director CES. The CES and CSRS have now been merged into CREES with 8 subdivisions. The next large effort will in developing a 5 year Plan-of-Work that will be implemented and used for accountability starting in fiscal 1997. The 5 areas of emphasis include: 1) enhancing economic opportunities; 2) reducing risk; 3) develop better, healthier and more educated citizenry; 4) protect our natural resource base; and 5) enhance agriculture in global competition.

NCR 13 Rep. Report (Maurice Watson - Ohio State) - some comments on nutrient management programs in Ohio was shared: Extension is beginning training of NRCS and state conservation personnel; the Ohio EPA deals with regulatory matters; research proposed an upper limit of 300 lbs/acre for P loading which is causing problems and a proposed regulation is on hold; animal waste brokerage firms have become a thriving industry, and compost has significantly increased in volume and analytical requests but sampling for reliable analysis is still a problem. With the diversity of potential nutrient sources, the nutrient management program should cover all nutrient sources.

The Soil Testing and Plant Analysis Workshop held every other year is scheduled for St. Louis on November 13 & 14, 1995. Focus topics for the Workshop include: sampling and nutrient availability in wastes, private lab testing, dealing with hazardous materials in labs, and soil nitrate testing. There is some effort ongoing for Kjeldahl N comparison with combustion N, and the organic matter testing is still important. Three types of soil nitrate testing are proceeding in the NC Region: 1) profile; 2) PPNT; and 3) PSNT. Quality control programs are important for the university labs.

The Extractant Sub-committee is evaluating the Mehlich III for soils high in calcium carbonate and for micronutrients. Several states are coming together for harmony of nutrient recommendations across state borders (SD, ND, & MN) and (IN, OH, & MI) for corn, soybeans, wheat and alfalfa. The Waste Sub-committee is surveying states for methods with the idea of analyzing for N, P, and K as a minimum. Scooping soil vs. weighing soil is an issue for grid sampling and involvement in precision agriculture.

The NCR 13 Group is relooking at its mission with a call for more proficiency testing by either the Council or ASA. Some states are moving toward some kind of requirements in this area.

Jim Woodruff (US Borax) commented that this group needs to develop a pub with a data base for soil test interpretation. We should consider adding correlation and calibration data for plant analysis. Interpretation is the most difficult part of a soil testing program.

Schedule of future meeting dates was discussed with the following states to serve as hosts: NC, LA, KY, FL, AR, VI, GA. NC issued an invitation for the 1996 joint meeting with the NC Region. If this is declined, then we will meet in NC in 1997, LA in 1998, and KY in 1999.

Topics for joint meeting should be forwarded to Wayne Sabbe. Some were offered during this discussion: nutrient management plans, GPS & GIS, soil test interpretation, soil nitrogen testing, and handling electronic pubs.

Steve Hodges (NC) and Ed Hanlon (FL) will assist in electronic pub methods for Fact Sheets. There are some concerns about referencing the Regional Fact Sheets, specifically original author recognition and adding state information.

Bill Allen (VA) thanked the group for coming to Virginia and to the VPI & SU campus. He mentioned that the Southern Extension Directors are interested in Task Forces for program focus but feels our group is a good blend of people. His challenge to us was to seize the teachable moments for soil testing.

George Kriz (NC) reminded attendees to send in e-mail address when you get home. He was very complimentary of efforts by this group to address several issues and for its publication record.

This group will look forward to an invitation from PR although we may be expected to have a special seminar-type program in the area of soil testing and plant analysis for staff within their Experiment Station and Extension Service.

Cliff Snyder (AR) thanked the group for the professional discussions and association. He looks forward to working with us in the future as a member of PPI.

Meeting adjourned at 11:05 am