

Minutes  
Mid-Atlantic Soil & Plant Analysis Workshop

February 17-18, 1999

Richmond, Virginia

Wednesday, February 17, 1999  
8:30 a.m.

The meeting was called to order by the Chairman, M. Ray Tucker. He announced that West Virginia has left the Mid-Atlantic group.

Karen Gartley of Delaware presented the sample exchange results. Discussion followed regarding P movement in soil and state regulations for soil sampling depths.

Ray Tucker introduced Phil Howard who gave an update of Southern States activities. Two major changes were reported: 1) Merger with Michigan Livestock Exchange, and 2) Acquisition of divisions of Gold Kist.

The sample exchange discussion continued with the plant and animal waste results.

Paul Chu of A&L will be responsible for the next sample exchange. It was suggested to use at least one of the NAFT soil samples. The sample exchange schedule through the year 2006 is as follows:

2000 A&L Labs  
2001 Agri-Analysis  
2002 Brookside  
2003 Penn State  
2004 Spectrum  
2005 North Carolina  
2006 South Carolina  
2007 Virginia  
2008 Maryland  
2009 Delaware

*Land O'Lakes took over Country Mark*

Steve Donohue gave a presentation regarding GPS Soil Sampling/Precision Ag. He reviewed methods of collecting a representative sample and talked about the variation in soil at different distances. An objective of the study was to determine the number of cores needed for the composite.

Bob Lippert presented information involving a project with the Clemson Extension Service and IMC Agri Business. The objectives of the project were to 1) compare methods of soil sampling - conventional vs. site-specific, 2) assess plant nutrient variability, and 3) compare two methods of grid sampling - area vs. point.

Discussion involving GPS soil sampling/Precision Ag followed. Steve Donohue has received funding for workshops in Virginia. Mark Flock reported grid sampling is dropping off in the Mid-West. Carl Crozier talked about yield differences with soil types. Doug Beagle mentioned that looking at yield maps is the place to start.

Karen Gartley gave a presentation regarding testing for lead in Delaware soils. She distributed a handout entitled "Managing Lead Contaminated Soils".

Doug Beagle presented "Phosphorus Soil Testing for Nutrient Management" and distributed a handout. A major issue in manure management today is whether management plans should be based on N or P. Basing management on N could lead to environmental concerns, but basing management on P could lead to economic concerns. We should move toward nutrient balance for both N and P, work on source reduction, minimize transport, and manage critical areas.

Carl Crozier gave a presentation on soil sampling from no-till systems entitled "Soil Nutrient Stratification and No-Till Management".

Gordon Miner gave a presentation on strawberry response to phosphorus application at planting. One objective was to evaluate the effect of P on strawberries on soils testing high in P.

A presentation regarding the "pros and cons" of various soil test methods for consultants across the Mid-Western region was given by Mark Flock. Brookside offers 7 different tests for P. The pros are offering a more appropriate test and allowing consultants to have the required test. The cons are the difficulty in educating consultants, the expense, and the samples and records must be kept separate.

Jim Woodruff gave an industry update. A number of handouts were distributed. He talked about new products and new employees. The budget has been cut, hopefully from advertising instead of research.

Thursday 18, 1999  
8:30

Bob Lippert gave a presentation regarding regional Extension inservice training via the Internet. His address is <http://hubcap.clemson.edu/~blpprt/index.html>

Kathy Moore discussed laboratory safety considerations for handling waste samples. A manual entitled "Manure Analysis - Understanding and Managing the Risks" was distributed.

Jim Camberato gave a talk regarding the Zn and P ratio in soil.

Paul Chu presented Instrument modifications to enhance sample output. The efficiencies of AA vs. ICP and how to speed up the ICP were discussed.

Steve Donohue moved that Ray Tucker chair the group one more year, then Doug Beagle take the Chair for the next two years. The motion was seconded and carried.

## State Reports

Pennsylvania - Doug Beagle reported the lab has introduced a manure-testing program. An Al Stress Test for forest soils has been introduced. The method for soilless media has been changed to a saturated paste. 2 CEM microwave units have been purchased for running EPA method 3051 on soils and biosolids. The program for soil fertility reports is going to PC-based. A grant was obtained to do a regional P calibration study.

Virginia - Steve Dohohue reported a number of people have retired, but the positions will be refilled. Looking to put the reports on the Internet. Steve Heckendorn reported receiving about 25,000 soil samples for 1998. A new high temperature Blue-M oven has been installed to run LOI. A new spectroscopist has been hired. The new Spectro-ICP is being used for research solutions.

A&L Labs - Paul Chu reported receiving more GPS samples from Southern States. A used ICP has been installed. A web site will be set up for reports.

Spectrum Analytic - Vernon Pabst reported hiring a new programmer. A web page is available to download the results. 2 TJA ICPs have been purchased, and 2 rooms are being added to the lab. Looking to hire a new agronomist.

Maryland - Joe Buriel reported running about 20,000 soil, 7,000 plant, and over 1,000 manure analyses. The lab has been renovated to accommodate a new ICP-OES. A new ICP-MS from Spectro is to be set up in another site on campus. These instruments will be handled by a new analytical chemist. A new lime requirement procedure is being looked at. A microwave may be purchased for plant and manure digestion. 2 new lab technicians have been hired. A position announcement was distributed.

Georgia - Wayne Jordan distributed a report regarding the Georgia Lab. In the fiscal year 1997- 1998 80,464 soil samples were analyzed. The sample load has decreased since the 80's. A fee was imposed in 1992, but in 1995 the fee came off for farmer samples. Plant tissue analysis has dropped off in the last 10 years. Water analysis has picked up. The cotton acreage expansion has resulted in more soil samples. Crop codes have been added for pine. Cotton recommendations have been modified. New recommendations for alfalfa based on sub-soil tests have been added.

Brookside - Mark Flock reported an increase in soybean nematode testing. A large Wiley mill has been acquired for corn stalk testing.

Agri - Tim Horner reported an increase in soil, plant, and manure analyses, however, have expected more manure samples due to legislation.

South Carolina - Kathy Moore reported analyzing 33,400 soil, 3019 plant, 2028 feed, 333 water, 535 manure, and 587 other samples in 1998. The standard Adams-Evans Buffer method is now being used. 3 constituents have been added to the manure program - NO<sub>3</sub>-N, arsenic, and calcium carbonate equivalency. Estimates for incorporated and surface available nitrogen are being reported on animal waste reports.

North Carolina - Ray Campbell reported the lab analyzed 14,000 plant, 12,500 waste, and 3300 water samples. A segmented flow auto analyzer is being used on liquids. Ray Tucker reported the lab analyzed 295,000 soil samples with the majority coming in October - April. There has been some increase from GPS.

Delaware - Karen Gartley reported a sample volume of about 4200 fertility samples and 22,000 research samples. Research work involves a P saturation test and lead analysis. Staffing involves hiring a soil and water quality extension specialist and associate.

The next meeting is scheduled for February 16 - 17, 2000.

The meeting was adjourned at 11:30 a.m.

Minutes submitted by Kathy Moore