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The Coastal Plainer

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Message From The MO–Leader's Desk

By Charles Love, MO–15 Team Leader

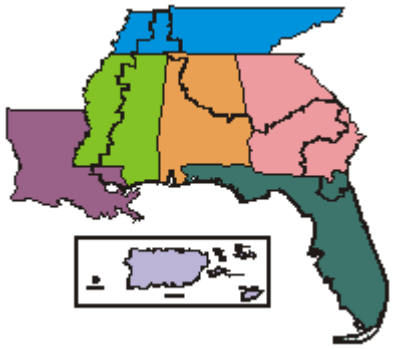
Again, greetings everyone!

Many topics of interest to the soil survey teams in MO–15 were discussed at a training workshop for State Soil Scientists and soil data quality specialists held in Laughlin, Nevada, January 31 to February 3.

The workshop highlighted exciting changes to the National Cooperative Soil Survey program using new technology at the national, state, and local levels. Danna York, Associate Chief, and Bill Puckett, Deputy Chief for Soil Survey and Resource Assessment, kicked off the workshop by placing great emphasis on the acceleration of Web soil survey activities through the use of new technology. During the week, many exciting presentations were made by the national centers and field soil scientists regarding new technology to facilitate soil survey activities across the country.

Mike Golden, Director of the Soil Survey Division, outlined the Division's priorities for FY–05.

MLRA Soil Survey Region #15



These priorities are:

- Develop and implement Web Soil Survey to streamline the delivery of published soil surveys.
- Expand the use of new technology in soil survey offices, improving efficiency and the quality of our soil surveys.
- Develop an MLRA Management Area plan to improve program management.
- Market the National Cooperative Soil Survey, strengthen partnerships, and utilize outreach programs to improve diversity.

Mike encouraged the State Soil Scientists to facilitate these priorities at the state and local level.

The workshop also included various breakout sessions concerning the future of soil survey activities and approaches. The topic of one session, led by Dennis Lytle, National MLRA Coordinator, was the implementation of the MLRA approach for the National Cooperative Soil Survey program. He reviewed the Soil Survey Division's draft concept plan that describes the implementation of MLRA Management Areas (MMAs) across the country and the overall benefits for establishing MMAs.

Some of the benefits of the MMA concept:

1. Accelerated establishment of MMA offices,

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2. Increased productivity of field soil scientists and other inventory specialists,
3. Increased number of Web Soil Surveys posted and other inventories made available,
4. Increased number of customers who access soil surveys and other inventories, and
5. Increased stability for soil scientists.

Dennis encouraged the State Soil Scientists to visit with State Conservationists and with partners in the states to introduce or reintroduce them to the MLRA concepts. The Soil Survey Division Team is providing a series of presentations concerning implementation of MMA concepts to the National Leadership Team and other national groups.

I think the MMA effort has great potential for moving the MLRA concept forward in our region as well as nationally. It addresses critical issues discussed by board members at the 2004 Joint MO–14, –15, –16, and –18 Board of Directors meeting in Biloxi, Mississippi.

The proceedings from the workshop will be distributed in the near future and will include all presentations.

Just a reminder, the 2005 National Cooperative Soil Survey Conference will be held at Corpus Christi, Texas, on May 21 to 26, 2005. The theme of this year's meeting is "Planning the New Soil Survey—Personnel Development, Technology, Standards, and Electronic Delivery." I hope all of our cooperators will join us at this year's conference. Information about the meeting is available at http://soils.usda.gov/partnerships/ncss/conferences/national_2005/. Note that the Joint MO Regional Board of Directors meeting will be held on Wednesday, May 25th, in conjunction with the conference.

As always, I thank you for your enthusiasm and support of the MO–15 Regional Team. ■

FFA Alabama State Land Judging Event 2005

By Sanderson Page, Soil Scientist, NRCS Alabama

The annual state-wide land judging event for high school students in Alabama was held in Autauga County this year on March 14th (fig. 1). The contest was hosted by the Future Farmers of America (FFA). Twelve teams from throughout the state competed at the county and regional levels to reach the state contest. The students are coached by their high school Ag teachers in association with the FFA. Technical expertise and

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Figure 1.—Students assess conditions for a home site during the Alabama state land judging contest.

NMR Imaging of Soil Organic Matter

By William L. Kingery, Professor, Mississippi State University, and Michael E. Lilly, State Soil Scientist, Natural Resources Conservation Service

Click here for images and video.

Typical soil chemistry studies have used methodologies whereby components of soils are isolated, e.g., extraction using solvents or physicochemical procedures, such as the isolation of clay-sized particles. More recent technologies allow for chemical observations to be made using intact soil samples. An example is nuclear magnetic resonance spectroscopy (NMR). The NMR spectrometer is similar to the magnetic resonance imaging (MRI) equipment found in hospitals. Both rely on advanced technology that uses magnetic fields and radio waves to acquire detailed information. MRI looks at the human body. NMR works on a much smaller scale, looking at the compounds in organic matter. The NMR can be used to examine soil, leaves, air particles—really anything found in nature. NMR basically produces a molecular map.

In a cooperative research project involving Billy Kingery, soil scientist at the Mississippi Agricultural and Forestry Experiment Station; Mike Lilly, State Soil Scientist, NRCS Mississippi; Delaney Johnson, soil scientist, NRCS Mississippi; and the husband-and-wife team of Myrna and Andre Simpson at the University of Toronto at Scarborough; NMR microimaging technology is being used to study water, organic matter, and pollutants in soil ecosystems. In addition to Kingery, Mississippi State University personnel working on the project include graduate assistant Rachel Stout and research technician Grady Jackson. Stout and Jackson are in the Department of Plant and Soil Sciences.

In this project, NMR microimaging allows for a

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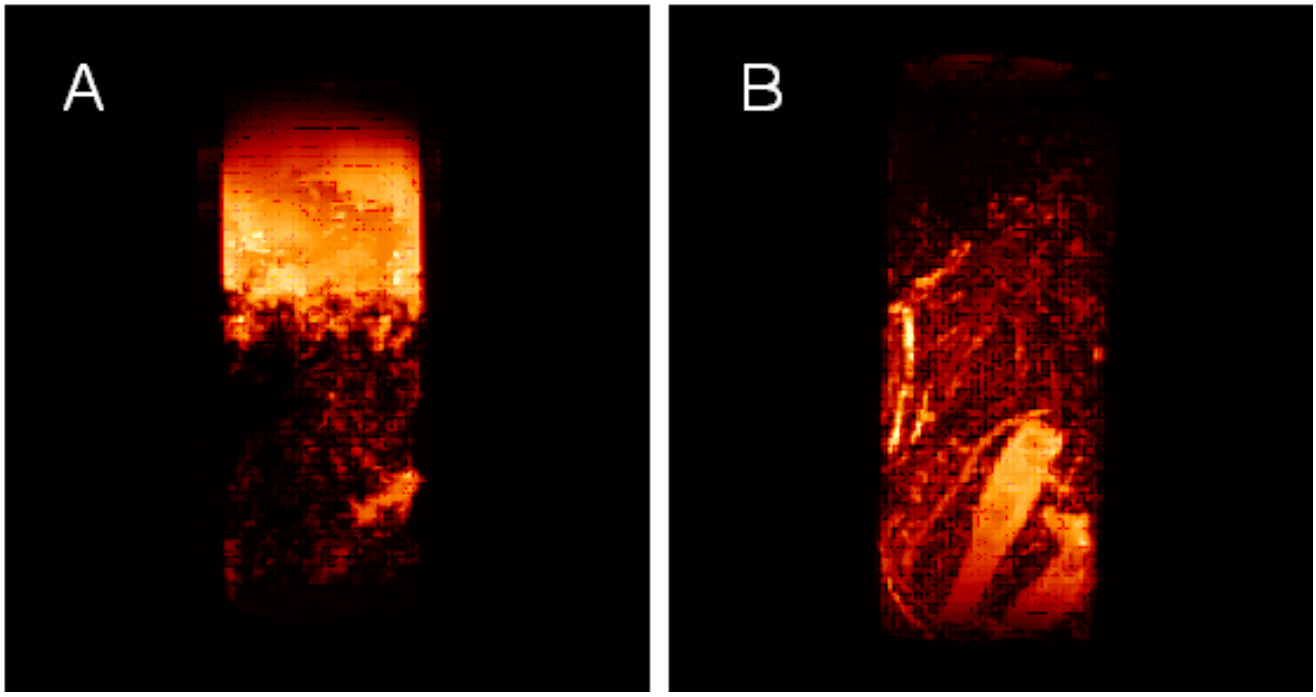

A 3-dimensional acquisition of flouride (image A) and proton (image B) after 24 hours of hexafluorobenzene addition. A comparison of the slices indicates that much of the water has not yet been displaced by the contaminant. For additional images and video, go to http://www.mo15.nrcs.usda.gov/technical/nmr/nmr.html.

Using GPR to Characterize Plinthite

By James Doolittle, Research Soil Scientist; Jerry Daigle, State Soil Scientist; John Kelly, Soil Data Quality Specialist; and Wes Tuttle, Soil Scientist. This article was condensed and simplified by Aaron Achen, Editor.

Plinthite (Gr. *plinthos*, brick) is an iron-rich, humus-poor mixture of clay with quartz and other minerals. It commonly occurs as dark red redoximorphic concentrations that typically form platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on exposure to repeated wetting and drying, especially if it is also exposed to heat from the sun (Soil Survey Staff, 2003).

Typically, soils that have plinthite are highly weathered, have low cation-exchange capacity and base content, and have a clay mineralogy that is dominated by kaolinite, hematite, and goethite (Alexander and Cady, 1962). These properties produce low rates of signal attenuation and provide a favorable environment for the operation of ground-penetrating radar (GPR).

The figure below shows a representative soil profile and radar record from an area of Dothan soil in Sumter County, South Carolina. All scales are in meters. The very deep, well drained Dothan soil forms in marine sediments on the Southern Coastal Plain. Dothan is a member of the fine-loamy, kaolinitic, thermic Plinthic Kandiudults family. The plinthic subgroup is used to identify Kandiudults that have 5 percent or more (by volume) plinthite in one or more horizons within 150 centimeters of the mineral soil surface (Soil Survey Staff, 2003). In the soil profile shown in the figure, the light-colored, coarse-textured surface layer ranges from about 20 to 30 centimeters in thickness. A darker-colored, medium-textured Bt horizon extends to a depth of about 90 centimeters. A variegated, medium-textured Btv horizon extends from a depth of about 90 centimeters to the bottom of the pit. Within the Btv horizon, the darker-colored masses are plinthite nodules and areas in which iron has accumulated; the lighter-colored features and lenses are areas from which iron has depleted.

The figure also contains a representative radar record collected with the 200 MHz antenna from an area of Dothan soil. In this radar record, strong, multiple reflections from the surface

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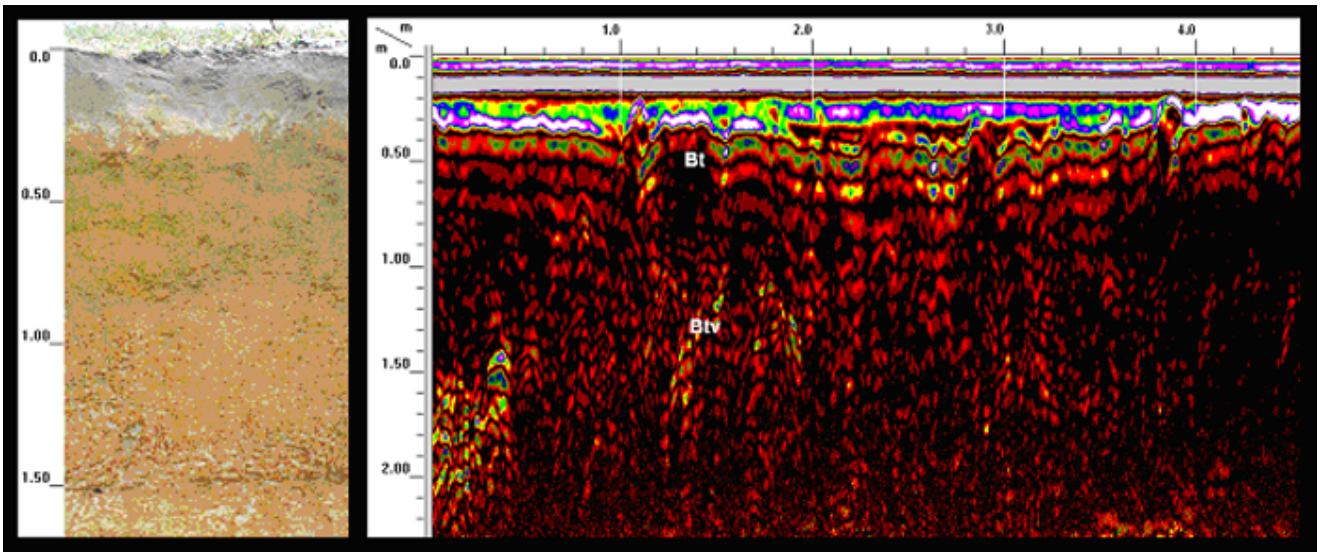

Areas of iron accumulations are evident in the soil profile (left) and radar record (right) of Dothan soil.

Soil Survey Digitization at Alabama A&M University

On August 29, 2003, a cooperative agreement was initiated between NRCS and Alabama A&M University for the digital compilation of Lauderdale, Colbert, and Marion Counties in Alabama using remote sensing, photogrammetry, and Geographic Information Systems (GIS). Dr. Wubishet Tadesse, assistant professor of GIS and remote sensing, is heading up the effort for Alabama A&M University (AAMU). Joe Gardinski, NRCS GIS specialist with the North Alabama Regional Soil Survey Office (NARSSO), is providing technical support and training to AAMU student workers.

Based on availability of data, Lauderdale County was chosen to be the first county completed. Materials provided for Lauderdale County included digital contact prints, digital orthophoto quarter quads, and soil composite overlays. Three students were assigned to the different aspects of the project, which started in August 2004. A major contributor to the final process was the National Cartography and Geospatial Center (NCGC) in Ft. Worth, Texas.

Dr. Tadesse and his students first defined the process of converting the soil surveys to digital form and created a plan of action. Next they converted the scanned images into orthophotos using OrthoMapper software. They georeferenced the composite overlays to the orthos. Using ArcGIS 8.3, they created a personal geodatabase, a feature dataset, and a feature class for Lauderdale County projected in UTM NAD83 Zone 16. A county legend table was downloaded from NASIS. The legend table was converted to a domain for use in attributing the Lauderdale County feature class in the geodatabase. A topology layer was created and rules were assigned to check for errors. The rules applied were “no gaps” and “no overlaps.” This topology was designed to help correct errors in the line features.

Digitizing work then began. The auto-complete polygon task in the editor mode in ArcMap proved to be quite a time saver in the digitizing process. Once features were created for stand-alone polygons, the auto-complete function was extremely helpful in tying into the existing polygons and reducing topology errors. The polygons were attributed using the domain created from the legend. This method of attributing allowed the map unit symbols to be inserted from a “drop down” field instead of by typing them individually. The students created over 10,500 polygons in 400 hours using this process.

The next step was quality control. While the soil polygons were being created and attributed, the topology was validated for errors in the line features on each composite

AAMU Professor Dr. Wubishet Tadesse instructs student worker Rick Fields on the Lauderdale County soil digitization project.

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Auburn, Alabama, Hosts the 45th National Collegiate Land Judging Competition

By Julie Best, Public Affairs Specialist, NRCS Alabama

Editor's note: The MO would like to give special thanks to Dr. Shaw and to all of the NRCS employees who helped with the competition.

The week of April 4th, Auburn University was proud to host the first national soils contest ever to be held in Alabama, and the 2005 contest is the 45th national contest. Dr. Joey Shaw, associate professor in the Agronomy and Soils Department, coordinated the event. "We have the unique opportunity to show a couple of physiographic regions and show typical soils for those regions. We prepared 19 practice sites throughout the Piedmont and Coastal Plain. NRCS worked with us to evaluate the pits and to get them ready for student evaluation," says Shaw. The 19 sites are necessary to accommodate the 22 teams who participated in the contest.

Students participating in the collegiate land judging contest have three days to learn about the soils of the host region.

Dr. Neil Smeck, coach for the Ohio State University team, says, "We don't do a lot to get ready for the contest. We talk about the landscapes by discussing what we have read. When we get here, we look at the practice pits, which have been described and classified by the host. The students make their own evaluations, and then we talk about the differences. We have three days to learn about the soils of the area."

Dr. Neil Smeck, coach for the Ohio State University team, talks with Dr. Joey Shaw, Auburn University, in one of the practice pits.

Dr. Larry West, coach for the University of Georgia team, says, "By participating in the national competition, students get to see different soils in different parts of the country. It's a great learning experience."

The students worked in the practice pits Monday through Wednesday. Individual competition was held on Thursday; team competition was held on Friday. The Virginia Tech team placed first in the team competition; the high scoring individual honor went to Doug Frisco, also of Virginia Tech. ■

Conference on Element Balances as a Tool for Sustainable Land Management

By Zamir Libohova, Soil Scientist, Tuscaloosa MLRA Office

Division 4 of the International Union of Soil Science, in cooperation with Albanian Ministry of Agriculture; Albanian Ministry of Environment; Swiss Agency for Development and Cooperation; Swiss Agency for the Environment, Forest, and Landscape; and United States Agency for International Development; organized a conference on Element Balances as a Tool for Sustainable Land Management. The conference took place March 13 to 18, 2005, in Tirana, Albania. More than 90 researchers and specialists representing 18 countries participated in the conference. Zamir Libohova, a soil scientist from the MLRA office in Tuscaloosa, Alabama, participated with two posters and as a member of the conference organizing committee.

The aim of the conference was to bring together stakeholders concerned with sustainable land use issues (soil scientists, agronomists, foresters, decision makers, etc.) in order to evaluate how mass balance approaches can be used for (i) early recognition of environmental problems and (ii) the development of solutions. The focus of the conference was the land management problems of the southern and eastern European countries that have been subject to dramatic political and social-economic changes during the last 15 years. During their transition to a free market economy, these countries are facing land management problems similar to those faced in the past by western European countries and the U.S.A.

During the conference, 30 oral presentations were given by world-recognized experts and 32 posters were presented. Issues included soil erosion, sealing, and consumption from construction and soil and water pollution from atmospheric depositions, waste disposal, and excessive application of fertilizers and pesticides. The participants were organized into four groups to discuss specific issues related to their respective countries and to suggest solutions to some of the problems related to a sustainable land use and management.

Some of the major conclusions of the Conference were:

1. Land reform in the southern and eastern European countries that are in transition towards a market economy has lead to land fragmentation. As a result, there is no effective monitoring of the technologies used and agricultural inputs applied on the farm level. Therefore, establishing a reliable monitoring system is crucial for early identification of problems that may arise from unbalanced technologies and agricultural inputs.
2. Mass balance approaches, as a tool, can be applied at different levels (field, farm, country, region) to identify sinks and sources of elements, thus acting as an early warning system for environmental problems.
3. Frequency of soil surveys should be related to severity of problems and to the fluxes of various agricultural inputs.
4. Mass balance approaches are only tools to help identify problems and suggest possible solutions, they are not the solution itself. They should be used in combination with other environmental measures and agricultural policies that support and encourage sustainable land use and management practices.

Some of the Conference recommendations to policy makers were:

1. Solve the land fragmentation problems and develop appropriate tools for optimal spatial planning.
2. Establish a legal framework to make agriculture competitive and environmentally friendly.
3. Develop land use policies to address some of the issues related to soil erosion, urban development, industry, mining, and agricultural waste.

More information about the conference can be found at: http://www.elementbalances05.org/ and at http://www.iuss.org/division4/publications.htm. ■

Tuscaloosa MLRA Soil Survey Office

By Jerome Langlinais, MLRA Project Leader

As of July 2004, Tuscaloosa, Alabama, has an MLRA Soil Survey Project Office. The office is located on the University of Alabama campus within the building of the Geological Survey of Alabama (GSA) and the State Oil and Gas Board. The setting with GSA and the University fosters an environment for developing partnerships and allowing for student opportunities. The setting can be ideal for using student resources to assist with compilation work and with building spatial and tabular databases.

The staff ot the Tuscaloosa MLRA Project Office: Stephon D. Thomas, Zamir Libohova, and Jerome Langlinais.

Jerome Langlinais has filled the MLRA Project Leader position. Jerome is a native of south Louisiana, grew up on the family farm in Vermilion Parish, and was active in the FFA and the Farm Bureau's Young Farmers and Ranchers program. In 1986, he earned a Bachelor of Science in Agriculture with a degree in Agronomy from the University of Louisiana at Lafayette. Shortly after graduation, he went back to the University as an agronomy lab assistant. He managed about 150 acres of crops and pasture intended for test plots, a beef unit, and a dairy facility. In 1988, he accepted a position as soil scientist in Buena Vista, Georgia. Since then, he has mapped soils within several different MLRAs, including Southern Mississippi Valley Alluvium; Mississippi River Valley Silty Uplands; Southern Coastal Plains of Georgia, Mississippi, and Alabama; Georgia Sand Hills; and the Southern Piedmont. Prior to this position, Jerome was the project leader in Natchez, Mississippi. Jerome plans to expand his experience and knowledge of soil morphology and interpretations, digital formats, technical quality control, and supervisory principles. He also plans to greet new experiences and challenges with an optimistic outlook.

Another member of the team is Zamir Libohova, soil scientist. Zamir was born on April 7th, 1963, in Tirana, Albania. He graduated from Agricultural University in Tirana in 1986 with a Bachelor of Science in Agronomy. From 1986 to 1993, he worked as a scientific researcher and Head of the Soil Analytical Laboratory at the Soil Research Institute in Albania. His responsibilities included conducting research and soil surveys, providing expertise to government agencies, and managing a research station and the 15-staff-member Soil Analytical Laboratory. From 1994 to 1995, Zamir attended Oregon State University on a Fulbright

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Hyperthermic-Isohyperthermic Study in South Florida Concludes

By Gregory R. Brannon, Soil Data Quality Specialist

The data gathering for the south Florida hyperthermic/isohyperthermic soil temperature study was concluded during the first week of March, 2005. The data loggers were recovered, and the final reading of the data will be available soon. Participants included Warren Henderson, State Soil Scientist, NRCS Florida; Henry Mount, soil scientist emeritus; Greg Brannon, soil data quality specialist, NRCS MO–15; Darrel Leach, Howard Yamataki, and Ken Liudahl, soil scientists, NRCS Florida; and Frank Partridge and Jim Birch, Department of Interior.

North-south transects were set up in the Big Cypress Preserve. Data loggers were placed north and south of the Tamiami Trail Highway, extending eastward to Shark Valley in the Everglades, and concluding south of Homestead.

The first year of data, along with earlier investigations by Henry Mount, indicated the existence of an isohyperthermic region in south Florida. The line separating the hyperthermic region from the isohyperthermic region appears to generally extend from just south of Everglades City to Homestead. The Florida Keys were previously established as being isohyperthermic. All the data loggers were recovered, except one air temperature sensor that was placed on the old Tamiami Trail road, which is now a dirt road south of the Trail.

Henry Mount, though now enjoying retirement, has an interest in this project and has graciously agreed to conduct the final reading and analysis of the data loggers. We expect to have the data soon, and we plan to publish the conclusions. ■

A Moccasin snake crossing a road in the Big Cypress Preserve where soil-temperature data loggers were installed.

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assistance in setting up the contests are provided by personnel from the USDA Natural Resources Conservation Service and the local Soil and Water Conservation Districts.

The purpose of these contests is to educate kids interested in Agronomy and Forestry so that they may become successful land managers by analyzing environmental conditions. Factors that influence their decision process include the soil resource, topography or slope, and the potential limitations and associated practices to mitigate these limitations. Four types of sites are evaluated for the contest: cropland, pasture, forestland, and urban (home) sites. At each site, the students determine the best management practices for a given objective, such as

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"manage for pine sawtimber and wildlife" or "manage for bermudagrass." The students analyze soil properties at a soil pit, determine slope, and assess conditions on the ground.

This year, first place honors went to the Millry High School team from Washington County (fig. 2). The highest individual score, 233 out of a possible 240 points, was attained by Josh Sullivan of Millry. The team earned a score of 694 out of a possible 720 points.

The Millry team will be heading out to Oklahoma City in early May to compete in the 54th Annual National FFA and 4–H Land Judging Event. The national event hosts winning state teams from across the nation. The event is highly competitive.

The other top teams from the state contest were Horseshoe Bend High School from Tallipoosa County (2nd place), Douglas High School from Marshall County (3rd place), and Brantley High School from Crenshaw County (4th place). Landon Morgan from Brantly High School was the winner of the Jerry Johnson Memorial Plaque for individual high score at the Forestry site.

The FFA land judging contests are the epitome of a cooperative effort to educate and market soil and water conservation. Every year these county, regional, and state contests involve hundreds of helpful, interested, and dedicated people who compete, teach, organize, and monitor the effort to spread the message of wise land-use assessment and planning. ■

Figure 2.—Coach Tommy Loper, Josh Sullivan (winner of the individual high score), Kyle Lee, Sean Hall, and Brandon James of the winning team from Millry High School in Washington County. The team is holding an "Oklahoma wind vane" in anticipation of their trip to the national contest. High wind gusts are a potential distraction in the competition. Legend has it that you don't need to worry about the weather until the links in the chain start snapping off.

NMR, continued from page 3

holistic look at the biochemistry and structures of soil organic matter. From an agricultural standpoint, the study will provide information about water and the fate of pesticides in soils.

NMR microimaging was applied to examine the distribution of water in soil cores and the transport of pollutants. In order to reflect a range of characteristics of organic matter, four soil series were selected for sampling. The soils in the study were Memphis (Alfisol), Bowdre (Mollisol), Johnston (Inceptisol), and Croatan (Histosol). Microimaging samples were prepared by gently forcing a glass-walled core (3 cm in diameter and 15 cm in length) into the soil surface. The samples were shipped to the Bruker Biospin Applications Laboratory in Rheinstetten, Germany, for microimaging by personnel of Simpsons and Bruker.

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Soil water was imaged using protons as the target nuclei. Protons in water molecules have resonance characteristics that allow them to be distinguished from protons in other molecular structures in soils. Hexafluorobenze was used to representing a pesticide contaminant. It was imaged using the fluorides contained in its structure as the target for imaging. A sample image of the results is shown in the figure on page 3. Videos of the results and further images are available at http://www.mo15.nrcs.usda.gov/technical/nmr/nmr.html.

NMR microimaging is a powerful tool for the study of water and contaminant distribution in soil. The images indicate that the NMR microimaging techniques are sensitive enough to distinguish between adsorbed and free water in complex soil systems. Further, while the contaminant studies show the potential for imaging in pollutant transport research, sensitivity remains a challenge to simulations of actual environmental concentrations.

In addition to tracing what happens to crop inputs, such as fertilizer and pesticides, the NMR process can also be used to track carbon. The release of carbon in the form of CO_2 can influence climate. A significant portion of the earth's carbon is tied up in the soil, but it is unclear how long the movement of soil carbon into a different part of the carbon cycle takes. NMR technologies offer the potential for improvements in the accounting of global carbon. ■

GPR, continued from page 4

partially obscure the reflections from the contact of the E and Bt horizons. However, the E/Bt horizon interface is generally visible below a depth of about 40 centimeters. This abrupt boundary separates contrasting (texture, moisture, and density) soil horizons and produces high-amplitude subsurface reflections on the radar record.

On the radar record, plinthite appears as a continuous zone of chaotic point reflectors of varying sizes. The boundary between the Btv horizon and the overlying Bt horizon is ill-defined and ambiguous on this radar record. Point reflectors occur throughout the radar record, but are most abundant within depths of 90 to 160 centimeters. Within this depth interval, low to moderate amplitude point reflectors are believed to represent firm or very firm plinthite. High amplitude point reflectors are believed to represent ironstone nodules or gravel. The number of point reflectors within the Btv horizon appears to decrease in abundance on the right side of the record.

In many moderately fine textured and fine textured Alfisols, Aridisols, and Mollisols, because of the high base content and cation exchange capacity, rates of signal attenuation are high and the depth of penetration is typically limited to the upper part of argillic horizons. In soils dominated by low activity clays that have low base contents, rates of signal attenuation are less and penetration depths are not restricted to the upper part of the argillic horizons. In the radar record shown in the figure on page 4, the effective depth of penetration is about 2 meters. A dispersed, scatter-pattern of point anomalies below a planar, subsurface reflector (representing the upper boundary of a Bt horizon) is the characteristic radar image of a plinthite layer.

Ground-penetrating radar can be used to identify and characterize plinthite in highly weathered, medium- to fine-textured soils that have low base content and cation exchange capacity. Much can be learned about the occurrence and distribution of these features from radar records alone. In addition, the use of advanced signal processing and image analysis of radar records should help to improve the assessment and quantification of plinthite in soils.

References:

Alexander, L.T., J.G. Cady. 1962. Genesis and hardening of laterite in soils. USDA–Soil Conservation Service Technical Bulletin No. 1282.

Soil Survey Staff. 2003. Keys to soil taxonomy, ninth edition. USDA–Natural Resources Conservation Service. ■

Digitization, continued from page 5

sheet. Other quality control checks included checking for missing labels in the table and looking for areas that were smaller than the minimum size allowed for units. The latter check helped identify smaller features that had also been attributed. Initially, common soil lines were checked using a process defined by the NCGC. This check was further streamlined by a common soil line model provided Caryl Radatz of the Missouri Digitizing Unit. The model was designed for use in ArcGIS 9.0. Fortunately, Dr. Tadesse had ArcGIS 9.0 available for use in the project.

The final quality control check was performed by visually comparing the digital lines and map unit symbols on each individual map sheet against the corresponding hard-copy soil survey map sheet. Any errors that were detected were corrected in the digital file. NRCS personnel then performed quality assurance checks on the product prior to submission to the Alabama State Office in Auburn, the MLRA Regional Office in Kentucky, and the Digitizing Unit in Missouri.

On March 1, 2005, data generated from the Lauderdale County project were provided by AAMU to NRCS in shapefile, coverage, and geodatabase format. With Lauderdale County complete, students at Alabama A&M University are currently in the process of digitizing the Soil Survey of Colbert County, Alabama. Marion County is also slated for completion by January 2006.

When asked about the benefits of the first phase of the project, Doug Clendenon, project leader for the North Alabama Regional Soil Survey Office, said "This project has provided a boost to NRCS activities in this region. Prior to digitizing, georeferenced soil maps have proved to be a great value in a GIS to updating soil surveys and planning conservation efforts. Old soil survey maps can be difficult to read and verify in the field. Georeferencing raster maps allows for using old soil mapping with new digital photography, thereby aiding soil map use in GIS for farm planning, EQUIP, CSP, etcetera, and for uploading potential soil sampling points into a GPS receiver." ■

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scholarship, focusing on soil fertility and plant nutrition. From 1997 to 2000, he worked as the interim director of the Project Environmental Management Unit of the World Bank Forestry Project in Albania. He was responsible for assuring environmental standards of the Forestry Project activities. During the same period, he was involved with various international nongovernmental organizations in Albania on such subjects as vocational education and training and the Kosovo Refugee Camp in Tirana during the Serbia-Kosovo conflict. In 2000, he received from Agricultural University in Tirana, Albania, a Doctor of Science in crop and soil science with focus on N-fertilization efficiency and ground water pollution. In July 2004, he received from Colorado State University in Fort Collins, a Master of Science in watershed management with focus on erosion and runoff from forest roads, thinning, and wildfires on hill slopes and watershed scale.

Zamir married in 1996 and is soon to become a father of a baby girl. His hobbies include swimming, jogging, scuba diving, and reading. His long term goal is to become more internationally involved in natural resource management issues.

The newest member of the MLRA project office team is Stephon D. Thomas, soil scientist. Stephon is from Malcolm, Alabama, and graduated from Alabama A&M University in 2003. His degree is in plant and soil science with a major in soil science and a minor in

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chemistry. While attending Alabama A&M, he was a part of the NRCS Soil Science Scholars Program and he worked as a soil scientist trainee for three summers. He worked in Maryland, Ohio, and New Mexico. He has been an employee of USDA for 5 years. After graduating, he worked for a year updating the soil surveys of Madison and Limestone Counties, Alabama. He is now working on an initial soil survey for Bibb County, Alabama.

The concept of the Tuscaloosa MLRA office is to conduct soil survey activities over a region consisting of 11 counties within MLRAs 128 (Limestone Valleys and Uplands), 129 (Appalachian Plateau), 133A (Southern Coastal Plain), and 135 (Black Prairie). The present priority of the office is to complete the initial soil survey in 2 of the 11 counties. The model used by the office is to conduct progressive correlation processes, provide soil digitization/GIS assistance, assist in technical soil services, improve the quality of the data (spatial and tabular for Soil Data Mart), improve understanding of soil landscape functions, and increase effectiveness and efficiency. Also important is to communicate with other MLRA project offices, states, and cooperators to provide more comprehensive soil and site data for complete environmental assessments and resource management decisions. Cooperators include the Alabama Agricultural Experiment Station, Alabama Soil and Water Conservation Committee, Bibb County Soil and Water Conservation District, U.S. Forest Service, universities, and the Geological Survey of Alabama.

The MLRA project office has responsibility for providing technical standards, reviews, and training to support soil survey quality control and quality assurance of soil survey activities. The emphasis of an update office is not production mapping, but collection and compilation of large amounts of new and existing soil information within similar landscapes. The office can serve as a warehouse for a permanent, dynamic, and growing base of digital soils information for many years for both technical and nontechnical users. Also, by utilizing current technologies, the MLRA office can become the soils information and technology center for this region and the information heart of GIS support. ■

Editor's Note

Issues of this newsletter are available on the Internet on the MO–15 homepage (http://www.mo15.nrcs.usda.gov/). Click on "News" and then on "The Coastal Plainer."

You are invited to submit stories for future issues to Aaron Achen, editor, MO–15, Auburn, Alabama. Voice—(402) 437-4157; FAX—(402) 437-5336; e-mail—Aaron.Achen@nssc.nrcs.usda.gov.