

**Office of the Chief
Weekly Report**

**Soil Science and Resource Assessment
Soil Science Division**

September 10, 2013

Deadline Reminders

Supervisors have a mandatory course in AgLearn on the USDA Pathways Program, due no later than September 15, 2013.

All employees have AgLearn courses on USDA Performance Management and Workplace Harassment, due no later than September 30, 2013.

Upcoming Meetings/Conferences

SSD Leadership Meeting, Lincoln, NE, September 9-12, 2013

Soil Science Division Update

Dynamic Soil Properties in South Dakota

A cooperative effort was made to gather information about dynamic soil properties in rangelands during the week of September 3rd. Participating staff included: Skye Wills, soil scientist, and Scarlett Bailey, Pathways Intern from the National Soil Survey Center; Jeff Hemenway, soil quality specialist, and Stan Boltz, range management specialist, from the South Dakota State Office; and Steve Winter, soil scientist from the local MLRA SSO. Samples were collected from 5 pedons each in Hyde and Deuel county rangelands. Field measurements included vegetation measurements such as composition and soil measures such as infiltration rate. Samples will be analyzed at KSSL for bulk density, carbon content, and enzyme levels in addition to standard characterization analysis. The results from this project will be used to set expected ranges of soil quality measures for important soils in South Dakota. Additional field measures and soil samples will be collected from the same soils under cropland after harvest.



Figure 1. Equipment used for (ponded, single ring) water infiltration.



Figure 2. Sampling soils with a hydraulic probe

Archaeological and Soil Health Initiatives in Maryland

The Research and Laboratory Staff of the National Soil Survey Center and the Maryland State NRCS Office recently completed geophysical investigations at the “Goshen Farm” in Annapolis, Maryland. Goshen Farm, which dates back to the mid to late 1700s, is on the Maryland Register of Historic Places. Many of the farm’s former structures have disappeared and the full extent of the archaeological site is presently unknown. The farm house and the surrounding acreage are presently owned by the Anne Arundel Board of Education with the land leased to the Goshen Farm Preservation Society. A conservation plan and co-operative agreement has been proposed involving the Goshen Farm Preservation Society, the Anne Arundel Soil Conservation District, and the Maryland NRCS. As part of this plan and vision, an education program that emphasizes soils and soil health has been proposed. Ground-penetrating radar and electromagnetic induction were used to identify areas having buried cultural features and also areas free of major artifacts, which could be used for a proposed outdoor education and soil-health pit. These geophysical tools, which are extensively used in site-specific management to better understand and map soil spatial variability, should logically be embraced in soil health.



Figure 3. The use of electromagnetic induction for archaeological and soil assessment surveys is discussed with a group of interested people at Goshen Farm, Annapolis, Maryland.

Personnel Highlights

none