



## Committee Participation Furthers Carbon

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### **Justin Derner**

*Rangeland Scientist*

### **Gerald Schuman**

*Soil Scientist*

*USDA Agricultural  
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What do college professors do besides teach classes and conduct research? They are also involved in outreach activities such as offering advice and expertise to organizations within the state.

The governor's Carbon Sequestration Advisory Committee is one group that has taken advantage of the expertise available within the College of Agriculture. This committee was created through state legislation under the Wyoming carbon storage act. The main goal of the team is to provide the state with scientifically sound information and advice concerning management

practices and economic opportunities for storing carbon in Wyoming's agricultural and forest lands. Many state and federal agencies are interested in carbon sequestration as a potential opportunity to reduce the threat of global warming and provide economic benefits to those who participate in programs that involve agricultural best-management practices and the marketing of carbon credits.

Agricultural producers, state agency officials, power company executives, federal employees, and UW professors within the College of Agriculture all serve as members of the governor-appointed committee.

Siân Mooney, an assistant professor in the Department of Agricultural and Applied Economics, and George Vance, a professor in the Department of Renewable Resources, were picked to be on the team because of their knowledge about the science, policy, and market factors that could influence

the ability of the state to adopt practices that sequester carbon and benefit Wyoming's citizens. Their expertise has been developed through their research programs, student activities, and outreach involvement.

Mooney has spent several years investigating how much it costs producers to change to practices that store more carbon as well as contributing to the national debate about how to design policies that might lead to trades in carbon credits. Vance has conducted research on soil carbon in forest, range, and aquatic ecosystems for more than 20 years and has examined the chemical composition of substances that comprise carbon pools and transfer products.

Serving on the committee together has provided an opportunity for Mooney and Vance to collaborate within a multi-disciplinary team on carbon sequestration research as well as on outreach activities related to issues that are important to the state and nation. Interactions



A soil sample collected from a forest is shown. The darker color at the surface is due to soil organic carbon.

# Sequestration Research

between university, government, industry, and agriculture participants are vital in helping to solve complex problems relating to carbon sequestration and climate change.

Other members of the governor's committee who are affiliated with the college are soil scientist Gerald Schuman and rangeland scientist Justin Derner, both researchers at the U. S. Department of

Agriculture's Agricultural Research Service High Plains Grasslands Research Station near Cheyenne.

As well as having adjunct professor status with the renewable resources department, Schuman has conducted research on increasing soil organic matter in degraded croplands. His recent work has examined the influence of grazing management practices involving the



Matt Mortenson, a U.S. Department of Agriculture research technician, collects soil samples on native rangeland for baseline carbon data.



UW Research Associate Girisha Ganjgunte of the Department of Renewable Resources prepares to sample a forest floor organic level.

interseeding of a nitrogen-fixing legume (yellow-flowering alfalfa) on soil carbon in rangelands. Derner has evaluated grazing effects on soil carbon across different grassland ecosystems in the Great Plains, and his current research involves exploring the influence of the intensity and seasonality of grazing on soil carbon and vegetation dynamics.

Along with other members of the carbon sequestration advisory committee, Mooney, Vance, Schuman, and Derner have organized and participated in an outreach workshop for Wyoming citizens explaining the concepts

and policy issues concerning carbon sequestration, have initiated demonstration sites for "proof of concept" by utilizing field projects that can be viewed by agricultural producers, and are developing a Web site that will contain information about carbon sequestration and the committee's activities.

