Restoring the Soil Resource: *Insuring for Resiliency & Profit*

A Minnesota-wide Video Conference Workshop on Soil Health*

September 21, 2012

8:00 a.m.	**Registration**
8:30	**Welcome** (from Morris) – Julia Ahlers Ness, Chippewa 10% Project Coordinator (LSP) & Clarence Caraway, GLCA President
8:45	**Don Baloun – Opening Address** (from Rochester); Don Baloun is MN State Conservationist
9:00	**Jay Fuhrer – Soil Health: Moving Toward Sustainability** (from Morris); Jay Fuhrer is District Conservationist for the Burleigh County Soil Conservation District in Bismarck, ND.
10:00	**Kristine Nichols – Managing Soil Biota for Economic and Environmental Sustainability** (from Morris); Kris Nichols is a Soil Microbiologist with the Northern Great Plains Research Laboratory in Mandan, ND and a Minnesota farm native.
11:00	**Break**
11:15	**Kenneth Miller – Experiences Using Cover Crops to Build Soil Health** (from Morris); Kenneth Miller is a North Dakota farmer and rancher brings 25 plus years experience practicing Holistic Management® and using cover crops and livestock to build soil health.
12:15 p.m.	**Lunch**
1:00	**Producer Panel & Discussion: Tools & Techniques for Building Soil Health in Minnesota** (from several locations)
02:30	**Break**
02:45	**Minnesota Soil Health Resources Presentation & Wrap-up Discussion** (from several locations)
03:15	**Hands-on Soil Health Assessment Demonstrations** (held at each site)
04:00	**Adjourn**

***5 CEUs for Certified Crop Advisors in the areas of Soil & Water Management (3) and Crop Management (2) have been applied for.**

7 State-Wide Locations

Morris	**West Central Research & Outreach Center (Ag Auditorium); 46352 State Hwy 329 Morris, MN 56267** • Site Coordinators: Julia Ahlers Ness (LSP), Clarence Caraway (GLCA), Brad Heins (WCROC)
St. Paul	**University of MN-St. Paul Campus (Room 145 Peters Hall); 1404 Gortner Avenue St. Paul, MN 55108** • Site Coordinators: Tyler Carlson (LSP); Minnesota Institute for Sustainable Agriculture, Midwest Forage Association
Staples	**Central Lakes College (Room A113); 1830 Airport Rd, Staples, MN 56479** • Site Coordinators: Jeff Duchene (NRSC), Roy Bell (GLCA)
Cloquet	**Fond Du Lac Tribal and Community College (Room 166); 2101 14th Street, Cloquet, Minnesota 55720** • Site Coordinators: Tom Gervais (NRCS), Troy Salzer (GLCA), Wayne Monsen (MDA)
Rochester	**Winona State University Rochester Campus (Room ST110); 839 30th Ave SE, Rochester, MN 55905** • Site Coordinators: Caroline van Schaik (LSP), John Zinn (NRCS), Nathan Redalen (GLCA)
Lamberton	**Southwest Research & Outreach Center; 23669 130th St, Lamberton, MN 56152** • Site Coordinators: Lance Smith (NRCS), Grant Breitkreutz (GLCA) Jill Sackett (UMN Ext.)
Crookston	**University of MN-Crookston (Dowell Hall 101); 2900 University Ave, Crookston, MN 56716** • Site Coordinators: Jim Stordahl (UMN Ext.), Mark Hayek (NRCS)

Save $10!
Register by Sept. 7

Register by 9-18-12 online at: http://landstewardshipproject.org/events/item/24

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Guest Speakers

Jay Fuhrer ~ is a Conservationist employed by the Natural Resources Conservation Service, in Bismarck, North Dakota. Growing up on a small grain and livestock farm, Jay's interests have always centered on agriculture. Jay emphasizes Soil Health as a foundation for cropping systems, grazing systems, and cover crops when working with Burleigh County producers. Information and Education activities strive to utilize a team approach with farmers talking to farmers about Soil Health. Jay's interest in soil health has resulted in numerous speaking engagements within the US and also includes Canada, France and Russia.

Soil Health – Moving Toward Sustainability

This presentation will discuss restoring soil health on Burleigh County farms and ranches, including the Menoken Farm, which is owned and operated by the Burleigh County Soil Conservation District. Cropping systems which use cover crop combinations, poly grain cover crops, integrating livestock with cover crops, grazing systems, compost, and gardens are all used to restore the foundation principles of Soil Health.

Kris Nichols ~ has been a Research (Soil) Microbiologist with the USDA, Agricultural Research Service (ARS) Northern Great Plains Research Laboratory in Mandan, ND since 2003. She was raised on a primarily corn-soybean conventional farm in southwestern Minnesota. Kris received Bachelor of Science degrees in Plant Biology and in Genetics and Cell Biology from the University of Minnesota in 1995, a Masters degree in Enivronmental Microbiology from West Virginia University in 1999, and a Ph.D. in Soil Science from the University of Maryland in 2003. She is the leading authority both in the USA and abroad on the study of arbuscular mycorrhizal fungi, a plant root symbiote, and glomalin, a glycoprotein produced by these fungi. Her research and professional achievements have focused on soil microbiology, nutrient cycling, crop rotation, livestock grazing, cover crops, soil aggregation and the role of glomalin to influence soil properties and improve soil health. She is widely recognized for her professional efforts and achievements that have contributed to the understanding of the sustainability of production agriculture and the impacts that it can have on the quality of our soil and water natural resources. Through her work with producers and others in agriculture, she has shown a way to improve economics and environmental sustainability by increasing plant production under low input systems. She has recently been recognized by the International Soil and Water Conservation Society as the recipient of the 2012 Conservation Research Award.

Managing Soil Biota for Economic and Environmental Sustainability

The presentation will use examples from farmers and ranchers in ND, SD, MN, IA, KS, and NE to illustrate the relationships between soil organisms and plants. These relationships help plants grow under stressed conditions such as drought, low nutrient availability, and high moisture content. Soil organisms are dependent upon aboveground management practices which include diverse crop rotations, continuous green cover, reduced disturbance by tillage, and appropriate nutrient and pest management. By relying on biological mechanisms, farmers and ranchers can reduce costs through fuel, fertilizer, and pesticide savings while maintaining or increasing crop and livestock production as well as improving soil, water, and air quality.

Kenneth Miller ~ along with his wife Bonnie own and operate a 2000 acre ranch near Fort Rice, North Dakota. They manage a very diverse landscape, from native grasslands mixed within high cut-banks to unpredictable river-bottom land. Soil health improvement and regenerative land management is the focus of this ranch. At present the Miller's are complementing their cow/calf herd with a custom grazing enterprise utilizing native grassland, both dry and irrigated tame pastureland, and cover crops. The increased forage production, and therefore higher animal numbers, is due to their use of holistic planned grazing for over 20 years. Over the years, wildlife has served as both a benefit to the ranch as a whole and as an indicator of the health of the land. They manage their cropland with the native prairie in mind. They have been no-tilling for the past 10 years and have been growing cover crops since 2006 for grazing and soil benefits. Ken is currently in the process of regenerating former cropland back to grassland through the use of diverse cover crop mixtures. In addition to ranching, Ken works for the Burleigh County Soil Conservation District, belongs to the Missouri Slope Irrigation Development Association, and is a mentor with the North Dakota Grazing Lands Coalition.

Experiences Using Cover Crops to Build Soil Health

In this presentation I will give a history of using cover crops on our ranch. First using Winter triticale for grazing in the Spring and early Summer, and then planting a cover crop mix to graze in the Fall. The next Spring these fields were planted to barley, with no fertilizer added, and we got tremendous yields. We then planted a cover crop mix after the barley harvest, to graze in the late fall. After seeing very good results, the next project we are rejuvenating poor pasture land using cover crops to build soil health. This project was cover crop mixes planted three years in a row, and grazing the cover crop in late fall and winter. These fields will be seeded back with a diverse mix of grasses and legumes.