



Natural Resources Conservation Service Conservation Pathways

Fall 2013

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Important Dates to Remember

November 2013

American Indian Science and Engineering Society (AISES) National Conference
October 31 - November 2, 2013; Denver, Colorado
For more information:
www.aises.org/nationalconference

Montana Farm Bureau Federation Annual Meeting
November 10-13, 2013; Billings, Montana
For more information:
406-587-3153

Montana Soil Health Week
November 18-22, 2013
For more information:
http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/mt/soils/?cid=nrcs144p2_057307

Montana Association of Conservation Districts Annual Conference
November 19-21, 2013; Great Falls, Montana
For more information:
406-443-5711

December 2013

Montana Grain Growers Association Annual Convention
December 3-5, 2013; Great Falls, Montana
For more information:
<http://www.mgga.org>

Intertribal Ag Council Membership Meeting
December 9-13, 2013; Las Vegas, Nevada
For more information:
<http://www.indianaglink.com/symposium.html>

Montana Stockgrowers Association Annual Convention
December 12-14, 2013; Billings, Montana
For more information:
<http://www.mtbeef.org>

Montana Organic Association Annual Conference
December 12-14, 2013; Kalispell, Montana
For more information:
406-452-0565

more important dates on page 9

A Note from the State Conservationist

This year I've served as the Chair of the US Department of Agriculture's Food and Agriculture Council in Montana. The leaders of all of the agriculture agencies talk together quarterly about issues of concern and brief each other on what is going on in our respective mission areas. The agencies include Forest Service, Animal and Plant Health Inspection Service, Ag Research Service, MSU Extension, Rural Development, Farm Service Agency, Risk Management Agency, Natural Resources Conservation Service, and Office of General Counsel.

The three Service Center Agencies (Farm Service Agency, Natural Resources Conservation Service, and Rural Development) have a tighter connection because we are collocated in many counties, deal with private landowners, and communicate on a regular basis. This year, we three set out to gather information from all of the American Indian tribal governments to begin formulating a strategic plan for delivering our services in Indian Country. Bruce Nelson, FSA state executive director, Anthony Preite, RD state director, and I have held meetings with six tribal councils to date.

In the conservation arena, here are some of the concerns that have been expressed:

- information on forming a tribal conservation district
- mentorship programs for young people to work alongside agency employees
- workshops for young people who want to start farming and ranching
- assistance on irrigation management plans, range unit planning
- help preparing and filing financial assistance applications
- critical timing issues with the NRCS contracting calendar
- difficulty in getting BIA lease contracts done in time for producers to qualify for NRCS conservation programs
- construction delays on conservation contracts

I'm sure there are many other issues we could address in a strategic plan, and I encourage you to submit your ideas directly to me, or through your local NRCS office. Hopefully we can develop a workable plan that will have meaningful results for conservation work in Indian Country.

Joyce Swartzendruber
NRCS State Conservationist in Montana



Hardin NRCS Educates Big Horn County Youth about Soil Health

Seanna Sparks, NRCS District Conservationist, Hardin



Evan Van Order, NRCS soil conservationist, talks to area third and fourth grade students about the importance of soil health in regards to water infiltration and soil stability.

This past year, the Hardin NRCS Field Office has stayed busy educating local children about the importance of soil health and feeding the “underground livestock.”

Seanna Sparks, NRCS district conservationist, and Evan Van Order, NRCS soil conservationist, visited with first-grade students at the Hardin primary school about what makes up soil. They had the students make their very own dirt cake; using chocolate sandwich cookies as rocks and parent material, gummy worms and cake sprinkles as soil organisms, and even coconut shavings as organic matter. Sparks and Van Order talked about how everything, in one way or another, needs soil in order to survive and grow and how important it is to take care of our soil.

In addition, the NRCS Hardin field office participated in Kids Day at the Big Horn County Museum. Third and fourth-grade students from area schools attended. Van Order talked to students about the importance of soil health. Using various soil samples from throughout the county, and ranging from conventional tilled sugar

beets to native rangeland, Evan used infiltration and slake tests to show students how various management practices can affect soil structure.

Kristin Fletcher, NRCS cartographer for the Bozeman area office, visited with students about the role soil microbes play in soil structure and stability. Fletcher used a microscope to show students different examples of the “critters” that live in the soil.

The Hardin NRCS field office also visited with summer school students from grades first through third at the Hardin primary school and again used the microscope to show student

the many organisms that live in the soil, and how these organisms break down organic matter and help plants to grow. While the lesson left some of the students convinced that they will never eat dirt again and will always remember to wash their hands, all of the students agreed that it was very important to conserve our soil.



Seanna Sparks, NRCS district conservationist, talks about soil to first grade students at the Hardin primary school.



Kristin Fletcher(center), NRCS cartographer, uses a soil microscope with a camera that displays a soil sample, and shows the “critters” that live in the soil.



Farmers Help America Keep Soil Healthy



Healthy soil looks dark, crumbly and porous while housing worms and other organisms. Healthy soil smells sweet and earthy. It feels soft and moist, which allows plant roots to grow unimpeded.

A no-till field since 1990, this field has excellent organic matter. The view of soil is at the Dakota Lakes Research Farm in Hughes County, S.D.

Our lives are dependent on healthy soil. While most people think of soil as just dirt, its functions are crucial to our very existence.

And while it may seem trivial at first glance, healthy soil gives us clean air and water, bountiful crops and forests, productive grazing lands, diverse wildlife and beautiful landscapes. It's the reason why USDA's Natural Resources Conservation Service experts are in your community and across the nation.

Healthy soil contains nutrients necessary for supporting plants and animals. And just as plants and animals depend on soil, the soil microbes depend on them, too. Soil is where the integration of living and non-living things takes place – part of a process that is millions of years old.

Soil is composed of air, water, organic matter and minerals. A community of organisms – functioning as a soil food web – lives all or parts of their lives in soil. More individual organisms are in a teaspoon of soil than there are people on earth.

Increasing soil organic matter typically improves soil health, since organic matter improves several critical functions of soil.

To improve the health of their soil, more and more farmers and ranchers are keeping soil covered, reducing disturbance activities such as tillage, keeping plants growing throughout the year, and diversifying the crops they're planting in a rotation. Taking these steps allow farmers and ranchers to help reduce erosion while increasing the soil's ability to provide nutrients and water to the plant at critical times during the growing season.

When producers focus on improving soil health, they often have larger harvests, lower input costs, optimized nutrient use, and improved crop resilience during drought years like last year. In heavy rainfall years, healthy soil holds more water, reducing runoff that helps avert flooding downstream.

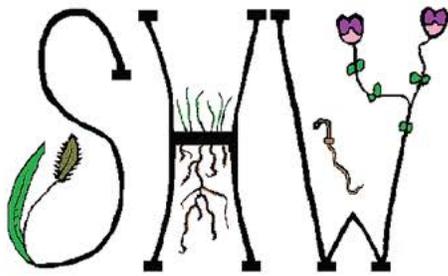
And because healthy soil allows for greater water infiltration and less erosion, nutrients and pesticides stay on the farm where they benefit crops, and are far less likely to be carried off the farm into streams and lakes where they can cause harm.

In addition, demographers tell us there will be 9 billion people on this planet by the year 2050. Farmers will need to produce as much food in the next 40 years as they have in

the last 500. To do this, we need cropping systems that are sustainable and include conservation measures.

If soil is not cared for, fertile land may become worn out leading to less food and higher prices. It's important to remember the Dust Bowl era of the 1930s and the lessons of not taking care of soil. This ecological disaster, compounded by drought, led to windstorms and massive soil erosion for nearly a decade on our Great Plains as farms were rendered infertile.

The NRCS was born out of the Dust Bowl and continues to work with farmers and ranchers across the country to implement conservation practices that benefit the soil and other natural resources. NRCS helps farmers install conservation practices such as cover crops to maintain and improve soil health – all of which can lead to productive, profitable and sustainable farming and ranching operations for generations to come.



United States Department of Agriculture
Natural Resources Conservation Service



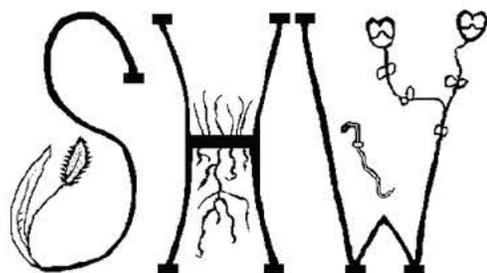
2013 SOIL HEALTH WORKSHOPS

November

Monday	Tuesday	Wednesday	Thursday
18	19	20	21
<p><u>Missoula</u> <i>Ruby's Inn & Conv. Center</i> 4825 North Reserve Street 12:30 pm—4:30 pm Lunch not included RSVP 676-2841 ext 111 Jon Stika Doug Peterson</p>	<p><u>Bozeman</u> <i>Best Western Grantree Inn</i> 1325 North 7th Avenue 9 am –4 pm \$15 includes lunch RSVP 587-6852 Jerry Doan Doug Peterson Brendon Rockey</p>	<p><u>Billings</u> <i>Billings Hotel</i> 1223 Mallowney Lane 9 am –4 pm \$15 includes lunch RSVP 657-6135 ext 117 Jerry Doan Brendon Rockey Ray Ward</p>	<p><u>Miles City</u> <i>Sleep Inn</i> 1006 S. Haynes Avenue 9 am –4 pm Lunch not included RSVP 232-7905 ext 115 Jerry Doan Brendon Rockey Ray Ward</p>
	<p><u>Great Falls</u> <i>Best Western Heritage Inn</i> 1700 Fox Farm Road 9 am –4 pm \$15 includes lunch RSVP 727-7580 ext 127 Jon Stika Ray Ward Rick Bieber</p>	<p><u>Glasgow</u> <i>Valley Event Center</i> 54141 Highway 2 9 am –4 pm Lunch not included RSVP 232-7905 ext 115 Jon Stika Rick Bieber Kris Nichols</p>	

NRCS provides reasonable accommodations for all persons with disabilities to participate in NRCS programs and activities. If you require special accommodations, please contact Heather Higgs at 406-587-6814 by November 1, 2013.





United States Department of Agriculture
Natural Resources Conservation Service



SPEAKER BIOGRAPHIES

Rick Bieber, Trail City, SD a no-till producer started no-tilling in 1987 because of the weed pressures and lack of affordable herbicides. Rick will share how he conducts his farming and ranching business, how he harvests water and sunlight with plants and animals, and how soil health is key to his operation

Jerry Doan, Sterling, ND owner/operator of Black Leg Ranch, a ranching business started in 1882 by his great grandfather. Jerry manages this family-based business with his wife Renae, and sons Jeremy and Jay. This multigenerational ranch consists of several enterprises including cow-calf, custom grazing, and cash cropping. Jerry's sons have added an additional layer to the landscape with a wildlife guiding, hunting, and agritourism operation. The Doans strive to improve their natural resources and management of wildlife and livestock.

Dr. Kris Nichols, USDA-Agriculture Research Service (ARS) Researcher, Mandan, ND has been with the agency since 2000. Her most recent work involves the investigation of glomalin, a glycoprotein produced by AM fungi. Glomalin contributes to nutrient cycling by protecting AM hyphae that are transporting nutrients from the soil to the plant and to soil structure and plant health by helping to form and stabilize soil aggregates. Kris found glomalin to be a major component of soil organic matter in undisturbed soils.

Doug Peterson, Grazing Conservationist, NRCS, Gallatin, MO has considerable experience with high density grazing systems. The main goal behind high stock density is building soil health while maintaining and/or improving animal performance. Doug will explain important considerations and the "how-tos" of implementing the tool of high stock density, which can increase soil organic matter and in turn soil health.

Brendon Rockey, Center, CO is a third generation potato farmer and raises specialty potatoes for both certified seed sales and for the fresh market with his brother. They were the first certified seed producers in Colorado to build their own tissue culture lab and greenhouse for mini-tuber production, and they were the first to grow fingerling potatoes in the U.S. They continue to redefine how potatoes can be raised by focusing on soil health. They currently rotate their potato crop with a multi-species green manure crop, and they have implemented companion cropping in their potatoes this year.

Jon Stika, Area Agronomist and Area Resource Soil Scientist, Dickinson, ND has worked as a Soil Conservationist in Sheridan and Burleigh Counties in North Dakota, as a District Conservationist in Griggs/Steele and Dunn Counties in North Dakota, and as both an Area Agronomist and Area Resource Soil Scientist in western North Dakota with a collateral position as a Soil Quality Instructor teaching "Soil Quality: Assessment and Applications for Field Staff" for the NRCS National Employee Development Center.

Dr. Ray Ward, Kearney, NE is the president and co-owner of Ward Laboratories, Inc. since 1983. His goals for agriculture and agronomy are to help production agriculture use its resources as efficiently as possible, to provide information and data for developing the best use of soil and water resources while maintaining environmental quality, to be involved in "value-added" agriculture, and to provide accurate laboratory data for managing production enterprises.

USDA IS AN EQUAL OPPORTUNITY EMPLOYER AND PROVIDER.



Fiscal Year 2013 EQIP Funding in Indian Country

While 2013 has been a year of tightened federal budgets, the Natural Resources Conservation Service in Montana was able to obligate more than \$12.2 million in Environmental Quality Incentives Program (EQIP) contracts. Out of the \$12.2 million obligated, \$470,883 in EQIP was obligated to Native American producers throughout Montana. These dollars break down as follows:

- The Crow, Northern Cheyenne, Fort Peck, and Rocky Boy tribes had 11 EQIP contracts funded, totaling \$229,055 in financial assistance.
- The Blackfeet Tribe funded two contracts which came to a total \$71,375 of financial assistance.
- The Confederated Salish and Kootenai Tribes also funded two contracts, resulting in \$171,385 of financial assistance.

EQIP provides financial and technical assistance to farmers, ranchers, and non-industrial private forest landowners who face threats to soil, water, and air quality; wildlife habitat; surface and groundwater conservation; energy conservation; and related natural resources on their land. Applications for EQIP are accepted on a continuous basis throughout the year. Eligible applicants may apply for EQIP by visiting their local NRCS field office.

Check Out the New and Improved Web Soil Survey

The Web Soil Survey (WSS) site has been updated to version 3.0 and can be accessed at: <http://websoilsurvey.nrcs.usda.gov>. This website is available to the public and provides free soils information as well as soil maps, properties, and interpretations.

Some of the updates to the WSS version 3.0 include improved imagery and maps and increased ability to select an Area of Interest, as well as soils data available that can be downloaded directly from the Web Soil Survey site. The WSS website also has a wealth

of available soils reports to download that can assist with management decisions on an ag operation. Some of these reports include: ecological site descriptions, farmland classifications, forage suitability groups, hydric soil ratings, in addition to many other soils reports.

So, the next time you have a free moment, hop on your computer and check out the new and improved Web Soil Survey site. You might be surprised about the information available at your fingertips.

Keep an Eye Out for the Eastern Heath Snail



Photo Courtesy of USDA-APHIS-PPQ Montana.



You wouldn't think a small snail could be a potential pest of U.S. agriculture, but the Eastern Heath Snail (*Xerolenta obvia*) has been identified as one. This snail has only been found at two locations in the United States—near Detroit, Michigan, and 20 miles southeast of Great Falls, Montana.

You might be wondering how a little snail has the potential to be a big problem. Well, the Eastern Heath Snail is relatively unique in that it prefers dryland climates, especially dry grassy areas. This snail can survive long periods of dry conditions by withdrawing into its shell and sealing the opening with a mucous membrane. These snails will aggregate in enormous numbers (called “massing”) and can feed on a wide range of plants such as, alfalfa, clover, wheat, barley, weeds, and grasses. The Eastern Heath Snail is considered a pest since it has the potential to reduce crop yields and quality, contaminate hay, and transmit plant and animal diseases.

Any sightings of these snails should be reported to the Montana Department of Agriculture (406-444-9430), USDA Animal and Plant Health Inspection Service (406-449-5210), or your local Montana State University county Extension office.

If you or anyone you know would like to be added to the mailing list for the Montana NRCS' Conservation Pathways Newsletter, please send your name and mailing address to:

USDA-NRCS
Attn: Conservation Pathways
230 Ohio Street
Chinook, MT 59523-0189
Or Email:
clifford.merriman@mt.usda.gov

Attention Students: Keep an Eye out for Pathways Program Vacancies for Summer 2014

If you are a high school through post-graduate school student, you might be interested in the Pathways Program that is available through the Natural Resources Conservation Service. The Pathways Program consists of three different program options that include:

Internship Program

This program is targeted at current students and individuals accepted for enrollment in a qualifying educational program.

Recent Graduate Program

This program targets individuals who have recently graduated from qualifying educational institutions or programs. Eligible applicants must have applied within two years of degree or certificate completion.

Presidential Management Fellows (PMF) Program

This program is a flagship leadership development program at the entry level for advanced degree candidates.

All of the Pathways Program vacancy announcements will be posted publicly on <https://www.usajobs.gov/>, and all of the applicants will be required to apply for the vacancies online. If you would like to learn more information about the Student Pathways Program, please visit the following website: <http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/careers/student/>.



AFO/CAFO Workshop Held in Lame Deer

Ted Nelson, NRCS District Conservationist, Columbus

A wetland plant ID training in 2012 gave me the opportunity to meet Shanny Spang-Gion, a water quality specialist with the Northern Cheyenne Reservation. Spang-Gion had heard of the NRCS Animal Feeding Operation/Confined Animal Feeding Operation Special Initiative

in Stillwater County and was interested in learning more about our processes and methods. Last December, we set up a tour for Spang-Gion and Cassie Bird of a typical corral situation in Stillwater County where animal wastes were carried directly into surface water.



Corral next to the Stillwater River. Temporary fencing created a water gap to the river when animals were confined. Ag waste from the corral flowed directly to the river during runoff events.

The corral was relocated to a site where land shaping would direct runoff to a vegetated treatment area and run-on water could be controlled.

I offered to make a presentation of our work to Northern Cheyenne producers so Spang-Gion quickly developed an agenda for a water quality workshop.

In April of 2013, Spang-Gion hosted a Livestock and Water Quality Workshop in Lame Deer with approximately 25 people in attendance. Spang-Gion spoke on topics including wetlands and tribal water quality and Kathy Knobloch, tribal conservationist at the Lame Deer NRCS office, covered local NRCS projects. The Columbus NRCS staff (including Madeleine Cantu and Mark Doely) presented information on best management practices for dealing with AFOs that are discharging into surface waters. The three main principles covered were preventing dirty water (runoff) from reaching streams, keeping clean water (run-on) from mixing with animal waste, and applying agricultural waste to cropland in an agronomic and timely manner. Specific practice information was presented that gave a more in-depth idea of the scope of work involved with restructuring or moving corrals.



The new corral that was seeded and mulched in the spring of 2013.

Important Dates to Remember

January 2014

Montana Weed Control Associations' Annual Conference
January 15-16, 2014; Great Falls, Montana
For more information:
<http://www.mtweed.org>

March 2014

National Congress of American Indians Executive Council Winter Session
March 4-6, 2014; Washington, D.C.
For more information:
<http://www.ncai.org>

June 2014

National Congress of American Indians Mid-Year Conference
June 8-11, 2014; Anchorage, Alaska
For more information:
<http://www.ncai.org>

Tribal Field Office Directory

Browning Field Office

Phone: 338-3153; FAX: 338-3529
Blackfeet Tribal Headquarters
P.O. Box 1169
Browning, MT 59417-1169
Serves: Blackfeet Reservation

District Conservationist- Anne Stephens,
Email: anne.stephens@mt.usda.gov

Crow Agency Field Office

Phone: 638-9102; FAX: 638-9101
8645 South Weaver Drive,
Student Union Building (SUB), Room 205
P.O. Box 699
Crow Agency, MT 59022

District Conservationist- Jeremy Not Afraid,
Email: jeremy.notafraid@mt.usda.gov

Fort Belknap Field Office

Phone: 353-8488; FAX: 353-2228
158 Tribal Way, Suite D 353+last 4
Harlem, MT 59526

District Conservationist- Scott Morton,
Email: scott.morton@mt.usda.gov

Soil Conservation Technician- Blake Stiffarm,
Phone: 353-8350,
Email: blake.stiffarm@mt.usda.gov

Lame Deer Field Office

Phone: 477-6494; FAX: 477-8431
East Boundary Drive
P.O. Box 330
Lame Deer, MT 59043-0330

Tribal Conservationist- Kathy Knobloch,
Email: kathy.knobloch@mt.usda.gov

Pablo Field Office

Phone: 675-2700; FAX: 275-2804
Tribal Land Department
42487 Complex Boulevard
Pablo, MT 59855-0871

Tribal Conservationist- Herb Webb ext. 1245,
Email: herb.webb@mt.usda.gov

Poplar Field Office

Phone: 768-3566; FAX: 768-3373
500 Medicine Bear Road
Box 1027
Poplar, MT 59255-1027

*Fork Peck and
Turtle Mountain Tribal Liaison-*
Paul Finnicum, Phone: 768-3964
Email: paul.finnicum@mt.usda.gov

Rocky Boy Field Office

Phone: 352-3138; FAX: 352-8005
P.O. Box 27
Box Elder, MT 59521
Serves: Chippewa Cree Tribe

District Conservationist- Lance Lindbloom
Email: lance.lindbloom@mt.usda.gov

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