



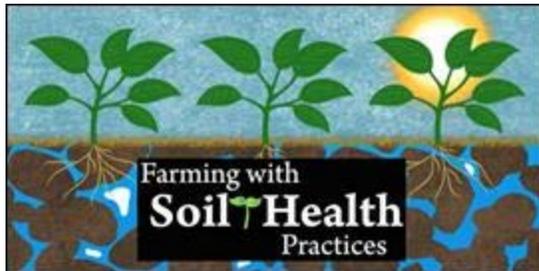
NRCS Soil Health Update May, 2016

Sharing soil health marketing communications information and resources from USDA's Natural Resources Conservation Service, other partners and the media.

ORION
MAGAZINE

Orion Magazine – Dirt first

Kristen Ohlson writes: In nature, of course, plants grow like mad without added synthetic fertilizer, thanks to a multimillion-year-old partnership with soil microorganisms. Plants pull carbon dioxide from the atmosphere through photosynthesis and create a carbon syrup. About 60 percent of this fuels the plant's growth, with the remaining exuded through the roots to soil microorganisms, which trade mineral nutrients they've liberated from rocks, sand, silt, and



**Union of
Concerned Scientists**
Science for a healthy planet and safer world

clay—in other words, fertilizer—for their share of the carbon bounty. [Rick] Haney insists that ag scientists are remiss if they don't pay more attention to this natural partnership. [Read more.](#)

NRCS – The Hope in Healthy Soil video series

Chapter 3 – Do not disturb: No-till planting explained

For those familiar with modern agricultural technologies, no-till planting techniques are “old hat.” But for consumers steeped in the traditions of roto-tilling and hoeing gardens, the notion of planting without plowing may seem counterintuitive. In this “The Hope in Healthy Soil” video chapter, viewers learn how large-scale no-till planters work and why no-tilling results in a wide range of on- and off-farm benefits. DVDs of the series may be [ordered free-of-charge](#) through NRCS' National Distribution Center by e-mailing nrcsdistributioncenter@ia.usda.gov (specify “looped” or “chapter” versions). [Watch Chapter 3](#) (3:24).

Union of Concerned Scientists – Corn Belt farmers managing weather-related risks through greater soil stewardship

Iowa State University's Gabrielle Roesch-McNally writes: My research examines in-depth interviews with farmers across nine Corn Belt states by assessing how farmers respond to weather related risks and specifically, how they might alter management practices in response to increased weather variability and projected climate change. Through my conversations with farmers,

many of them described an evolving relationship with their soil resources, through a kind of social-ecological feedback, often brought about through changes in their use of conservation practices, such as no-till farming and cover crops. [Read more.](#)



Southwest Farm Press – No-till, cover crops reduce stress of extreme farming

“This was definitely a challenging year,” says Texas farmer Todd Lynn Kimbrell. “But no-till isn’t about putting a crop in from year to year, it’s about putting in a system that will work over the long haul. This is a long term solution, not a short term gain. And Todd understands that. He has had crops that failed, which is a short term loss, but then that crop decomposed into the soil and the next crop was a gangbuster.” [Read more](#) in this story by NRCS’ Dee Ann Littlefield.



National Association of Environmental Professionals – Soil health campaign ‘unlocks’ more honors

The National Association of Environmental Professionals (NAEP) presented NRCS’ “Unlock the Secrets in the Soil” campaign with its 2016 Environmental Education Award on April 14 at its national conference in Chicago. The NRCS soil health communications team was recognized for its outstanding achievements in communications research, planning, execution and evaluation. “Effectively and consistently communicating the

Daily Mercury



basics and benefits of soil health will continue to be a critical component in ensuring the widespread adoption of soil health management system across the country throughout the coming years,” Campaign Coordinator Ron Nichols, said. [Read more.](#)

Daily Mercury (Australia) – Farming game-changer

"I like to say 'There is no such thing as a plant', University of Sydney microbial ecologist Neil Wilson said... "There is no such thing as a plant because every plant that has ever been looked at has been covered from root to leaf tip in bacteria and some, inside and out." He said the emerging view was there was a continuum from the plant to the microbe and the interactions between the two were critical. [Read more.](#)

NRCS – La salud de los suelos en español

A new website has been developed by the NRCS soil health communications team, which offers a convenient location for visitors to access Spanish-language soil health-related publications and to view soil health video demonstration and public service announcements. Additional Spanish-language materials will be added to the site throughout the year. [Click here](#) to visit the site or view the new Spanish-language television public service announcements “[Milagro](#),” “[La vida sin los suelos](#),” and “[En realidad, es vida](#).”

Farm Progress – Cover crops

ST. LOUIS POST-DISPATCH

benefits add up

Rod Swoboda writes: Cover crops are starting to catch on in Iowa to protect the soil and recycle nutrients like nitrogen that would otherwise be lost to leaching during winter and spring. More farmers are going to have to start using a combination of cover crops and no-till to reach the erosion control and water quality improvement goals the public is demanding. [Read more.](#)

St. Louis Post-Dispatch – To reach climate goal, Monsanto needs help from customers

It's obvious where David Moose's property line ends and the neighboring farm field begins. Moose's field has a light brown hue, coated by the dead cereal rye and corn cobs that remain from the cover crop he planted in October. Across his property line, the traditionally tilled earth is a darker brown, uncolored by cover crops... It's these types of practices agricultural products giant Monsanto is trying to refine and promote among farmers, because if it wants to live up to its pledge to go carbon neutral by 2021, it will need a lot of help from its customers. [Read more.](#)



No-Till Farmer – Banking water, fixing soils yield a no-till 'green up'

When Jimmy Emmons talks about the major changes he's making to his Leedey, Oklahoma, farm, he feels compelled to explain that his father and grandfather, "did the best they could do with the equipment they had." He and his wife, Ginger, have been no-tilling for 20 years, added a

Growing Georgia



rotational grazing system for their cow-calf operation and also spent 3 years implementing cover crops on their 2,000-acre farm. It's not a path many farmers around them have chosen—yet. But Jimmy knows who he is. [Read more](#). View the [NRCS video profile](#) on Jimmy Emmons (2:25).

Growing Georgia – The key to healthier forage is right underfoot

Beef producers are focusing on a new kind of livestock these days, made up of creatures tinier than the naked eye can see. Scientists refer to them as “soil livestock.” They’re the powerful microorganisms that contribute to healthy soil, and ultimately to healthier forage. Believe it or not, this microscopic herd requires a quality balanced diet as much your Herefords and Charolais. So what constitutes healthy soil? To be in the peak of health, soil requires an abundant “microbial population that efficiently decomposes organic residues,” says Doug Peterson, NRCS Regional Soil Health Specialist. [Read more](#).

NRCS' 'The Science of Soil Health' Bringing the science of soil health home: Chapter 2 – Understanding the basics: Buz's 'fab-five facts of healthy soil'

In the second chapter of his five-part mini-series, “Bringing the Science of Soil Health Home,” Buz Kloot, Ph.D., tells farmers and gardeners about the five key lessons he’s learned on his soil health trek across the country. In this new video, Buz gives you five critical facts about the nature and properties of soil. Fact

The CHRISTIAN SCIENCE MONITOR



number 1: Soils vary a great deal. [Get the rest of the facts.](#) [Watch Soil Basics](#), the latest video from NRCS' Unlock the Secrets in the Soil series (4:27).

Christian Science Monitor – A surprising ally in the battle against climate change: dirt

Earth's soils represent a potential storehouse for billions of tons of greenhouse gases, a vital addition to our arsenal for combating climate change, according to new research. The international group of scientists, whose findings are published Wednesday in the journal Nature, argue that carbon sequestration in soil has been under-appreciated and under-utilized, but has vast potential. Their goal was therefore to synthesize a wealth of knowledge and expertise and bring it to the attention of both the public and policy-makers. [Read more.](#) **Related from Think Progress:** [Treating soil a little differently could help it store a huge amount of carbon.](#)

USDA-NRCS video

Profile in Soil Health – Colorado farm family's operation, future rooted in 'the living, breathing soil'

Bruce Unruh and Justin King understand their soil is alive. Realizing that their "soil is a living, breathing thing that needs attention," led this farming family to fundamentally change their farming operation to focus on the principles that improve the health and function of that living and life-giving soil. [Watch the video](#) (3:50).



Delta Farm Press – ‘Unconventional’ cover crops mean money for Bootheel producer

“I was making really good crops,” [Johnny Hunter] says. “I was growing 220-plus-bushel corn, I was making 70-plus-bushel beans, I was picking 1,300-pound, and I was going broke. 2012 was our drought year, and that almost put me on the street.” Following that year, Hunter began looking for other answers as to why he was going broke. “That’s when I found Ray Archuleta (conservation agronomist with USDA’s National Resource Conservation Service in Greensboro, N.C.). Ray Archuleta explained why I was going broke, and he explained what I could do differently.” [Read more.](#)



NRCS’ ‘The Science of Soil Health’ Bringing the science of soil health home: Chapter 3 – [After the till is gone: Using no-till to improve soil health](#)

[In the third chapter of his five-part mini-series, “Bringing the Science of Soil Health Home,” Buz Kloot, Ph.D. explores a “disturbing,” but oft-used aspect of soil management: Physical disturbance via tillage. Dr. Kloot reminds us that while farmers have historically used tillage to prepare seed beds and to control weeds, natural systems do not use tillage. Yet in those natural systems water infiltrates into the soil, plants grow and nutrients recycle. Tillage, he says, “destroys biology, exacerbates compaction and burns up organic matter.” But how do we get plants in the ground without tilling? In this chapter, Dr. Kloot explains how it’s](#)

The Gazette

done on a row-crop farm, an organic farm and his own 1,000 square foot garden. [Watch chapter three](#) (4:20).

***The Gazette* – Cover crops are key to combatting heavy spring rains**

When it comes to soil conservation, a common headache for Iowa farmers is the spring deluge that causes fields to erode showing visible scouring and gullies. The amount of rain is only part of the problem — the timing is also a big issue, soon after planting when the soil and crops are most susceptible. Just covering the soil with last year's crop residue provides some erosion defense, but when farmers try to fight off the all-too-common five-inch rain blast, it hasn't proven to be completely effective. [Read more](#) in this opinion piece by NRCS' Jason Johnson.

Related in *The Gazette*: **Erosion concerns in Iowa? Rye's got it covered.** [Read more.](#)

HUFFPOST GREEN

***Huffington Post Green* – Water for farmers even during a drought**

The Great California Drought, now in year five (though Northern Cal is getting some temporary relief), is the worst drought in California history. According to NASA we are currently trillions (yes, trillions) of gallons below where we should be in groundwater... So where's the good news? Truth is, we're standing on it. And more precisely, we're farming on it. New data on soil from around the world shows that if we modify our approaches to how we grow our food we could reduce the amount of water necessary by as much as 80 percent, depending on the crop.



[Read more.](#)

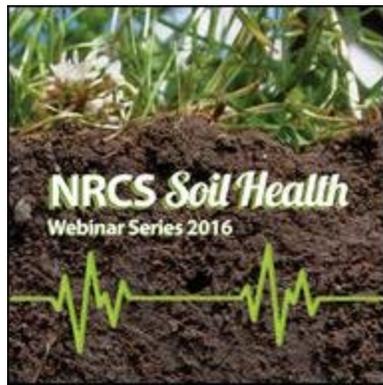
MachineFinder – Number of Indiana acres devoted to cover crops grows by 225 times in past decade

The results from the “2015 Indiana Fall Tillage and Cover Crop Transect” [show](#) that soil health in the state is improving. The data found that more than 1.1 million acres of cover crops were planted last year, which is an increase of 10 percent from 2014. Additionally, this is 225 times more coverage than what has been recorded over the past decade. “We introduced the cover crop assessment to the survey in 2011 so that we could better tell the story of Indiana’s conservation efforts,” said Jane Hardisty, Natural Resources Conservation Service state conservationist. [Read more.](#)

Corn & Soybean Digest – No soil is too wet or cold for no-till

No-till doesn't work here. That was the message Carl Oberholtzer heard from new neighbors when he moved to west-central Wisconsin from the Chesapeake Bay area in 2000. Soils were too wet and too cold for no-till to work, they said, and he saw little reason to doubt them. For five years he practiced rotational grazing and watched as fields with less than 1% organic matter doubled and then doubled again, with some fields reaching as much as 5.5% organic matter. When he returned to crop farming, he didn't want to lose that gain, so he began experimenting with no-till. [Read more.](#)

**NRCS –Soil Health Webinar Series
May 10, 2 p.m. EASTERN Time –
Integrating warm season annuals
into cool season perennial grazing**



systems

Many cool season pastures are overgrazed during the summer months resulting in poor forage quality and degraded soil health. Farmers are looking for ways to utilize summer annuals to provide additional forage but have limited their choices to summer annuals that are also used for cover crops. Presented by Dave Wilson, research agronomist, this webinar will focus on selecting summer annuals with the highest forage quality for grazing. [Click here](#) to learn more about the webinar and to sign in.

Note: No advance registration is required and space is not limited, but participants should sign in 15 minutes early. This webinar offers CEUs and will be recorded for future viewing. It is presented by the [USDA NRCS Soil Health Division](#). Contact [Holli Kuykendall, Ph.D.](#), National Technology Specialist, for more information.



Huffington Post – Solving the climate crisis

Diana Donlon writes: The climate crisis is unfolding far more rapidly than scientists predicted. February 2016 was the warmest in more than 135 years of global record keeping, and March will likely break more records. Noted poet, essayist, novelist, farmer and conservationist Wendell Berry provides wise counsel. Using Berry's criteria, the rapidly growing soil carbon movement sees an enormously



FarmWeekNow.com

promising climate solution right under our feet. Increasing carbon in soil increases the soil's water-holding capacity. Carbon-rich soils act like giant fresh water sponges; according to the NRCS, every 1 percent increase in soil's organic matter results in as much as 25,000 gallons of available soil water per acre. [Read more.](#)

***Phys.Org* – Laser reveals water's secret life in soil**

Most of us think nothing of rainfall or where it goes, unless it leads to flooding or landslides. But soil scientists have been studying how water moves across or through soil for decades. Daniel Hirmas, a professor at University of Kansas, and his team may be taking the study of soil hydrology to some exciting new territory. Territory that may help soil scientists manage water resources better. [Read more.](#)

***No-Till Farmer* – Embracing diversity brings on no-till profitability**

It's no accident that Levi Neuharth is keeping diversity in his cropping strategy, microbial activity in his soil biology and more money in his pocket. This second-generation South Dakota farmer has identified markets for the small grains that provide crop diversity, while integrating continuous cropping with cover crops into the no-till system his father, David, began establishing some 20 years ago. [Read more.](#)

***Farm Week Now* – Applying conservation, cover crops to graze livestock, farm rolling fields**

Illinois Farm Bureau Director Dale Hadden farms with his brother and parents near Jacksonville on gently

rolling land with slopes ranging from 2 percent to 8 percent. “I get frustrated when I see fields with rills and gullies,” Hadden said, looking over a rolling cornfield. “With today’s technology, you can maintain and farm those slopes.” To keep residue on the surface, Hadden uses strip till to plant corn and no-till plants soybeans. He plants cover crops, mainly cereal rye and some annual ryegrass to help keep soil and nutrients in his fields. [Read more.](#)



NRCS webinar replay (in case you missed it) – Soil erosion: A historical perspective

Soil is the root of our existence, supporting our feet, our farms, and our cities. In his presentation, David Montgomery, Ph.D., explains that we are running out of soil and, unlike civilizations in the past, there are no new regions to exploit. Montgomery discusses the natural and cultural history of soil that sweeps from ancient civilizations to modern times, and explores the idea that we are—and have long been—using up Earth's soil. He also examines the elegant symbiosis between plants and soil microbes. [Click here](#) to view the presentation (1 hour).

Times Record News
WICHITA FALLS

The Times-Record News – Wichita County families champion no-till farms

Rex Lalk and Carl Brockriede stopped kickin’ up dust 17 years ago. The Wichita County farmers chose no-till, a way to plant the soil of North Texas without plowing. Texas Commission for Environmental Quality recently presented the Texas Environmental



Excellence Award to Lalk Brothers Farm and Brockriede Brothers Farm, in recognition of the no-till techniques they adopted in 1999 and shared with other farmers. “We’re blessed,” said James Bilbrey, a specialist with the NRCS. “While Lubbock blows away it stops at Wichita County. There are a handful of farms that still use tillage but a lot are changing the course.” [Read more.](#)

Northern Ag Network – MSU researcher who linked farming technique to cooler temps wins award

Linking what Paul Stoy describes as the “fallow reduction phenomenon” to the 40-year summertime cooling trend throughout the Northern Great Plains could help people make land-management decisions that benefit crops as well as climate. Stoy, a Montana State University researcher studying farming practices that may decrease summertime temperatures, recently received a \$500,000 CAREER Award from the National Science Foundation. [Read more.](#)

Mother Earth News – Working with Nature to Build Organic Soil, Part 2: Cover Crops

Mary Lou Shaw writes: In the previous article on [Working with Nature](#), we saw how plants take carbon from the air to create sugars. These carbon-based sugars are fed to soil microbes through root exudates. The microbes then transform the carbons of sugar into organic topsoil. This and the next

The Epoch Times



The Bemidji Pioneer

article discuss how we can work with nature to facilitate this carbon-sequestering and as a result get more nutritious and tasty food. [Read more.](#)

Epoch Times – Why our health depends on the soil

Andrea Hayley writes: It is a simple logic, but it can also be scientifically verified. Technological advances have opened new windows into the diverse microbial ecosystems that support plant growth, which include the connections between the life of the soil and our bodies. And it turns out, the microbial connections are crucial, and the more diversity of microbes, the better the soil is for us. [Read more.](#)

Farm Progress – Saunders County landowner works to not treat soil like dirt

Some people are passionate about football, antiques, travel or hunting. But, it isn't every day you find someone who's passionate about dirt. After visiting with Saunders County landowner David Hartman, it becomes obvious that he gets pretty excited about that stuff under our feet – and according to Hartman – we're taking advantage of it. "I mean, this is the stuff that sustains life. It drives me crazy how you can put a seed into the soil and a plant grows! It's a miracle. And yet, we treat it – well, like dirt," Hartman said. [Read more.](#)

The Bemidji Pioneer – Pipestone farmer part of first wave of producers in Minnesota's new Agricultural Water Quality Certification Program

Almost surrounding Ian Cunningham's fourth-generation

family farm outside of Pipestone, passersby get a glimpse of green growth not just in the pastures, but in the acres and acres of rolling farm fields. The sight wouldn't be unusual if it was mid-May and the newly planted corn and soybeans were emerging from the soil, but this is mid-April... For now, Cunningham is doing his part -- acre by acre -- which is what Frederickson believes needs to happen statewide in a process that slowly but surely will improve runoff and other problems and improve the long-term outlook. [Read more.](#)



***The Hill* – Carbon farming is a zero-risk strategy for curbing climate**

David Wolfe writes: Building healthy soils is essential to ensure food security in the decades ahead in the context of a changing climate. Soils high in organic matter have better water and nutrient retention, which buffers crops from drought and reduces costs for irrigation and fertilizer. Healthy soils also drain more quickly, allowing farmers to get into the field sooner after heavy rains for planting or harvesting. But can carbon farming really slow the pace of climate change? [Read more.](#)



***Variety* – ‘Kiss the Ground’ soil documentary in the works**

Big Picture Ranch and Benenson Productions are teaming up on “Kiss the Ground” to chronicle the movement to bring back healthy soil. The film is inspired by a collaboration with the California-based nonprofit organization Kiss the Ground, a champion for regenerative living and the restoration of soil worldwide. The documentary will look at how soil—and the microbial universe that it houses—is the foundation for all life

above ground. [Read more.](#)

Additional soil health marketing communications materials from the soil health communications team are in development, so stay tuned for further updates. As always, please feel free to contact me at any time if you need additional information or would like to offer contributions to the Update. If you'd like to subscribe or unsubscribe to NRCS' Soil Health Update, contact ron.nichols@wdc.usda.gov. Thanks for all you do on behalf of conservation and American agriculture.

**The views and opinions expressed in the aforementioned articles or videos are those of the individuals featured therein and do not necessarily represent the official policy or position of any agency of the U.S. Government.*



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