

# REGENERATIVE AGRICULTURE — ANNOTATED BIBLIOGRAPHY

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This curated compilation of resources reflects the latest best information on organic regenerative agriculture and land use practices, especially as they relate to carbon sequestration and climate change.

Readers are welcome to print copies or embed this document on their websites. Submit materials for consideration by emailing [info@regenerationinternational.org](mailto:info@regenerationinternational.org).

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## Introductory Articles

Cummins, Ronnie. “The Crisis: Regeneration or Degeneration?” *Organic Consumers Association*, June 17, 2015,  
[www.organicconsumers.org/essays/crisis-regeneration-or-degeneration](http://www.organicconsumers.org/essays/crisis-regeneration-or-degeneration).

Ronnie Cummins recounts the inaugural meeting of Regeneration International in June 2015. A group of 60 scientists, activists, farmers, environmentalists and business leaders, representing non-profits, universities and corporations from 21 nations agreed that we must change the conversation about the climate crisis from “mitigation” to “reversing” global warming, by organically regenerating the soil, grasslands and forests.

Cummins, Ronnie. "Food Fight 2015: Taking Down the Degenerators." *Organic Consumers Association*, September 3, 2015,  
[www.organicconsumers.org/essays/food-fight-2015-taking-down-degenerators](http://www.organicconsumers.org/essays/food-fight-2015-taking-down-degenerators).

Ronnie Cummins describes how environmentalists, animal rights, food justice, climate and health activists have created a global grassroots movement aimed at dismantling our destructive, degenerative industrial food and farming system. Cummins describes next steps and how the movement still has time to mobilize and act to regenerate the food system before it further degenerates us.

Cummins, Ronnie. "Regeneration: Global Transformation in Catastrophic Times." *Organic Consumers Association*, August 4, 2015,  
[www.organicconsumers.org/essays/regeneration-global-transformation-catastrophic-times](http://www.organicconsumers.org/essays/regeneration-global-transformation-catastrophic-times).

A growing number of climate, food, environment, health and justice advocates are embracing and promoting a world-changing concept: regeneration. Ronnie Cummins describes what regeneration means and how it is central to solving the soil, food, and health crises. He calls for the union of the food, forest, and climate movements to embrace the regenerative "100-percent solution."

Kittredge, Jack. "Soil Carbon Restoration: Can Biology do the Job?" *Northeast Organic Farming Association, Massachusetts Chapter, Inc.*, August 14, 2015,  
[www.nofamass.org/sites/default/files/2015 White Paper web.pdf](http://www.nofamass.org/sites/default/files/2015%20White%20Paper%20web.pdf).

Jack Kittredge, former policy director at Northeast Organic Farming Association/Massachusetts Chapter, writes about a solution to the climate crisis that rests under our feet. Using the natural process of photosynthesis, we can remove carbon from the air and safely store it underground in the soil. This paper aims to get people on board for this inexpensive and practical way to save the planet by detailing the problem of carbon dioxide buildup and climate change, how carbon can be taken out of the atmosphere and restored to the soil, and the advantages that can come to farmers and consumers from growing in carbon-rich soils. Farmers, gardeners, homeowners, landscapers can follow the principles laid out in the paper and not only restore carbon to the soil but help rebuild the great system that mother nature put in place to renew our atmosphere while providing food, beauty and health for us all.

Shiva, Dr. Vandana. "Touch the Earth – Soil Yatra – 'A pilgrimage towards a nonviolent relationship with soil.'" *Navdanya*, October 8, 2015,  
[seedfreedom.info/touch-the-earth-soil-yatra-a-pilgrimage-towards-a-nonviolent-relationship-with-soil/](http://seedfreedom.info/touch-the-earth-soil-yatra-a-pilgrimage-towards-a-nonviolent-relationship-with-soil/).

Dr. Vandana Shiva writes about the soil pilgrimage she, Andre Leu (IFOAM-Organics International), Ronnie Cummins (Organic Consumers Association), and Will Allen (Cedar Circle Farm) undertook to celebrate the International Year of Soil and renew humanity's commitment to a non-violent relationship with the earth, the soil and our society. In this essay, Dr. Shiva describes how regenerative agriculture provides answers to the soil crisis, the health crisis, the climate crisis, and the crisis of democracy.

Jaqua, Maggie. "Regenerative Agriculture: 25 Things to Know Now." *Organic Consumers Association*, August 22, 2019, [www.organicconsumers.org/news/regenerative-ag-25-things-to-know](http://www.organicconsumers.org/news/regenerative-ag-25-things-to-know).

Maggie Jaqua stresses in this article that regenerative agriculture is "not a marketing term—it's a movement". She shares key points regarding why regenerative agriculture is so important, the benefits it can bring, and strategies for success going forward.

## **Regenerative Agriculture: The Climate Change Solution**

Roulac, John. "Why Are Climate Groups Only Focused on 50% of the Solution?" *EcoWatch*, August 27, 2015, [ecowatch.com/2015/08/27/climate-groups-focused-only-50-solution/](http://ecowatch.com/2015/08/27/climate-groups-focused-only-50-solution/).

Our society has focused close to 99 percent of our climate efforts on 50 percent of the solution (reducing the release of atmospheric carbon). While we need to decarbonize our energy, Roulac describes the equally important need to recarbonize our soils, to sequester the carbon so that we don't reach the tipping point of climate chaos. Roulac pressures environmental groups to adopt a 100 percent solution - one that both decarbonizes our energy and recarbonizes our soil.

Savory, Allan. "Climate Change, Healthy Soils, and Holistic Grazing...A Restoration Story." *Revitalization News*, August 1, 2015, [revitalizationnews.com/article/climate-change-healthy-soils-holistic-planned-grazing-a-restoration-story/](http://revitalizationnews.com/article/climate-change-healthy-soils-holistic-planned-grazing-a-restoration-story/).

With the rising of CO<sub>2</sub> in our atmosphere, the acidification of our oceans, and the desertification of our soils, implementing regenerative, holistic management is critical. When soils are healthy, it removes carbon from the air and stores it underground. Modern agriculture practices are pumping carbon into the atmosphere faster than our current degraded soil can absorb it. To fix this, we must reduce or eliminate the use of fossil fuels, while simultaneously changing our agricultural practices over to a holistic planned management approach. This approach includes planned rotational grazing of livestock, the utilization of cover crops, and a no-till method of planting crops.

Shiva, Dr. Vandana. "Women and Biodiversity Feed the World, Not Corporations and GMOs." *Common Dreams*, May 20, 2015, [www.commondreams.org/views/2015/05/20/women-and-biodiversity-feed-world-not-corporations-and-gmos](http://www.commondreams.org/views/2015/05/20/women-and-biodiversity-feed-world-not-corporations-and-gmos).

In her article, Dr. Vandana Shiva writes that the two major ecological challenges that face the world today are from the climate and food crises. While agricultural processes such as industrialized agriculture and genetically modified crops promise to help these global problems, they are actually the biggest contributor to their declining well-being. Dr. Shiva proposes that instead of a corporatized farmscape, the world should be focusing on putting food back in the hands of individual female farmers that understand biodiversity. In so doing will result in a healthier climate, healthier soil, and a healthier world.

Cummins, Ronnie. "Mother Earth Day 2015: Regenerating the Soil and Reversing Global Warming." *Organic Consumers Association*, Apr 21, 2015, [www.organicconsumers.org/essays/mother-earth-day-2015-regenerating-soil-and-reversing-global-warming](http://www.organicconsumers.org/essays/mother-earth-day-2015-regenerating-soil-and-reversing-global-warming).

In this article, Cummins explains how regenerative organic agriculture and forestry are the key to reversing global warming, reducing disease and malnutrition, reducing poverty, and stimulating the economy. But, as Cummins warns, a paradigm shift like this will require the food, climate, animal rights, and economic justice activists to come together to end 'business as usual'.

Monibot, George. "We're Treating Soil Like Dirt. It's a Fatal Mistake, as Our Lives Depend on It." *The Guardian*, March 25, 2015, [www.theguardian.com/commentisfree/2015/mar/25/treating-soil-like-dirt-fatal-mistake-human-life](http://www.theguardian.com/commentisfree/2015/mar/25/treating-soil-like-dirt-fatal-mistake-human-life).

Even if everything else in the world was perfect, the human race would perish if we didn't take care of our soils. That's the message behind George Monbiot's article in *The Guardian*. He urges change in the current farming practices to facilitate the sustainability of the world's crops. He addresses the current unions and laws that are holding back reform, and suggests that there are dozens of different ways to move forward – we must "plough on" regardless.

Donlon, Diana. "An Awesome, Under-Recognized Opportunity to Act on Climate." *The Huffington Post*, March 18, 2015, [www.huffingtonpost.com/diana-donlon/an-awesome-underrecognized-opportunity-to-act-b-6887174.html?ir=Green&utm\\_hp\\_ref=green](http://www.huffingtonpost.com/diana-donlon/an-awesome-underrecognized-opportunity-to-act-b-6887174.html?ir=Green&utm_hp_ref=green).

In this article, Diana Donlon from the Center for Food Safety goes into detail about how rebuilding organic matter in soils has the potential to store (literally) tons of atmospheric

carbon. Taking information from several sources, authors, and scientists, she points out that our soils are starving, and need to be replenished. She emphasizes the point that this isn't just a matter for rural farmers, but for city parks and urban neighborhoods as well.

**Eisenstein, Charles. "We need regenerative farming, not geoengineering." *The Guardian*, March 9, 2015, [www.theguardian.com/sustainable-business/2015/mar/09/we-need-regenerative-farming-not-geoengineering](http://www.theguardian.com/sustainable-business/2015/mar/09/we-need-regenerative-farming-not-geoengineering).**

Article author Charles Eisenstein illustrates that while the process of geoengineering appears to be a quick-fix to a worldwide problem, it is not the silver bullet it claims to be. Besides causing awful side-effects, geoengineering doesn't address the industrial system, or the economic reasons for climate change. Regenerative farming, on the other hand, works in conjunction with nature to follow through on its claims of carbon sequestration.

**Roulac, John. "The Solution Under Our Feet: How Regenerative Organic Agriculture Can Save the Planet." *EcoWatch*, January 6, 2015, [ecowatch.com/2015/01/06/regenerative-organic-agriculture/](http://ecowatch.com/2015/01/06/regenerative-organic-agriculture/).**

In this two-part article, Roulac writes that while the population is becoming more aware about the issues surrounding their food, there is still one aspect that is missing: regenerative organic agriculture. Currently, most of the world recognizes that big oil companies are a large threat to the climate. However, Roulac notes that the largest contributor, by a very large margin, is actually the carbon being put out by industrial agriculture. He explains that there are only three arenas on Earth in which carbon can exist: the atmosphere, the ocean, and the soil ("humus-sphere"). While the first two arenas are nearly full, regenerative organic agriculture can be used to pull the carbon out, and store it in the 'humus-sphere'. Roulac cites several projects, organizations, and books in which he asserts that using regenerative organic agriculture instead of industrial agriculture, can return carbon to the 'humus-sphere'. This will not only restore the Earth to its proper balance, but can actually reverse the effects of climate change.

**Cummins, Ronnie. "Letter from Lima: What's Wrong with the Climate Movement?" *Organic Consumers Association*, Dec 16, 2014, [www.organicconsumers.org/essays/letter-lima-whats-wrong-climate-movement](http://www.organicconsumers.org/essays/letter-lima-whats-wrong-climate-movement).**

Cummins delivers a report from the 2014 People's Climate Summit in Lima, Peru, observing that despite massive protests and ecological disasters, the world's politicians continue to fail in providing a meaningful solution to climate change. Why is this? Cummins asserts that this is because the climate movement is too fragmented, and its messaging is too negative. He explains that the solution to this problem is to refocus the climate movement on hope and unity. He goes on to explain that the individual organizations working on climate change need to unite, and their messaging needs to shift

to the fact that we can reverse climate change with regenerative agriculture and reduced carbon consumption.

**Mercola, Joseph, PhD. "The Surprising Leader Contributor to Pollution: Agriculture."**  
*Mercola.com*, July 1, 2014,  
[articles.mercola.com/sites/articles/archive/2014/07/01/agriculture-pollution.aspx](http://articles.mercola.com/sites/articles/archive/2014/07/01/agriculture-pollution.aspx).

Mercola pinpoints modern agriculture as the key contributor of carbon dioxide in the atmosphere, emphasizing the roles that GMOs and CAFOs play in this pollution. Mercolas stresses the importance of sustainably grazing animals and agricultural practices that sustain and regenerate soil health, urging consumers to purchase grass-fed meat, to grow gardens and to compost.

**Allen, Will and Ronnie Cummins. "Climate Chaos: Boycott Genetically Engineered and Factory-Farmed Foods."** *Organic Consumers Association*, May 2, 2013,  
[www.organicconsumers.org/articles/article\\_27455.cfm](http://www.organicconsumers.org/articles/article_27455.cfm).

Allen and Cummins link factory farming and industrial agricultural to the destruction of the natural environment and posit them as overwhelming contributors to global warming. Allen and Cummins suggest that current industrial farming practices are the worst culprits of climate change, and that consumers ought to boycott all non-organic meat and dairy products in a national campaign against CAFOs (Confined Animal Feeding Operations).

**GRAIN. "Food and Climate Change: The Forgotten Link."** *GRAIN*, September 28, 2011,  
[www.grain.org/article/entries/4357-food-and-climate-change-the-forgotten-link](http://www.grain.org/article/entries/4357-food-and-climate-change-the-forgotten-link).

Food is a key driver of climate change. How our food gets produced and how it ends up on our tables accounts for around half of all human produced greenhouse gas emissions: anywhere between a low of 44% to a high of 57%. A new food system could be a key driver of solutions to climate change.

**Allen, Will and Ronnie Cummins. "Climate Catastrophe: Surviving the 21st Century."**  
*Organic Consumers Association*, Feb 2, 2010,  
[www.organicconsumers.org/articles/article\\_20200.cfm](http://www.organicconsumers.org/articles/article_20200.cfm).

Allen and Cummins address the current state of "climate catastrophe" in this article, both in a global and US context, situating the dangers of climate change as dire and acute, yet not beyond hope. Allen and Cummins urge a social and political revolution that requires changes in the habits of individual consumers, as well as government involvement in pressuring a drastic shift in industry-in particular, agricultural industry-practices to "green." Allen and Cummins suggest that consumers should opt for greener lifestyle choices, including purchasing organic and local food and traveling in ways that use less fossil fuels. In addition, Allen and Cummins advocate for a massive redirection of

government money from military spending and corporate subsidizing in order to replace coal and natural gas with solar and wind energy and industrial agriculture with organic farming and ranching. Overall, Allen and Cummins argue that the global transition to organic agriculture and clean energy is highly political and in need of a "grassroots army" to help fuel these radical and vital changes.

**Pilarski, Michael.** "A Carbon Sequestration Proposal for the World." *Organic Consumers Association*, Friends of the Trees Society, January 1, 2010,  
[www.organicconsumers.org/news/carbon-sequestration-proposal-world](http://www.organicconsumers.org/news/carbon-sequestration-proposal-world).

In this article, Pilarski lays out a plan to sequester over 293 gigatons of carbon in the world's forests and soils. If coupled with a reduction in current carbon emissions, this plan would reduce the amount of CO<sub>2</sub> in the atmosphere to levels seen in the early 1800s. Pilarski explains the details of the global effort that such a plan would require. He also explores ways the social, economic, and political will necessary for this plan could be realized.

**Harwood, Richard R, and James F. Parr.** "The potential for regenerative agriculture in the developing world." *Cambridge University Press*, Charles A. Francis, April 1, 1986,  
[journals.cambridge.org/action/displayAbstract?fromPage=online&aid=6347876&fileId=S088918930000904%20](http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=6347876&fileId=S088918930000904%20).

This academic article appears in *The American Journal for Alternative Agriculture* and discusses the significance of regenerative agriculture on the developing world. Francis, Harwood and Parr suggest that regenerative agriculture would generate more food and income for farm families and, in this way, be better for rural communities compared to the practice of exporting monocrops on a global market.

**Shiva, Dr. Vandana.** "How Fake Food Accelerates the Collapse of the Planet and Our Health." *LifeGate*, July 18, 2019,  
[www.lifegate.com/people/lifestyle/fake-food-vandana-shiva](http://www.lifegate.com/people/lifestyle/fake-food-vandana-shiva).

Dr Vandana Shiva discusses how the mad rush to fake food, like fake meat made with genetically-modified soy, ignores the importance of the diversity of our foods and culinary cultures. It's a recipe to accelerate the destruction of the Planet and our health.

**Cummins, Ronnie.** "New Study Confirms: Degenerative Food & Farming System Poses Mortal Threat." *Common Dreams*, January 28, 2019,  
[www.commondreams.org/views/2019/01/28/new-study-confirms-degenerative-food-farming-system-poses-mortal-threat](http://www.commondreams.org/views/2019/01/28/new-study-confirms-degenerative-food-farming-system-poses-mortal-threat)

Ronnie Cummins discusses a new study by the Lancet Commission on Obesity that calls for a “radical rethink” of the relationship between policymakers and corporations, and writes about how by transitioning to regenerative food, farming and land-use practices, we can reverse global warming and produce healthier food.

Sait, Graeme. "Capturing Carbon - Supporting The Soil That Will Save Us." *Nutri-Tech Solutions*, November 9, 2017,  
[blog.nutri-tech.com.au/capturing-carbon-supporting-the-soil-that-will-save-us/](http://blog.nutri-tech.com.au/capturing-carbon-supporting-the-soil-that-will-save-us/).

The current climate crisis cannot be solved by solely cutting carbon emissions; the soil is our rescuer! In this post, author Graeme Sait overviews why soil needs to be the answer, what good soil should be, and how to achieve good soil in your own backyard.

## Regenerative Agriculture On the Ground

Albright, Mary Beth. “The Brown Revolution: Why Healthy Soil Means Healthy People.” *National Geographic*, October 13, 2015,  
[theplate.nationalgeographic.com/2015/10/13/the-brown-revolution-why-healthy-soil-means-healthy-people/](http://theplate.nationalgeographic.com/2015/10/13/the-brown-revolution-why-healthy-soil-means-healthy-people/).

Learn about the Brown Revolution and why soil health is critical to improving human health, halting soil erosion, and slowing the effects of climate change.

Fisher, Adrian Ayres. “Backyard Carbon Sequestration: What Does Synthetic Fertilizer Have to Do with It?” *Ecological Gardening*, October 20, 2015,  
[www.ecologicalgardening.net/2015/10/backyard-carbon-sequestration-what-does.html](http://www.ecologicalgardening.net/2015/10/backyard-carbon-sequestration-what-does.html).

Part two of a series exploring how regenerative gardening techniques can enhance carbon storage while improving soil health. Regenerative gardening is an umbrella term that embraces many styles and traditions of organic cultivation and adds explicit intentionality regarding carbon sequestration. This article explores the history of soil degradation carried out by both ancient and modern civilizations and how everyone can play a part in restoring soil health.

Fujii, Reed. “Cover Crops: Long-Term Benefit.” *RecordNet.com*, March 14, 2015,  
[www.recordnet.com/article/20150314/News/150319821](http://www.recordnet.com/article/20150314/News/150319821).

According to the field presentation given by the USDA's Lockeford Plant Materials Center, using non-commercial cover crops can significantly benefit your farm. These crops break



up soil, improve water infiltration, add organic material, inhibit weed growth, and increase nutrients in the soil for commercial crops and beneficial insects. It was advised that this method is a long-term investment; it may take several years to see a benefit. However, the changes to the soil make it well worth the wait!

**Buntjer, Julie.** "Improving Soil Health May Require More Use of Cover Crops." *Daily Globe*, March 12, 2015,

[www.dglobe.com/news/3698800-improving-soil-health-may-require-more-use-cover-crops](http://www.dglobe.com/news/3698800-improving-soil-health-may-require-more-use-cover-crops).

This article goes into detail about Jay Fuhrer's five principles of soil health. By utilizing these principles in the dry and eroded plains of North Dakota, he helped farmers finally see positive changes in their land. The principles include keeping the soil covered, minimizing soil disturbance, maximizing diversity, planting cover crops and integrating livestock on the land. Ultimately, Fuhrer states "Plants fix soil!"

**Herrold, Benjamin.** "Year of the Soil, Soil Health Spotlighted During UN's 'International Year of Soils.'" *The Illinois Farmer Today*, March 11, 2015,

[www.illinoisfarmertoday.com/news/crop/year-of-soil-soil-health-spotlighted-during-un-s-international/article\\_e24857f4-c807-11e4-8a5e-2b78fde7676a.html](http://www.illinoisfarmertoday.com/news/crop/year-of-soil-soil-health-spotlighted-during-un-s-international/article_e24857f4-c807-11e4-8a5e-2b78fde7676a.html).

Article author Benjamin Herrold speaks with Doug Peterson of the Missouri NRCS. After the UN has declared 2015 to be the "Year of the Soil," the health and sustainable management of soil have become the 'most important' factors in agriculture. By not taking proper care of the soil, and through current tillage practices, Peterson says that the world has 50-60 years of soil left. Peterson goes into detail on 5 key principles to acquire and maintain soil health.

**Goode, Erica.** "Farmers Put Down the Plow for More Productive Soil." *The New York Times*, March 9, 2015,

[www.nytimes.com/2015/03/10/science/farmers-put-down-the-plow-for-more-productive-soil.html?partner=socialflow&smid=tw-nytimes&r=3](http://www.nytimes.com/2015/03/10/science/farmers-put-down-the-plow-for-more-productive-soil.html?partner=socialflow&smid=tw-nytimes&r=3).

In this article, Gabe Brown and others explain the benefits and challenges of no-till, or "soil conservation" farming. Brown reviews his success, claiming that this method can regenerate soil, increase yields, and decrease use of chemicals. The article goes on to state that no-till agriculture is a growing trend in America.

**Hartzler, Bob and Meghan Anderson.** "Effect of Residual Herbicides on Cover Crop Establishment." *Iowa State University Extension and Outreach*, March 8, 2015,

[crops.extension.iastate.edu/effect-residual-herbicides-cover-crop-establishment](http://crops.extension.iastate.edu/effect-residual-herbicides-cover-crop-establishment).

More and more farmers are turning to no-till farming to help heal their soil. But what about residues from previously applied herbicides? As it turns out, these residues can complicate things. They can hinder crop establishment, and could be dangerous if the crops were intended for human or livestock consumption. This article outlines an experiment that was performed in Iowa to test the sensitivity of certain cover crops to these residues.

**DeJong-Hughes, Jodi. "On-Farm Comparison of Conservation Tillage Systems for Corn Following Soybeans." *Ag Professional*, March 5, 2015, [www.agprofessional.com/strip-tillage/equipment/farm-comparison-conservation-tillage-systems-corn-following-soybeans](http://www.agprofessional.com/strip-tillage/equipment/farm-comparison-conservation-tillage-systems-corn-following-soybeans).**

This article is about soil and tillage management in Southern Minnesota. Not only does it speak to all farmers' need for soil and water conservation, it also delves into the meaning behind the term "conservation tillage", and what it means. The article culminates in comparisons of four different types of tillage and how they fare under 'real world' conditions.

**Elliott, Julie. "Farming Evolution Draws Big Crowds." *The Journal-Advocate*, March 5, 2015, [www.journal-advocate.com/sterling-local\\_news/ci\\_27646838/farming-evolution-draws-big-crowds-natural-resources-conservation-service](http://www.journal-advocate.com/sterling-local_news/ci_27646838/farming-evolution-draws-big-crowds-natural-resources-conservation-service).**

In February 2015, farmers and gardeners around Holyoke, CO, brought home an important message: take care of all your livestock! This is based on the idea that Ray Archuleta and Gabe Brown hammered home at the Farming Evolution 2015 event: there are billions of micro-organisms beneath your soil, and keeping them healthy is just as important as your above-ground livestock.

**Gochenour, Dana. "Farmer Talks 'Farming in Nature's Image.'" *Lancaster Farming*, February 21, 2015, [www.lancasterfarming.com/results/Farmer-Talks--Farming-in-Nature-s-Image-#VX8qsfViko](http://www.lancasterfarming.com/results/Farmer-Talks--Farming-in-Nature-s-Image-#VX8qsfViko).**

Luck has nothing to do with it. Gail Fuller's success didn't come until he stopped fighting with Mother Nature; "Mother Nature always wins," Fuller said. After running into erosion problems, Fuller was faced with a sustainability issue; he wanted a working farm that he could pass on to his children. So he modeled his farm work after nature itself. He found that putting the soil first ensured that money would follow.

**Dobberstein, John. "Clover, Cereal Rye Enhance No-Tiller's 3-Year Rotation." *No-TillFarmer.com*, February 12, 2015,**

[www.no-tillfarmer.com/articles/4408-clover-cereal-rye-enhance-no-tillers-3-year-rotation-insider](http://www.no-tillfarmer.com/articles/4408-clover-cereal-rye-enhance-no-tillers-3-year-rotation-insider).

Iowa no-till farmer Joe Kriegel uses cover crops in a rotation with corn and soybeans to reduce erosion, improve soil fertility and rescue heavily tilled fields. Kriegel has seen real world evidence of this through his farming methods. He has also found markets to purchase his cover crops, making his farm that much more profitable. Kriegel goes into specific details on how he achieves success.

**Bishopp, Troy. "The Road to Soil Health Inspires Farmers." *CountryFolks.com*, February, 2015, [countryfolks.com/the-road-to-soil-health-inspires-farmers/](http://countryfolks.com/the-road-to-soil-health-inspires-farmers/).**

At the 24th annual Farming for the Future Pennsylvania Association for Sustainable Agriculture (PASA) Conference, one clear consensus was shared: your farm's success begins and ends with your soil. Several speakers with decades of experience showcased a myriad of slides, videos, and hands-on demonstrations detailing the importance of building soil wealth. This article provides a quick summation of the wealth of knowledge provided at this three-day conference.

**Jones, Christine. "Mycorrhizal Fungi-Powerhouse of the Soil." *Northeast Organic Farming Association, The Natural Farmer*, 2014, [www.nofamass.org/sites/default/files/2014\\_Summer\\_TNF\\_Jones\\_on\\_Mycorrhizal\\_Fungi.pdf](http://www.nofamass.org/sites/default/files/2014_Summer_TNF_Jones_on_Mycorrhizal_Fungi.pdf).**

Dr. Jones describes the role of the microorganism, mycorrhizal fungi, in the soil and its foodweb. Mycorrhizal fungi is important for the soil ecosystem, enhancing soil structure and building stable soil carbon, among other things. Jones goes on to explain that the presence of perennial grasses as cover crops on agricultural lands increases mycorrhizal density, which in turn results in a variety of agricultural bonuses, such as resilience to climate variability.

**Jones, Christine. "Ruminants and Methane." *Northeast Organic Farming Association, The Natural Farmer*, 2014, [www.nofamass.org/sites/default/files/2014\\_Summer\\_TNF\\_Jones\\_on\\_Ruminants\\_and\\_Methane.pdf](http://www.nofamass.org/sites/default/files/2014_Summer_TNF_Jones_on_Ruminants_and_Methane.pdf).**

In this short article, Jones briefly explains that ruminants do not compose a significant contribution to methane in the atmosphere, and that selectively penalizing ruminants would not help decrease atmospheric methane. Rather, Jones suggests, agricultural soil managed regeneratively (with or without the presence of ruminants) acts as a methane sink and helps balance the greenhouse equation.

Jones, Christine. "Soil Carbon: Some Frequently Asked Questions." *Northeast Organic Farming Association, The Natural Farmer*, 2014,  
[www.nofamass.org/sites/default/files/2014 Summer TNF Jones on Soil Carbon FAQs.pdf](http://www.nofamass.org/sites/default/files/2014_Summer_TNF_Jones_on_Soil_Carbon_FAQs.pdf).

Dr. Jones knowledgeably and comprehensibly answers questions such as "When did humans begin to release carbon into the air through disruption of the soil? Can you explain the process of how this happens?" and "Is stable soil carbon the same thing as soil organic matter (SOM)? If not, could you elaborate? Is stable soil carbon inorganic? Does SOM contain carbon? Can both help mitigate climate change? Can SOM eventually turn into stable soil carbon?"

Jones, Christine. "Building Soil Carbon with Yearlong Green Farming." *Northeast Organic Farming Association, The Natural Farmer*, 2014,  
[www.nofamass.org/sites/default/files/2014 Summer TNF Jones on Yearlong Farming.pdf](http://www.nofamass.org/sites/default/files/2014_Summer_TNF_Jones_on_Yearlong_Farming.pdf).

Yearlong Green Farming (YGF), Jones explains, is any farming practice that turns bare soil into soil covered with green plants. This kind of farming-in addition to any farming practice that improves soil structure-is building soil carbon, suggests Jones. Jones describes the four steps that build soil carbon (photosynthesis, resynthesis, exudation, humification) and also impresses the importance of soil fungi in this article.

Malone, Tim. "Cover Crops Work-Ralph Upton Jr." *Heartland Outdoors*, March 24, 2015,  
[www.heartlandoutdoors.com/malone/story/cover\\_crops\\_work\\_ralph\\_upton\\_jr/](http://www.heartlandoutdoors.com/malone/story/cover_crops_work_ralph_upton_jr/).

Ralph Upton, Jr. is an active farmer, with over 1,800 acres of commercial crops. And he will be the first to tell you to add cover crops to your personal farm or garden. Upton is known for his commitment to soil and water conservation, and that conviction is apparent in his farming processes. Using a combination of no-till farming methods, and cover crops, Upton has been able to farm in difficult soils and still build organic matter, conserve water and rainfall, and remain profitable.

McCabe, Don. "Discover the Biological Action Occurring in Your Soil." *FarmProgress.com*, February 27, 2015,  
[farmprogress.com/blogs-discover-biological-action-occurring-soil-9515](http://farmprogress.com/blogs-discover-biological-action-occurring-soil-9515).

There is a huge amount of action going on in the soil underneath our feet, and people are finally starting to take notice. This soil ecosystem is directly responsible for the health and yield of farms, and no-tillers are reaping those rewards.

Natural Resources Conservation Service. "Fact Sheet: 5 Questions Landowners Should Ask Their Farmers About Soil Health." *NRCS.USDA.gov*, March 2015, [www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/health/?cid=stelprdb1048859](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/health/?cid=stelprdb1048859).

In this [PDF download](#), the USDA and NRCS lists the five essential questions landowners should be asking their farmer partners about the soil. Asking questions is the first step to improving soil health, and the sooner the landowner and farmer are on the same page, the sooner the soil can begin to heal.

Pearce, Michael. "Farmers' Use of Cover Crops Could Benefit the Pheasant Population." *Madison.com*, *The Wichita Eagle*, March 18, 2015, [host.madison.com/sports/recreation/outdoors/farmers-use-of-cover-crops-could-benefit-the-pheasant-population/article\\_61962f93-b9da-57b9-a2c9-c9bfd2ac6be0.html](http://host.madison.com/sports/recreation/outdoors/farmers-use-of-cover-crops-could-benefit-the-pheasant-population/article_61962f93-b9da-57b9-a2c9-c9bfd2ac6be0.html).

'Cover cropping' is the subject of many farmers' conversations recently. However, the benefits of cover cropping go beyond soil redemption, carbon sequestration, and increased yields. As article author Michael Pearce points out, wildlife that usually depend on the 'cover' of cover crops can benefit from its increased usage as well. The pheasant population in Kansas usually uses medium height crops as cover for their nestlings. But, when farmers began to abandon these cover crops around World War II, the birds had no safe place for their babies. As the return to cover crops looks promising, so does the return of the pheasant.

Murri, Jessica. "How Healthy is Idaho's Soil?" *Boise Weekly*, March 12, 2015, [www.boiseweekly.com/boise/how-healthy-is-idahos-soil/Content?oid=3430628](http://www.boiseweekly.com/boise/how-healthy-is-idahos-soil/Content?oid=3430628).

In this article, Murri recounts a presentation by Marlon Winger, Idaho's state agronomist for the Natural Resources Conservation Service (NRCS). In the presentation, Winger teaches about the ways that no-till agriculture improves the soil, reduces the chance of erosion, and decreases the amount of water needed to irrigate crops.

Selman, Amber. "Soil health data, tips go mobile." *Illinois Farmer Today*, March 11, 2015, [www.illinoisfarmertoday.com/news/crop/soil-health-data-tips-go-mobile/article\\_9c5cefc-c805-11e4-858f-3baa3cbe7e2d.html](http://www.illinoisfarmertoday.com/news/crop/soil-health-data-tips-go-mobile/article_9c5cefc-c805-11e4-858f-3baa3cbe7e2d.html).

In this article, Selman explores the ways that the Natural Resources Conservation Service (NRCS) is using online videos and smartphone apps to help teach farmers and the general public about soil conservation practices. They are using these platforms to teach people about the benefits of soil conservation techniques such as cover cropping, and no-till farming, as well as providing detailed soil maps for many areas in the USA.

Musica, Josie. "Soil Experts Recommend Cover-Cropping." *Lubbock Avalanche Journal*, March 6, 2015,

[www.lubbockonline.com/local-news/2015-03-06/soil-experts-recommend-cover-cropping](http://www.lubbockonline.com/local-news/2015-03-06/soil-experts-recommend-cover-cropping)

Brandt Underwood from the USDA's NRCS confirms in this article that cover-cropping fields in between harvests protect the soil from erosion. He adds that if those crops are rotated, the soil microorganisms see a greater benefit. Underwood explains that the life going on above the soil is dependent upon the life below the soil; when the life in the soil is properly taken care of, everyone (above and below) benefits from it.

Pratt, Katie. "UK Soil Scientists Begin Cover Crop Research Project." *Farms.com*, March 4, 2015, [www.farms.com/news/uk-soil-scientists-begin-cover-crop-research-project-88807.aspx](http://www.farms.com/news/uk-soil-scientists-begin-cover-crop-research-project-88807.aspx).

Scientists at the University of Kentucky are studying the ability and success of cover crops in fixing nitrogen in farm soils. The use of cover crops is an old technique that the university is hoping to revive. Cover crops will pull nitrogen out of the soil, making less available in the soil, ensuring less can leach into other areas. This study is to help broaden and quantify these reports.

Leu, Andre. "Organics and Soil Carbon: Increasing Soil Carbon, Crop Productivity and Farm Profitability." *Northeast Organic Farming Association, The Natural Farmer*, Summer 2014, [www.nofamass.org/sites/default/files/2014\\_Summer\\_TNF\\_Andre\\_Leu\\_on\\_Organics\\_and\\_Soil\\_Carbon.pdf](http://www.nofamass.org/sites/default/files/2014_Summer_TNF_Andre_Leu_on_Organics_and_Soil_Carbon.pdf).

Leu identifies and outlines farming techniques that ensure that carbon is stored in soil in stable forms, such as humus and glomalin. This, Leu suggests, increases farm profitability by increasing yields, soil fertility, soil moisture retention, aeration, nitrogen fixation, mineral availability, and soil tilth.

Jones, Christine. "From Light to Life: Restoring Farmland Soils." *AmazingCarbon.com*, September 2013, [www.amazingcarbon.com/PDF/JONES-NewFrontiersInAg%28Sept13%29.pdf](http://www.amazingcarbon.com/PDF/JONES-NewFrontiersInAg%28Sept13%29.pdf).

This article outlines the importance of photosynthesis, cover crops and soil health. Jones explains that sunlight is converted into biochemical energy by cover crops, enhancing soil life and structure and improving nutrient- and water-holding in the soil.

Retallack, Gregory J. "Global Cooling by Grassland Soils of the Geological Past and Near Future." *University of Oregon, Annual Review of Earth and Planetary Sciences*, May, 2013, [blogs.uoregon.edu/gregr/files/2013/07/Retallack-2013-grassland-cooling-q8ay9r.pdf](http://blogs.uoregon.edu/gregr/files/2013/07/Retallack-2013-grassland-cooling-q8ay9r.pdf).

In this academic article, Retallack reviews the atmospheric and geological history over the past 40 million years. Retallack looks at the periods of global warming and cooling over

this history, and reviews the current hypotheses as to what caused these changes. He concludes that the current hypotheses of what has caused global cooling do not adequately account for the changes observed in the climate, and instead suggests that the co-evolution of grasslands and grazers are more directly responsible for the changes. He then hypothesizes that current human-caused global warming can be mitigated through the implementation of carbon farming techniques designed to increase the carbon sequestration of grasslands.

**DeVore, Brian. "Healthy Soil, Healthy Farms, Healthy Communities." *Land Stewardship Project*, Jan 1, 2013, [landstewardshipproject.org/posts/360](http://landstewardshipproject.org/posts/360).**

In this article, DeVore explores the success Gabe Brown has had in converting his farm to regenerative agricultural practices. Brown has experienced benefits, not only in his farms soil, but in his farm's income as well. Brown views these practices as investments in the long term productivity and resilience of his farm. Brown's success is confirmed by local USDA conversationalist Jay Fuhrer, and soil microbiologist Kristine Nichols.

**Albrecht, William A. "Loss of Soil Organic Matter and Its Restoration." *United States Department of Agriculture*, July 1, 1938, [naldc.nal.usda.gov/naldc/download.xhtml?id=IND43893598&content=PDF](http://naldc.nal.usda.gov/naldc/download.xhtml?id=IND43893598&content=PDF).**

In this academic article, which appeared in the 1938 *United States Department of Agriculture Yearbook of Agriculture*, Albrecht reviews the history, function, and stability of soil organic matter in the agricultural lands of the United States. He finds that soil organic matter has been consistently depleted since the conversion of virgin soils to cultivated fields, and soils that have depleted carbon have a reduced productivity. Albrecht also finds that specific soil conditions and elements must be present in order to restore the soil organic matter to sustainable levels. He ends by urging America to act responsibly and do everything possible to restore the soil organic matter in the nation's agricultural lands.

## Reports

**Novak, Jeff. "Biochars Multifunctional Role as a Novel Technology in the Agricultural, Environmental, and Industrial Sectors." *Science Direct*, Chemosphere, vol 142, pgs 1-3, January 2016, Elsevier, DOI: [doi.org/10.1016/j.chemosphere.2015.06.066](https://doi.org/10.1016/j.chemosphere.2015.06.066).**

The utilization of biochar to improve soil health and the environment has been a catalyst for the recent global enthusiasm for advancing biochar production technology and its management. This rapid rise in understanding biochar technologies is a proactive response to the anticipated stresses of meeting future global nutrition demands while also sustaining environmental quality. Hearty research efforts using biochar are focusing on

improving soil health characteristics to obtain higher crop yields. Moreover, there is increasing realization that sustainable food security will be difficult to maintain considering future climatic shifts and the impact on agronomic and environmental systems. Employment of biochar as a specialized soil amendment provides a practical approach to address these anticipated problems in the agronomic and environmental sectors.

**Machmuller, B. M. et al. "Emerging Land Use Practices Rapidly Increase Soil Organic Matter." *Nature Communications*, 6:6995, 2015, DOI: [10.1038/ncomms7995](https://doi.org/10.1038/ncomms7995)**

Regenerating and accumulating soil carbon is essential if we are to sustainably feed a growing global population, as well as mitigate climate change. In this PDF download of Machmuller's (et. al) scientific study, rapid soil carbon accumulation was reported after conventional row crop agriculture was converted to 'management-intensive grazing systems'. By changing the land usage in this manner, farmers can see an increase in soil carbon, which mitigates climate change and increases soil health, while also providing economically viable crops.

**Frankhauser-Nickel, Raylene et al. "Beyond the Beginning: The Zero Till Evolution." *NRCS.USDA.gov*, The Manitoba-North Dakota Zero Tillage Farmers Association, 2011, [www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs144p2\\_045129.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs144p2_045129.pdf).**

This informational guide encourages farmers and agricultural scientists to farm without tillage, and to improve upon the system. "Zero till" is defined here as a cropping system that leaves the soil undisturbed from harvest until seeding, except for some disturbance to apply fertilizers.

**"With Climate Chaos, Who Will Feed Us? The Industrial Food Chain or The Peasant Food Web?" *ETC Group*, 2014, [www.etcgroup.org/sites/www.etcgroup.org/files/web\\_who\\_will\\_feed\\_us\\_with\\_notes\\_0.pdf](http://www.etcgroup.org/sites/www.etcgroup.org/files/web_who_will_feed_us_with_notes_0.pdf).**

This short report compares the industrial food system with peasant farming. Industrial farming gets all the attention (and most of the land). It accounts for more than 80% of the fossil fuel emissions and uses over 70% of the water supply used in agriculture, but it actually produces only about 30% of the world's food.

## Videos

**SARE Outreach. "Grazing Cover Crops and Benefits for Livestock Operations - Gabe Brown." *YouTube*, Mar 28, 2014, [www.youtube.com/watch?v=CzrKJo01-kE](https://www.youtube.com/watch?v=CzrKJo01-kE).**



Gabe Brown explains his 5 keys to achieving a healthy soil: 1) Least amount of mechanical disturbance possible, 2) Armor on the soil surface, 3) Plant diversity, 4) Living root as long as possible, and 5) Integration of livestock on cropland. Brown illustrates how his methods are used to extend the growing season, improve the water cycle, integrate pest management, and create an overall healthier ecosystem.

**Mercola, Dr. Joseph. "Dr. Mercola Interviews Gabe Brown on Regenerative Land Management".** *YouTube*, Dec 14, 2014, [www.youtube.com/watch?v=vb1\\_7mqovWs](http://www.youtube.com/watch?v=vb1_7mqovWs).

Dr. Mercola interviews no-till farmer Gabe Brown about ways he has converted his farm from a conventional farm based on tilling, to a 100% no till farm, and the benefits it has brought. From increased biodiversity, to better water retention, Brown says that changing to no-till is the best thing that has ever happened to his farm. Brown is now a leader in Regenerative Land Management, and is leading the growing movement to no-till farming.

**Crawford, John. "John Crawford: Healthy Soil, Healthy World."** *YouTube*, uploaded by Ted Talent Search, July 5, 2012, [www.youtube.com/watch?v=zTgH16omrJg](http://www.youtube.com/watch?v=zTgH16omrJg).

According to John Crawford, featured in this video, the world only has about 50 years of topsoil left. And even though it is teeming with micro-organisms, it has never been viewed as an ecosystem of its own. Crawford states that the only way to save this ecosystem is to remove carbon from the atmosphere (where we have too much of it anyway) and put it in the soil where it can be used and stored properly.

**USDA National Resource Conservation Service. "The Science of Soil Health."** *YouTube*, January 21, 2014, [www.youtube.com/watch?v=IHOF6NfLm7M](http://www.youtube.com/watch?v=IHOF6NfLm7M).

In the trailer for the video series "The Science of Soil Health", we journey away from the belief that soil is simply an inert media used for growing crops, and begin to look at soil as a living organism that must be nurtured and cared for like any other plant or crop. In this series, film maker and host Robin "Buz" Kloot, PhD, speaks to several scientists in varying fields about how we can regenerate and revitalize our soil.

## **Books**

**Hawken, Paul. [\*Drawdown: The Most Comprehensive Plan Ever Proposed to Reverse Global Warming\*](#).** Penguin Books, 2017.

"*Drawdown* maps, measures, models, and describes the 100 most substantive solutions to global warming. For each solution, we describe it's history, the carbon impact it provides,

the relative cost and savings, the path to adoption, and how it works. The goal of the research that informs *Drawdown* is to determine if we can reverse the buildup of atmospheric carbon within thirty years. All solutions modeled are already in place, well understood, analyzed based on peer-reviewed science, and are expanding around the world."

Schwartz, Judith D. [\*Water in Plain Sight: Hope for a Thirsty World\*](#). St. Martin's Press, 2016.

"Water scarcity is on everyone's mind. Long taken for granted, water availability has entered the realm of economics, politics, and people's food and lifestyle choices. But as anxiety mounts - even as a swath of California farmland has been left fallow and extremist groups worldwide exploit the desperation of people losing livelihoods to desertification - many are finding new routes to water security with key implications for food access, economic resilience, and climate change.

Animated by stories from around the globe, Water In Plain Sight is an inspiring reminder that fixing the future of our drying planet involves understanding what makes natural systems thrive."

Ohlson, Kristin. [\*The Soil Will Save Us: How Scientists, Farmers, and Foodies are Healing the Soil to Save the Planet\*](#). Rodale, Inc., 2014.

Ohlson tackles the subject of regenerative agriculture at the intersection of science, farming, food and environmentalism. Ohlson explains the relationship between soil health and carbon fixation, citing the research and stories of farmers and scientists to show how microorganisms in healthy soil fix carbon in the ground and remove it from the air. Healthy soil, Ohlson suggests, is the solution to erosion, pollution, food quality and security and climate change.

White, Courtney. [\*Grass, Soil, Hope: A Journey Through Carbon Country\*](#). Chelsea Green Publishing, 2014.

White analyzes regenerative agriculture practices-such as composting, no-till farming, biodiversity and crop rotation-as strategies that are economically and environmentally beneficial on a local and global scale, and that reduce carbon dioxide in the atmosphere by sinking it into soil. This web of agricultural practices can be used to combat global hunger, economic instability, and climate change, White suggests.

White, Wayne A.. [\*Biosequestration and Ecological Diversity: Mitigating and Adapting to Climate Change and Environmental Degradation\*](#). CRC Press, 2013

Both a serious reminder of the climate crisis and a hopeful treatise on how regenerative land use (farming, ranching, forestry) can bring about sustainable mitigation. The book

explores the ways to remove greenhouse gases from the atmosphere by changing the way people use and manage land. White underlines how we must not only drastically reduce emissions, but also qualitatively increase carbon storage in our soils.

Schwartz, Judith D.. [\*Cows Save the Planet and Other Improbable Ways of Restoring Soil to Heal the Earth\*](#). Chelsea Green Publishing, 2013.

Schwartz paints a complex picture of the importance of soil globally, looking to soil for solutions to problems such as climate change, desertification, droughts, floods, wildfires, rural poverty, malnutrition, and obesity. Schwartz relays the knowledge of farmers, ranchers, scientists and environmentalists: that healthy soil is essential for a healthy environment, and can, by extension, provide solutions to a myriad of global issues related to food, the environment, and the economy.

Shepard, Mark. [\*Restoration Agriculture\*](#). Acres USA, 2013.

Through practical examples and experiences, Shepard explains and expands the concepts and practices of permanent agriculture and perennial ecosystems. By mimicking a natural perennial ecosystem for agricultural purposes, Shepard suggests, farmers can build topsoil and restore and revive the landscape (and the food it produces) in ways that traditional agriculture cannot. Shepard provides figures and examples of ways to implement this style of regenerative agriculture, but ultimately writes more of an informative book than an instructive (on a how-to basis) one.

Salatin, Joel. [\*Folks This Ain't Normal: A Farmer's Advice for Happier Hens, Healthier People, and a Better World\*](#). Center Street, 2011.

Salatin covers a wide range of topics related to food, farming and "society" at large in a tone that is both conversational and inspiring. Salatin shares life advice about the benefits of regenerative agriculture for personal improvement, as well as that of the nation as a whole.

Salatin, Joel. [\*Holy Cows and Hog Heaven: The Food Buyer's Guide to Farm Friendly Food\*](#). Polyface, 2005.

Aimed at consumers, rather than farmers, Salatin's book persuades and empowers readers to make purchases that support regenerative and organic farmers and ranchers. The book provides a philosophical vision as well as a practical guide to regenerative, thoughtful consumption.

# Websites

## [Amazing Carbon](#), Dr. Christine Jones.

Dr. Christine Jones is an Australian ground cover and soil ecologist and active participant of the regenerative agricultural movement. Her website, [amazingcarbon.com](http://amazingcarbon.com) is a directory of many of the articles she has written on the subjects of soil, carbon, agriculture and climate change. Her articles offer detailed explanations of carbon sequestration through regenerative agricultural practices, down to a micro-level. She explains the chemical processes, microbiology and practical uses of soil carbon.

## [Biodiversity for a Living Climate](#)

A collection of videos, websites, books and papers addressing a wide variety of issues in biodiversity, eco-restoration and holistic management of grasslands. Those particularly helpful for people new to various aspects of this discussion are marked with an asterisk.

## [The Carbon Underground](#)

The Carbon Underground is the umbrella organization responsible for organizing, communicating and educating the world about the powerful climate change-reversing ability of healthy soil, and for helping to create the transformation of enough farms and grasslands to restore a healthy climate. The website post educational resources, including FAQs.

## [Massachusetts Chapter of the Northeast Organic Farming Association \(NOFA\)](#)

Resources for organic farmers, gardeners, homesteaders, Landscapers and consumers.

## [Organic Consumers Association](#)

The Organic Consumers Association is a 501(c) 3 nonprofit consumer advocacy organization. The website has a dedicated section for resources related to regenerative agriculture, including articles, reports and videos.

## [Quivira Coalition](#)

The Quivira Coalition is a non-profit organization based in Santa Fe, New Mexico, dedicated to building economic and ecological resilience on western working landscapes.

The website lists conferences, events, publications and other resources focused on regenerative farming and ranching.

### [Regeneration International \(RI\)](#)

RI is building a global network of activists, businesses, consumers, educators, farmers, journalists, policymakers, and scientists who will promote and put into practice regenerative organic agriculture and land-use practices that provide abundant and nutritious food, revitalize local economies, regenerate soil fertility and water-retention capacity, nurture biodiversity, and restore climate stability by reducing agricultural greenhouse emissions while moving excess atmospheric carbon into the soil, through the natural process of photosynthesis.

### [Rodale Institute](#)

Rodale Institute conducts independent agricultural research in the field. The research department is committed to building healthy soil through organic practices and establishing research projects that give farmers the tools and knowledge to increase soil health, crop quality and yields while simplifying farm management overall. The website posts news, research reports and educational and event notices.

### [Soil Carbon Coalition](#)

A nonprofit organization wanting to advance the practice, and spread awareness of the opportunity, of turning atmospheric carbon into soil organic matter.

### [The Savory Institute](#)

Posts news, online courses, events, publications and other resources related to the Holistic Management of grasslands.

### [Seed Freedom](#)

The Global Movement for Seed Freedom is a network of individuals and organisations committed to aligning their thoughts and actions with the laws of Gaia, Pachamama, Vasundhara, and Mother Earth.