



Soil Carbon Sequestration Update

January 2021 - Soil Carbon Sequestration Update

(This issue has a special section on the pros and cons of carbon markets for agriculture.)

Growing International Momentum for Regenerative Agriculture

Carbon Action is an exciting initiative in Finland that has brought farmers, politicians, NGOs, scientists, businesses, and consumers together to advance soil carbon sequestration. This effort is taking a whole systems approach and is making positive strides for carbon drawdown, biodiversity, food production, and protection of water. Check out their archived webinars.

<https://carbonaction.org/en/carbon-action-towards-regenerative-agriculture/>

<https://carbonaction.org/en/register-now-breakfast-webinar-on-soil-carbon/>

The European Union Green New Deal includes a Farm to Fork strategy that was officially adopted in October 2020 by the 27 EU Ministers of Agriculture. The European Commission will bring forward a carbon farming initiative in 2021 as part of the EU climate pact.

<https://www.consilium.europa.eu/media/46419/st12099-en20.pdf>

https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=EU%20Green%20Deal%20-%20January%202021%20Update%20_Brussels%20USEU_European%20Union_01-10-2021

Leading Italian coffee company pushes for regenerative agriculture

<https://www.forbes.com/sites/eshachhabra/2021/01/27/iconic-italian-coffee-brand-calls-for-regenerative-agriculture/?sh=4f230fbe6ac5>

New Zealand's primary industry groups, led by Beef + Lamb New Zealand (BLNZ) & NZ WINE, have been undertaking a significant global study into regenerative agriculture. The study will tie together three perspectives - a consumer and market view, the expert views of those working in Government and/or in relevant NGOs, and the views and experiences of farmers and processors - with the aim of launching a national regenerative agricultural transition program in key regions in 2021. The goal in this effort is to develop regionally specific models

for regenerative agriculture, led by producers, that can both advance the global narrative and research on regenerative agriculture, as well as lead the market on regenerative products globally. See [here](#) for details. For more information, contact B+LNZ's Communications Advisor Abigail Delaney on 027 209 9891. For additional perspective on New Zealand's regenerative agriculture initiatives, [click here](#).

The Regenerative Agriculture Revolution is an initiative funded by the European Commission to support European farmers in making the transition to regenerative farming, educate the public and consumers about the benefits of regenerative agriculture, and work with agribusiness supply chains to transition to r.a.

<https://www.eitfood.eu/projects/the-regenerative-agriculture-revolution-2020>

Farmers and activists from dozens of countries gathered virtually in early January to promote regenerative agriculture and agroecology. The Oxford Real Farming Conference is working to help [scale regenerative agriculture globally](#). For more information:

<https://www.thepoultrysite.com/news/2021/01/delegates-at-the-oxford-real-farming-conference-to-champion-regenerative-agriculture>

China is paying closer attention to reducing carbon emissions through farming

<https://chinaglobalperception.org/2021/01/25/how-can-china-cut-emissions-from-its-farms/>

Vietnam is looking to agroforestry to increase its climate ambition actions.

<https://worldagroforestry.org/blog/2021/01/15/agroforestry-can-enhance-viet-nams-ambition-its-nationally-determined-contribution>

Agroecology gains attention and momentum

<https://news.mongabay.com/2021/01/podcast-agroforestry-an-ancient-climate-solution-that-boosts-food-production-and-biodiversity/>

<https://www.cirad.fr/en/news/all-news-items/articles/2021/agroecology-global-political-recognition>

Policy Developments

There is growing attention to regenerative agriculture in US policy circles, including from President Biden, Sec of Agriculture Tom Vilsack, and Congressional leaders.

<https://www.nytimes.com/2021/01/27/opinion/biden-vilsack-agriculture-climate-change.html?searchResultPosition=1>

<https://www.rfdtv.com/story/43252829/biden-administration-to-work-with-farmers-ranchers-on-using-climatesmart-practices>

<https://www.agri-pulse.com/articles/15237-stabenow-aims-to-use-climate-package-to-boost-ag-spending>

See [here](#) to track legislative developments in the U.S. Congress related to healthy soils.

The US Dept of Agriculture names its senior staff, including Robert Bonnie as chief advisor on climate. Bonnie is the leading force working to establish a one billion dollar carbon bank.

<https://www.usda.gov/media/press-releases/2021/01/20/us-department-agriculture-announces-key-staff-appointments>

The historically conservative Farm Bureau in the United States is engaging in the climate fight with a focus on agriculture as a solution.

<https://www.iowapublicradio.org/news-from-npr/2020-11-20/farmers-are-warming-up-to-the-fight-against-climate-change> The Farm Bureau is part of a larger coalition of industrial farming,

business, forestry and mainstream environmental groups in the US working on a policy agenda for agriculture and climate.

https://agclimatealliance.com/files/2020/11/faca_recommendations.pdf

Meanwhile 222 organizations reject the much heralded Growing Climate Solutions Act.

<https://foe.org/news/organizations-reject-growing-climate-solutions-act/>

The European Union's Common Agricultural Policy (CAP) includes a focus on agroecology, animal welfare, biodiversity, [farm to fork](#), and conservation agriculture.

<https://www.euractiv.com/section/agriculture-food/news/commission-lists-agroecology-animal-welfare-as-core-environmental-practices/>

<https://www.euractiv.com/section/agriculture-food/news/handling-soil-with-care-conservation-agricultures-role-in-post-2020-cap/>

The Philippines Department of Agriculture is working to rejuvenate soils by promoting composting, re-purposing of animal manure, and integration of farm wastes to build soils.

<https://smarternewsnow.com/2021/01/19/agriculture-dept-pursuing-soil-rejuvenation-programs-to-raise-productivity/>

The Alliance for Food Sovereignty in Africa is campaigning for agroecological policies

<https://afsafrica.org/agroecology-the-real-deal-for-climate-crisis-in-africa/>

Climate 21 is having significant influence on Biden Administration climate agenda, including at USDA

<https://climate21.org/>

Scientific & Research Developments

Researchers at Lancaster University compared soils being farmed with industrial and conventional processes versus those farmed with soil conservation techniques. They found more than 90 per cent of the conventionally farmed soils in the study were thinning while only seven per cent of soil under conservation management had life spans shorter than a century, and nearly half exceeded 5,000 years.

<https://phys.org/news/2020-09-global-reveals-soilsbut.html>

A report by International Institute for Applied Systems Analysis (IIASA) sought to learn how fluctuations in greenhouse gases have contributed to climate change in both managed pastures and natural grasslands, between the years of 1750 and 2012. They found that climate warming from managed grasslands is canceling the inherent cooling effect of sparsely grazed lands or those grasslands left in their native form. While nearly half of all temperate grasslands and 16 percent of tropical grasslands have been transformed for agricultural or industrial use, according to [National Geographic](#), conserving grasslands to preserve soil health and reduce emissions from managed grasslands could provide a significant reduction in global greenhouse gas emissions. In the IIASA modeling, The nuances in this report are important for all those involved with grazing strategies.

<https://www.ecowatch.com/grasslands-climate-change-2649766398.html?rebelltitem=1#rebelltitem1>

Here is a related article that focuses on the vital role of global grasslands in combating climate change.

<https://www.theguardian.com/environment/2019/mar/08/endangered-grasslands-may-be-lifeline-in-face-of-climate-change>

In a review of all carbon dioxide removal technologies, agriculture and soils were cited as one of the most promising.

<https://phys.org/news/2021-01-primer-carbon-dioxide-vital-resource.html>

The Royal Irish Academy of Science has established a regenerative agriculture project and put out a call for scientists to participate.

<https://www.ria.ie/news/policy-and-international-relations/call-experts-regenerative-agriculture>

Researchers at Queen Mary University London analysed soil microorganisms and found that over 70% of soil bacteria is capable of living off the small amounts of hydrogen, carbon monoxide and methane in the air, thus helping to remove atmospheric pollution and regulate

climate change.

<https://environmentjournal.online/articles/soil-can-remove-air-pollution-and-regulate-climate-change/>

Financing for small farmers is a growing problem for climate action and global food security.. UNDP underwrote a report on the state of play for finance for small scale agriculture. Small-scale farmers operating on less than 5 hectares of land represent around 95% of world's farms and a cumulated area equivalent to 20% of the global farmland. Yet less than 2% of climate finance reaches smallholder farmers. While this report does not primarily focus on regenerative producers, it is still very relevant for those concerned that public finance is inadequate and that private finance often only applies to large commodity producers.

<https://www.climatepolicyinitiative.org/publication/climate-finance-small-scale-agriculture/>

Impact investing offers one approach to addressing this huge challenge. Heifer International underwrote [this report](#) on strengthening rural economies and small landholder operations through impact investment. [ReNature is galvanizing venture capital](#) for regenerative agroforestry.

Dr. Rattan Lal analyzes the role of soil strength and carbon sequestration

<https://agupubs.onlinelibrary.wiley.com/doi/10.1002/9781119563952.ch10b>

Biochar trials start in Nicaragua in partnership with a German NGO

<https://takingroot.org/2021/01/biochar-carbon-gamechanger/>

Agroforestry is gaining attention as a key strategy for our climate and for food security.

Yet its definition differs in different contexts. A January 2021 paper looks at these tensions.

https://www.researchgate.net/publication/348602614_Agroforestry_transitions_The_good_the_bad_and_the_ugly

A new report/book offers a comprehensive review of soil science and a chapter on soil carbon sequestration.

https://www.researchgate.net/publication/348428956_Soil_Carbon_Sequestration_and_Climate_Change

Media, Press, and Blogs

Farmers everywhere are struggling with climate impacts. In January, 2021, more than 3,000 scientists called for a far bigger global push to protect people and nature from the effects of a heating planet. “Unless we step up and adapt now, the results will be increasing poverty, water shortages, agricultural losses and soaring levels of migration with an enormous toll on human life,” the scientists from nearly 120 countries wrote ahead of a global summit on adaptation. Farmers in less developed nations [are particularly vulnerable](#) to severe climate impacts.

<https://www.reuters.com/article/climate-change-adaptation-science/step-up-adaptation-to-climate-change-now-or-risk-enormous-toll-scientists-warn-idUSL8N2JW4MD>

Climate impacts are at the heart of the farmer protests in India

<https://www.resilience.org/stories/2021-01-26/climate-crisis-is-foundation-of-indian-farmers-protests/>

Momentum building for investments in regenerative farming in the USA

<https://www.washingtonpost.com/graphics/2021/climate-solutions/climate-regenerative-agriculture/>

Biden reaches out to conservative farmers to fight climate change.

<https://insideclimatenews.org/news/04012021/biden-climate-plan-agriculture-farmers-tom-vilsack/>

Farmers call for in-depth analysis of soil carbon drawdown in Ireland, noting that the carbon storage potential [has been underestimated](#).

<https://www.farmersjournal.ie/major-investment-needed-in-nationwide-analysis-of-soil-carbon-potential-594485>

Does Regenerative Agriculture Have a Race Problem?

<https://civileats.com/2021/01/05/does-regenerative-agriculture-have-a-race-problem/>

Whole Foods names Regenerative Agriculture number one food trend in 2020

<https://www.wholefoodsmarket.com/tips-and-ideas/top-food-trends>

EU considers cash payments for regenerative agriculture practices

<https://www.thepigsite.com/news/2021/01/eu-considers-incentives-for-low-carbon-farming>

Rainforest Alliance points to momentum with regenerative agriculture

<https://www.rainforest-alliance.org/articles/what-is-regenerative-agriculture>

Change won't happen unless farmers shift practices - education and outreach are key.

<https://www.sfgate.com/news/article/Some-farmers-updating-methods-trying-15885095.php>

Regenerative agriculture becoming major trend in 2021 despite lack of clarity on its definition

<https://www.triplepundit.com/story/2020/regenerative-agriculture-food-ag/709186>

Vogue names Regenerative Agriculture top trend in sustainability for 2021

<https://www.vogue.in/fashion/content/7-major-sustainability-trends-to-watch-out-for-in-2021>

Global food insecurity has risen dramatically in the past year in part due to COVID 19. Not enough has been written or done to explore the role of local regenerative food

production as one key strategy for alleviating hunger. The state of the hunger crisis is explored in more details here.

<https://medium.com/committee-on-world-food-security-cfs/covid-19-need-for-cfs-framework-for-action-in-protracted-crises-to-prevent-global-food-emergency-e7ae1bdcc3de>

Carbon Markets: The Good, the Bad, the Unknown

Carbon markets have been hotly debated for years with fierce defenders and critics. This section of the update examines the pros, cons and potential consequences of carbon trading as a primary pathway for rewarding farm and forestry producers who sequester carbon and build healthy soils. This debate is rapidly heating up in the United States as leaders in the Biden Administration prepare to establish a new carbon bank and carbon markets for farmers. Some see uncanny parallels to the deep political fissures that surfaced in the U.S. climate movement during the efforts to pass cap & trade legislation under the Obama Administration. Yet there are some differences. Here are several papers and articles from diverse perspectives, analyzing carbon credits, markets and potential outcomes in the US and elsewhere. We have attempted to reflect diverse perspectives, as always.

https://www.goldstandard.org/sites/default/files/documents/201016_soil_climate_cop_27_28_29_10_agenda1.pdf

<https://www.agri-pulse.com/articles/14880-carbon-markets-lure-farmers-but-are-benefits-enough-to-hook-them>

<https://thehill.com/opinion/energy-environment/532388-proven-programs-not-false-hopes-engaging-farmers-in-climate#bottom-story-socials>

<https://www.iatp.org/carbon-markets-and-agriculture> and
<https://www.iatp.org/documents/why-carbon-markets-wont-work-agriculture>

<http://blogs.edf.org/energyexchange/2020/08/27/tax-credits-for-carbon-capture-not-without-these-3-important-rules/>

<https://www.edf.org/ecosystems/greenhouse-gas-markets-agriculture>

<https://medium.com/mad-agriculture/a-cautionary-note-on-ecosystem-service-markets-for-soil-carbon-5bd694765f92>

<https://calclimateag.org/potential-for-carbon-markets-in-agriculture-to-address-climate-change/>

<https://www.wired.com/story/president-biden-please-dont-get-into-carbon-farming/>

<https://insideclimatenews.org/news/04012021/biden-climate-plan-agriculture-farmers-tom-vilsack/>

<https://foe.org/news/organizations-reject-growing-climate-solutions-act/>

<https://www.theland.com.au/story/6275716/carbon-a-viable-option/>

<https://www.motu.nz/assets/Documents/our-work/environment-and-resources/lurnz/The-Practice-of-Carbon-Farming-in-NZ.pdf>

<https://www.stuff.co.nz/business/farming/109400721/to-make-money-from-carbon-farming-plant-pines-not-natives-says-consultant>

<https://www.forbes.com/sites/erikkobayashisolomon/2020/03/13/want-to-understand-carbon-credits-read-this/?sh=272c4d2071aa>

Prizes, Grants and Funding

Who will convince Elon Musk to give his 100 million dollar prize to nature-based carbon sequestration?

<https://www.msn.com/en-us/news/technology/elon-musk-is-donating-24100m-to-find-the-best-carbon-capture-technology/ar-BB1cYQVq>

Regeneration International has assembled a list of potential funding sources

<https://regenerationinternational.org/funding-resources/>

Farmers are Doing It

This Costa Rican Farm is one of many Costa Rican examples of regenerative farming

<https://www.haciendalasimagenes.com/regenerative-agriculture-costa-rica>

This Regenerative Agriculture master class helps farmers establish regenerative, profitable practices. This year's class includes farmers on scholarship from Romania, Norway, Finland and the United States. Openings remain for farmers who can afford the tuition.

<https://www.richardperkins.co/2020/11/the-regenerative-agriculture-masterclass-2021-scholarship-program/>

New Zealand dairy farmers named most effective at reducing carbon emissions

<https://www.foodtechnology.co.nz/content/nz-dairy-the-worlds-most-emissions-efficient/>

Conferences

Regenerative agriculture will be a hot topic at the 10th World Conference on Climate Change in Italy

<https://climatechange.insightconferences.com/events-list/regenerative-agriculture-to-reverse-climate-change>

International Conference on regenerative agriculture to be held in Sydney in March 2021

<https://waset.org/regenerative-agriculture-and-agroecological-restoration-conference-in-march-2021-in-sydney>

Spreading Compost on Rangelands: Preparing for and executing carbon farm projects

<https://www.eventbrite.com/e/spreading-compost-on-rangelands-registration-136041308215>

Vineyard managers will gather by Zoom to discuss practices to reduce greenhouse gases and build soil health and improved taste/quality

<https://www.eventbrite.com/e/4th-annual-virtual-soil-health-symposium-tickets-136870588615>

Webinars for those interested in silvopasture

<https://regenerationinternational.org/event/webinar-silvopasture-listening-sessions/>

Webinar on the science of soil carbon organized by Regeneration International

<https://regenerationinternational.org/event/webinar-grow-top-soils-the-science-of-soil-carbon/>

For more information, go to [our website!](#)
To help someone new join our listserv on Soil Carbon Sequestration [click here.](#)