

riculture: Sustainability in Farming



Farmers play an important role in all of our lives. They grow the food that the rest of

us need to survive. The practices of farming have evolved over time and some argue that adopting a change to modern farming techniques can help combat climate change. Regenerative agriculture has been a [top trend](#) in the farming industry for several years. The practice adopts alternative methods for producing food with an end goal of decreasing—or even resulting in net positive—environmental and social impacts on the world. The science behind regenerative agriculture suggests that this promising practice could [drastically affect](#) climate change and improve sustainability in the agriculture industry. Recently, regenerative agriculture has [received attention](#) from many groups: consumers, producers, retailers, researchers, politicians, and the media.

In this article, we will discuss how regenerative agriculture practices affect the farming and food distribution industries. Then, we will discuss some of the novel legal issues that may arise related to these new practices, such as legislative changes to support regenerative agriculture practices; how companies can offset their carbon footprints by purchasing carbon credits created by regenerative agriculture practices; ensuring that a product is properly advertised and labeled to avoid litigation; avoiding litigation by minimizing outbreaks of foodborne illness; and changes companies should consider to their labor and employment policies when undertaking regenerative agriculture practices.

What Is Regenerative Agriculture?

In such a large and varied industry, it is impossible to define "regenerative agriculture" as a singular practice. Essentially, regenerative agriculture is a set of practices aimed at humane, sustainable farming and distribution to build upon natural synergies across farming activities in an effort to improve efficiency and effectiveness in an environmentally and socially conscious manner.

Whole Foods [defines](#) "regenerative agriculture" as:

Farming and grazing practices that restore degraded soil, improve biodiversity and increase carbon capture to create long-lasting environmental benefits, such as positively impacting climate change.

As this definition suggests, these practices focus on maintaining soil health, managing water use, and engaging in responsible fertilizer use. Regenerative agriculture is [premised](#) on the objective of improving (or regenerating) resources that are typically depleted in the course of more common modern farming practices.

Certain [basic features of farming](#) are commonly recognized as regenerative agriculture: minimizing soil disturbance, keeping the soil surface covered, keeping living roots in the soil, growing a diverse range of crops, and introducing grazing livestock onto the land.

These practices, largely focusing on soil health, can increase biodiversity and natural organic matter in the soil. This leads to more nourished and resilient crops. Healthy soil also offers better yields and more nutrient-rich crops. Healthy soil more heartily withstands natural disasters—such as droughts and flooding—both of which have become more common as the climate has been changing. Moreover, healthy soil does not erode as easily. And using fewer chemical pesticides and fertilizers leads to higher-quality water that is used both on the farmland and when it ultimately runs off the land into common usage.

Use Cases

Conservation efforts within the scope of regenerative agriculture take many forms. Such efforts include planting region-appropriate crops to minimize water use, strategically rotating crops to help restore and protect soil quality, protecting animal welfare, and adopting local distribution networks to minimize the use of fossil fuels.

Farming. Farmers can use regenerative agriculture techniques to protect and replenish the soil during the growing process. The practice of tilling the soil (also known as plowing and land preparation) can have significant negative impacts on soil health. Tillage often causes erosion and can release significant amounts of carbon dioxide (CO₂) into the

atmosphere. Regenerative agriculture techniques aim to combat these two effects. At the soil cultivation stage, regenerative agriculture techniques eliminate tillage and minimize soil disturbance to avoid erosion. By preserving the natural balance of the soil, [farmers](#) can minimize the release of CO₂ and maximize the consistency of advantageous organic matter in the soil.

Another practice that helps protect and replenish the soil is crop selection and rotation. [Crop diversity](#) allows different plants to remove and deposit different nutrients back into the soil during that particular crop's life cycle. Further, selecting crops that are indigenous to a geographical region ensures that water use is minimized and encourages crops to grow more bountifully.[\[1\]](#)

Livestock. Regenerative agriculture practices include a holistic approach to managing land, crops, and livestock. The practices are cyclical in nature: livestock contributes to the health of the soil; healthy soil contributes to healthy crops and produce; crops and produce provide food for livestock, which, in turn, contribute to the richness of the soil. Regenerative agriculture seeks to maximize the synergies of these related farming activities, creating a system that is more efficient and effective than the sum of its parts.[\[2\]](#)

Distribution Models. Large-scale, national adoption and support for regenerative agriculture is necessary if the practice is to play a role in combating the climate crisis. [However](#), another critical feature of regenerative agriculture is increasing the self-sufficiency of local agriculture systems and avoiding nationwide distribution. The "Eat Local" movement can support this goal by minimizing the distance food travels from production to end use. In this model, [consumers know](#) where their food came from because it was sourced locally, food is fresher, and fossil fuels were conserved in the process.

Regenerative agriculture seeks to shift from a centralized, national distribution model to a decentralized, local distribution model in an effort to capitalize on these benefits.

Legal and Regulatory Developments

Regenerative agriculture is a promising new trend poised to disrupt the traditional agriculture industry. By seeking to encourage natural synergies in farming processes, regenerative agriculture aims to more efficiently and effectively produce agricultural products in an environmentally and socially conscious manner. Regenerative agriculture could drastically affect climate change and improve sustainability.

The private sector has also started jumping in to support the practice. For example, many large companies have made public commitments to support sustainable farming practices to reduce carbon footprints around the world. [3] PepsiCo [announced](#) its new Positive Agriculture strategy this year with express goals of: affecting 7 million acres of farmland with regenerative farming practices, improving the livelihoods of more than 250,000 people in its supply chain, and sustainably sourcing 100% of the company's key ingredients by 2030. Microsoft [has announced](#) plans to replenish more water than it consumes by 2030. Nestlé [recently committed](#) \$1.2 billion by 2025 to support regenerative agriculture within its supply chain. Patagonia [is a large supporter](#) of the practice, and for decades the company has exclusively used cotton that was sustainably sourced. And the list goes on.

From farmers and distributors to retailers and restaurants, there are likely few in the food industry who will remain unaffected by regenerative agriculture. As with any disruptive practice, new legal issues abound.

Legislation and Government Support. Governments have started supporting efforts and offering subsidies to adopt more environmentally friendly farming practices, such as those used in regenerative agriculture. [4] [In the United States](#), President Joe Biden has expressed support for regenerative agriculture practices. In fact, [Biden's strategy](#) to address climate change includes providing farmers financial incentives to reduce a farm's carbon footprint. The costs of transitioning from traditional farming to sustainable farming can be monumental. Farmers have expressed concerns that incentives need to be "sufficient and reliable" to provide farmers with the confidence to make the necessary investments to implement these practices on a large scale.

Environmental Credits. There is an [emerging market](#) where farmers have started partnerships with nonprofit environmental and policy groups as well as private companies to help cover the costs of transitioning to sustainable farming practices.

Since the mid-1990s, one solution governments and private companies have used to promote and reward practices that protect the environment is offering environmental credits for pollution reduction efforts (air, energy, water). The practice started with legislative emissions-reducing requirements, mandating that factories and automobiles reduce emissions or offset pollution in some other way. [5] From there, an entire environmental commodities market has developed. Companies can purchase environmental credits to satisfy governmental regulatory requirements or company commitments to reduce the company's carbon footprint. [6]

This is very similar to any other commodities trading markets, which are overseen by the Commodity Futures Trading Commission (CFTC). A unit of carbon offset can be sold on an exchange or transferred bilaterally between counterparties via an environmental product registry. [7] In the private/nonprofit market, there are boards that set standards that verify and certify new credits entering the market. [8] Companies wishing to sell carbon credits can certify their projects and sell the credits they produce. Companies wishing to purchase carbon credits will often finance some of the transition costs from a traditional practice to a sustainable practice. [Private companies](#) purchase, count, and credit the sequestered carbon against their own emissions.

Perkins Coie can help farmers navigate becoming certified, working with standards boards, and placing credits on the market through an exchange or private transactions. Perkins Coie can also help companies that want to purchase carbon credits or arrange a financing deal to help a farm transition to regenerative practices in exchange for carbon credits.

Properly Advertising Products. Some have referred to the regenerative agriculture and sustainable farming practices as the next wave of "organics." The organic food movement became prevalent in the early 1990s when Congress passed the [Organic Foods Production Act](#) to establish a national standard for organically produced food. We can anticipate the challenges regenerative agriculture may face from lessons learned early on in the organics movement. Much of the litigation in the early years of organics came from food companies mislabeling or misrepresenting the process taken to produce foods. [9] To withstand these challenges, standards need to be

clear and the product's ability to meet the standards needs to be supported by scientific evidence.

- **Certification Standards.** A major challenge to advertising a regenerative agriculture product is a set of common standards. There are currently no universal standards for what constitutes regenerative agriculture and who may claim to undertake the practice. Certification may provide a solution to the universal standard concern. The nonprofit [Regenerative Organic Alliance](#) offers a certification—Regenerative Organic Certified (ROC)™—for food, textiles, and personal care ingredients that satisfy the organization's high standards for soil health, animal welfare, and social fairness. Organizations that have obtained certification can use the ROC logo on their products to communicate their responsible practices to the public. But ROC is not the universal certification process. As regenerative agriculture becomes more widely adopted and demanded, the potential for litigation or regulatory action may arise where certain producers make a false claim to the practice in an effort to bolster prices or get products onto shelves in specialized food stores. The certification process may help to diminish such imposters.
- **Food Labels.** Liability can arise when a company misrepresents a "green" or eco-friendly product. Most commonly, a lawsuit is filed when a label promotes a product as "all natural" or "nothing artificial," because these terms are not defined by the Food and Drug Administration (FDA) or any other government agency.^[10] Regenerative agriculture could also fit in this group of undefined terms, which could increase risk of lawsuits over a label. When creating a food label, one must be sure to avoid making false claims, generally, and endorsing false certification or government endorsements, specifically. The Federal Trade Commission (FTC) [has published](#) a set of standards for the marketing of "green" products designed to help companies avoid making environmental marketing claims that are unfair or deceptive.
- **Offering Scientific Proof.** Marketing a product truthfully is the first step; the next step is being able to substantiate marketing claims with science. Technology can offer many solutions to report and record scientific proof that a product meets certification standards. We have entered into a world where supply chain practices can be transparent and documented through technology. The entire production process can now be tracked using technology, including sensors on tractors, sprinklers, trucks, trains, and other sources. All movement of a particular crop can be recorded on the blockchain. Companies are already doing this.^[11] Such information could raise data security and privacy issues. Perkins Coie has attorneys that can help spot issues and advise on both implementing technology solutions and protecting the data from unwanted breaches.

Reducing Litigation and Regulatory Actions From Foodborne Illness. In recent years, the food industry has been hit hard with large-scale foodborne illness (e.g., E.coli, salmonella, and other viruses) and contamination. With each recall, it costs millions of dollars to navigate the problem, which may include the substantial costs of litigation and reparations. Such challenges often affect large swaths of the population because a product such as contaminated lettuce is shipped from a centralized distribution center to locations across the country. Keeping shipments decentralized would contain an outbreak, limit harm to the community, and limit the waste and cost of a recall. Modern technology linked to food production and shipment can also help minimize the impact of an outbreak, but that is a topic for another article.^{[12] [13]}

Regenerative agriculture may also reduce the risk of regulatory backlash and class action lawsuits as local distribution networks minimize the likelihood and scope of contamination outbreaks, which is estimated to cost the industry billions of dollars annually in food waste, lost wages, medical treatment, and all other costs associated with an outbreak.^[14]

Labor Considerations. While regenerative agriculture practices are primarily focused on reducing carbon emissions through restoring and preserving the soil, there is also a focus on humane treatment of humans and animals involved in the process. One way to support this goal is to adopt labor practices that improve the lives of farm workers.

Increased pay and benefits help to improve the lives of farm workers. In addition, limiting hours worked or ensuring that a farm is staffed at a level where employees may take advantage of a strong time-off plan are common ways to improve worker morale and health.

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The extent of these new legal issues will continue to emerge as more organizations implement regenerative agriculture. As the practice becomes more widely adopted, it is imperative that those in the industry and in related professions seek competent legal counsel to navigate the opportunities and risks inherent in such uncharted waters.

Endnotes

[1] See, e.g., Wayne Roberts, *The Beauty of Regenerative Agriculture and the Future of Food*, Corporate Knights (July 2, 2021), available at <https://www.corporateknights.com/channels/food-beverage/the-beauty-of-regenerative-agriculture-and-the-future-of-food-16252306/>.

[2] See Julia M. Dendinger, *Cowboy Country: Sublime Pastures; life-changing regenerative farming*, Valencia County News-Bulletin (July 8, 2021), available at <https://news-bulletin.com/cowboy-country-sublime-pastures/>. In addition to farming, animal conservation and restoration efforts are being used to regenerate natural habitats and ecosystems. For example, conservation efforts are being used to restore the Great Plains, a biologically rich ecosystem that offers habitats for many plants and animals. Some believe that the prairie is a vital component in nature's fight against climate change. A key element to keeping the prairie healthy is the existence of bison, which were obliterated from their natural habitat in the 1800s. Several organizations have taken steps to restore the prairie ecosystem by reintroducing bison onto the land in Montana and Oklahoma. Bison feed almost exclusively on grasses, which tend to out-grow and dominate other plant species. Their grazing selections improve biodiversity by allowing other plants that would naturally grow to coexist with the tallgrass of the prairie. The animals' large roaming habits spread the benefits to vast areas of land, and they can create new habitats for other animals to nest and breed. Nancy Labbe, *Beef and Bison Can Help in Fight Against Climate Change*, The Nature Conservancy (May 26, 2021), available at <https://www.nature.org/> (explaining that the prairie holds massive amounts of carbon and that protecting the remaining grasslands in Missouri alone could be the equivalent of taking 2.5 million passenger vehicles off the road); See kinsmanivan, *How Bison Are Saving America's Lost Prairie* (Jan. 30, 2021), available at <https://rainwaterrunoff.com/how-bison-are-saving-americas-lost-prairie/>; American Prairie Reserve, <https://www.americanprairie.org/our-story>; Matthew D. Moran, *America's Recovering Bison Populations Are Restoring the US Landscape*, Inverse (Jan. 19, 2019), available at <https://www.inverse.com/article/52602-bison-are-back-and-that-benefits-many-other-species-on-the-great-plains>.

[3] See Patagonia; General Mills, *We will Advance Regenerative Agriculture on 1 Million Acres of Farmland by 2030*, <https://www.generalmills.com/en/Responsibility/Sustainability/Regenerative-agriculture>.

[4] E.g., Adria Vasil, *Can Climate-Smart Regenerative Farming Save the Earth?*, Corporate Knights (June 28, 2021), available at <https://www.corporateknights.com/channels/food-beverage/can-climate-smart-regenerative-farming-save-the-earth-16248924/> (noting that Canada has committed to a \$350-million investment over ten years to help the country's agri-food sector "meet our emission targets and capture new opportunities in the green economy," which includes \$10 million to help farmers transition away from using diesel and a target to reduce fertilizer use. Also noting that France has taken a leadership role in using soil to combat climate change since 2015). See also Emma Newburger, *Biden's Climate Change Strategy Looks To Pay Farmers To Curb Carbon Footprint*, CNBC (Feb. 12, 2021), available at <https://www.cnbc.com/2021/02/12/bidens-climate-change-plan-pay-farmers-to-cut-carbon-footprint.html> (noting that President Biden has called on U.S. farmers to lead the way

in offsetting greenhouse gas emissions to battle climate change.).

[5] See, e.g., US Legal, *Clean Air Act*, available at <https://environmentallaw.uslegal.com/federal-laws/clean-air-act/>.

[6] See, e.g., United Nations Climate Change, *Emissions Trading*, <https://unfccc.int/process/the-kyoto-protocol/mechanisms/emissions-trading>.

[7] See Gold Standard, <https://www.goldstandard.org/>; Verra, *Verified Carbon Standard*, <https://verra.org/project/vcs-program/registry-system/>; Climate Action Reserve (CAR), <https://www.climateactionreserve.org/>.

[8] See, e.g., Green Power Partnership, *Renewable Energy Certificates*, <https://www.epa.gov/greenpower/renewable-energy-certificates-recs>; see also Registries listed in note xxxi, *supra*.

[9] Many lawsuits involving food products arise from claims made in food labels. See, e.g., *Hawkins v. Kroger*, 906 F.3d 763 (9th Cir. 2018); *Marentette v. Abbot Laboratories*, 201 F. Supp. 3d. 374 (E.D. N.Y. 2016).

[10] Anne M. Payne, *Proof of Liability for False or Misleading Statements that Product or Service is "Eco-Friendly," "All Natural," "Organic," or Other Similar Terms*, 159 Am Jur POF 3d 433 (Aug. 2021).

[11] Jane Lindley and Adam Graycar, *Regulating the Food Supply Chain through Blockchain*, The Regulatory Review (Dec. 28, 2020), available at <https://www.theregreview.org/2020/12/28/lindley-graycar-regulating-food-supply-chain-blockchain/>; Danielle Enwood, *How Blockchain is Revolutionising Food Supply Chains*, Blockhead Technologies (March 2, 2021), available at <https://blockheadtechnologies.com/how-blockchain-is-revolutionising-food-supply-chains/>.

[12] See, e.g., Beth Kowitt, *The Food Industry's \$55.5 Billion Safety Problem* (Sept. 25, 2015), available at <https://fortune.com/>.

[13] Heather van Blokland, *FDA Releases E. Coli Report on Romain Lettuce Contamination*, KJZZ (June 1, 2020), available at <https://kjzz.org/content/1587127/fda-releases-e-coli-report-romaine-lettuce-contamination> (noting that the 2018 E.coli outbreak in romaine lettuce resulted in estimated losses of \$350 million for the industry and drove 2019 prices up to almost double the price of lettuce the year prior).

[14] See, e.g., *CDC and Food Safety*; see also Christopher Doering, *Foodborne Illness Costs \$152 Billion Annually*, Reuters Healthcare and Pharma (March 4, 2010), available at <https://www.reuters.com/article/us-food-safety-study/foodborne-illness-costs-152-billion-annually-idUSTRE6220NO20100304>.

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