



Nori: Ullrich Farms

Provider: Nori

Developer: Adam and Levi Ullrich

Location: Iowa - Carroll County & Ida County

Mechanism: Soil Carbon Sequestration

Website: <https://nori.com/supplier/6>

Date evaluated: Sept-Oct 2021

Purchase record: <https://nori.com/joro>

About

The Ullrich Family has been involved in agriculture for several generations. Dudley Ullrich spent his life growing the Ullrich operation to what it is today. Dudley's sons, Adam and Levi, have worked with their father since they were boys in the family farming operation and now manage and operate the family farm. The Ullrich family has been interested in agricultural innovations to increase both yields and profits, and in doing so has made significant strides to build more productive and healthier soils. The Ullrich operation has implemented soil conservation practices such as no-till farming, implementing the use of cover crops, and enrolling certain farms or portions of farms in the Conservation Reserve Program administered by the Farm Service Agency for decades.

The Ullrich operation plants corn and soybeans, and has recognized the importance of using regenerative farming practices. They make use of natural fertilizers such as swine manure, cattle manure, and chicken litter. Recently the Ullrich operation implemented the use of plant food in its operation to increase soil fertility in areas where it is not economical to use other sources of fertilizer. These practices all help the operation to further decrease the need for commercial fertilizer in their operation while increasing yields and sequestering carbon in the soil.

In 2021, the Ullrich operation implemented the use of a "biological", or microbial-based soil amendment treatment, called Rhizolizer, with the intention to further increase yields without using additional nitrogen in their fertility program. You can think of it like a probiotic for the soil.

Do you consider this project to be avoided emissions or emissions removed? Why?

Emissions removed. Regenerative farming as outlined in Nori's Croplands Methodology incrementally adds more carbon to the soil when compared to previous practices. Through this nature-based solution, farmers continually pull incremental carbon from the atmosphere and store it in their soil. Through practices such as planting cover crops and minimizing tillage, incremental carbon is sequestered and prevented from being re-released into the atmosphere. Nori only focuses solely on carbon removals as our mission is directly tied to aiding the removal and storage of 1.5 trillion tonnes of carbon.

What can you tell us about the carbon life cycle of the average tCO2e that your solution removes or reduces?

For Nori's pilot program, carbon removal dated back to 2016 is allowed. This pilot program is ending in 2021, when time frames will be tightened. Per the terms of Nori's NRT agreement, the carbon that is paid for will be stored in the ground for a minimum of 10 years. It is, however, highly likely that this carbon will remain in the ground for significantly longer than 10 years as farmers benefit from increased health and quality of soil through these new practices.

Farmers/Suppliers are able to re-enroll new, incremental carbon removal in later years subject to new verification, quantification, and NRT agreement renewal.

Nori's modeling approach requires farmers to input data every year because they recognize the complexity of carbon removal via soil. These new data points add to the intelligence of the modeling approach to help build more accurate trendlines to help account for the natural fluctuations in soil carbon stock.

Do you offer a direct-to-consumer purchasing option for your offsets?

Yes. Individuals can visit nori.com and make purchases of as little as 1 tonne directly from the home page. When consumers buy from the website, however, Nori charges a 15% fee; with Joro, Nori has reduced its fee to 12%.

Are there additional benefits that your company offers?

Nori offers transparency into all purchases. At any time, anyone can view all previous certificates, who they were retired on behalf of, where they were retired, and view granular details on the projects in which they were purchased from. Nori also provides insurance in the case that stored carbon is released back into the atmosphere. This is included in every purchase without additional fees.

Integrity

First, projects must cross the hurdle of actually reducing or removing the carbon they claim to. To evaluate a provider's integrity, Joro considers verifiability, enforceability, additionality, permanence, and transparency.

Verifiability

Through COMET-Farm's accounting approach, Nori is able to show that a farm's sustainable practices are responsible for increasing soil carbon content versus the prior 10 year period. Nori's standard requires annual data updates and verification of that data every three years. To ensure accuracy, all data provided is validated by a third party verifier. Nori also uses an external carbon sequestration quantification tool from Soil Metrics.

What third party verifiers or other evaluators have evaluated this offset project? What verification standard or evaluation process did they use?

During the creation of NRTs (Nori Carbon Removal Tonne), which are Nori's 'credits', they work with 3rd parties in two steps.

The first is a third party verifier to ensure all data provided by the farmer is accurate, that the farmer has a legal right to the land and to list the project, and that this land is not listed in any other registry. This is paid by the farmer and third party companies include SCS global, Aster Global, Validus.

The second is a third party carbon quantification tool. Soil Metrics is their partner to provide estimates of carbon sequestered.

If none, what plans do you have in place to get verified or evaluated?

Nori is a marketplace working to create an equitable playing field for carbon sequestration projects, and believes that it must come up with innovative ways to reward project suppliers of all sizes. Nori sees itself as advancing verification approaches by taking steps such as incorporating the blockchain into their operations to eliminate harmful double-counting of credits. To get further details on Nori's efforts to guarantee its carbon removal, see [this article](#) in response to CarbonPlan's analysis.

Nori recently formed a new methodology board and is currently working on an update to their current methodology. No date is available yet, Joro will share details with our customers when updates are available.

Enforceability

Do you provide proof of retirement upon purchase of an offset?

Yes. Upon purchase, Joro immediately receives a certificate with the amount retired, the name for whom it was retired, and a chosen location for global accounting purposes. Nori has also created an account page for Joro that tracks our purchases and certificates and is publicly accessible: <https://nori.com/joro>.

Joro's purchase of carbon removals from Ullrich Charms [was retired immediately on October 8th, 2021](#) and recorded on the blockchain (an immutable public ledger) from Joro's headquarters in Oakland, CA. This ensures that your removals cannot be sold again and that no one other than we can take credit for removing the carbon represented in your certificate. You can view the [confirmation here](#).

Additionality

Nori issues Nori Carbon Removal Tonnes (NRTs) only to growers whose changed farming practices have led to incremental carbon sequestration as compared to previous conventional land management practices. Nori establishes a baseline representing the incremental removal of CO₂ above and beyond farming practices that would have otherwise continued.

Did the project require financial capital from offsets to make the project a reality?

The first farmers Nori is working with began adopting regenerative practices before receiving financial capital from offsets. However, regenerative farming practices can require large upfront costs that may not be recouped for years to come. Revenue from a marketplace like Nori eases the financial burden associated with a switch from conventional to regenerative practices.

It is important to know that current farmers in Nori's marketplace have not made the switch to regenerative agriculture solely for the purpose of our carbon marketplace. All Nori's projects have practice switch dates ranging from 2010-2019. The reason is that the value of carbon credits is not high enough to cover upfront costs associated with regenerative agriculture. This is a sticking point that is stopping the adoption of these practices across farms. To gain widespread adoption of these practices, farmers must see that it is financially beneficial (and possible) to finance the changes (i.e. eventually cover the upfront capital costs for adopting new practices and buying the necessary equipment to do so that will restore soil). Currently, Nori's farmers have all adopted these practices for other reasons.

However, Nori has seen that the example of farmers who are successful in their marketplace encourages others to follow suit and consider adopting these practices, and this is their goal of the pilot period. They believe that as Nori partners, customers, and suppliers build a marketplace for farmers to see financial rewards for the carbon that has been removed, they will begin to see the network effects and multipliers of more farmers adopting regenerative practices and using the additional income they receive from Nori's carbon market to do so.

The Nori marketplace allowed the Ullrich operation to recognize the carbon credits captured through their farming practices and the products they use. Revenue from carbon credit sales eases financial burdens associated with activity such as no-till farming, crop rotation, consistent application of manure, and managing cover crops, all of which need upfront human and technological capital. These funds are also important in easing the decision-making process and implementation of new and continued carbon sequestration practices.

The Ullrich family farm's enrollment in Nori's marketplace is a direct effect of Nori's mission to scale carbon removal efforts, beginning by rewarding early adopters. Adam and Levi took notice of Nori when neighboring farms, such as Kelly Garrett's, found success in selling sequestered carbon in Nori's marketplace. Effectively, the Nori marketplace provides a financial incentive for farmers like Adam and Levi Ullrich to continue implementing regenerative farming practices as good stewards of the land.

How will the project result in carbon reduction or removal that would not have otherwise happened without our purchase?

By paying farmers to remove carbon from the atmosphere through changed farming practices that are beneficial to the planet, Nori is providing them with a revenue stream to further scale their initial effort. Funds from Nori's marketplace encourage and incentivize farmers to expand these practices to larger areas of their farm and also encourage other farmers to manage their land in ways that enable participation in Nori's marketplace and others. Purchases do the work of powering carbon markets. Today, less than 15% of farmers are adopting these sustainable farming practices.

Permanence

What is the duration in years over which the carbon storage or reduction represented by this project's offsets can be reasonably assured? What supporting research would you point to?

For Nori's current methodology, farmers sign a legally binding contract to maintain practices for a minimum of 10 years. See the US Croplands Methodology at nori.com/resources/croplands-methodology.

Ullrich Farms signed a legally binding contract to maintain regenerative farming practices for a minimum of 10 years. Even if the original project owner is no longer a tenant on that land, the Nori contract terms transfer with the land to the new tenant. After 10 years, Nori makes a new baseline publicly available. Nori further guarantees carbon sequestration and storage by maintaining an insurance reserve to replace any lost carbon from unintentional events (e.g., flood, or drought).

Transparency

Nori has created a platform to transparently share projects and buyers of NRTs. Nori also publicly posts project details on their website, including the project owner, practices, timeline, and third-party verification reports. Visit nori.com/registry to view all details and information related to each carbon removal project.

Transformative Potential

Creating a just and sustainable future will require fundamentally transforming our society. We prioritize carbon removal projects that contribute to a world for all life to thrive, considering efficiency, scalability, catalytic potential, ecosystem benefits, and community benefits.

Efficiency

What is the cost per carbon credit (tCO₂e) for this project? Tell us more about your fee structure. Specifically, what percentage of an offset purchase goes towards your company, the project owner, and any other parties involved in the offset project?

Nori's software platform reduces overhead and verification costs, ensuring that the farmer receives the majority of your carbon offset fee. The price of a Nori credit is also set by the farmer. The current price for this project is \$15, which goes directly to Ullrich Farms. Nori adds a 12% transaction fee on top of this amount to cover their administrative, technology, and verification costs for Joro transactions, 3% lower than it does for direct transactions. 1 tonne comes to \$16.80 in this bulk purchase agreement with Joro.

Scalability

Does this offset project represent a solution from Project Drawdown? If so, which one(s)? Can this solution theoretically be scaled up to reduce or remove at least 1 gigaton of carbon dioxide by 2050?

Yes, [Regenerative Annual Cropping](#). According to Project Drawdown, regenerative annual cropping can sequester 14.52-22.27 gigatons of CO₂e between 2020 and 2050: "Total land available for regenerative annual cropping is 685 million hectares, consisting of annual nondegraded cropland of minimal slopes. Current adoption is estimated at 11.84 million hectares."

Catalytic Potential

Nori believes that each farmer paid to sequester carbon provides additional proof of concept that implementing regenerative practices is not only better for soil health, but also for their bottom line. Farmers being paid to sequester carbon through Nori help to grow the supply of carbon removals by inspiring and incentivizing farmers to adopt regenerative farming practices. In addition, funds from Nori's marketplace ease the financial burden of continued and expanded regenerative practices on each individual farmer.

Does this project use a novel approach or a well-tested solution?

Regenerative farming practices are well-tested and proven to restore soil health and sequester carbon. Nori's marketplace is also novel, in acting as an advanced end-to-end marketplace that provides full transparency into the flow of dollars, allowing farmers to set their price, and enabling true price discovery.

Does this project help demonstrate replicability and inspire similar future projects?

Nori's theory of change is that every farmer being paid through Nori provides additional proof of concept that implementing regenerative practices is not only better for soil health, but better for the financial bottom line. Farmers being paid to sequester carbon is intended to inspire and

incentivize additional farmers to make the necessary changes to increase their revenue streams.

How does your project lead to greater innovation in the broader carbon removal field?

Nori's use of blockchain technology addresses a number of issues surrounding the prevention of double counting. Once a credit is retired, it cannot be resold in secondary markets. Additionally, Nori's approach to transparency will inspire other registries and marketplaces to follow suit. There is a need for great transparency in climate mitigation efforts.

Ecosystem Benefits

By encouraging the adoption of regenerative agriculture practices, this project works to improve soil health, halt land degradation, and reduce pollution from pesticides and synthetic fertilizers.

Does this offset project address any [Sustainable Development Goals](#) beyond Climate Action? If so, which three is your solution most closely aligned with? Are these co-benefits tracked and/or measured? If so, how?

Yes, this project addresses several SDGs: Goal 2: Zero Hunger, Goal 8: Decent work & economic growth, Goal 12: Responsible consumption and production, Goal 13: Climate action, Goal 15: Life on land "halt and reverse land degradation". Nori does not quantitatively track the co benefits of projects, but rather works alongside them and hears about benefits gained from qualitative and relationship building efforts.

Community Engagement

Additional revenue in rural agriculture communities means increased economic development within those communities, which may lead to improved access to education, development of more equitable communities. Ullrich Farms are then able to spend more money locally on goods and services, such as fuel, farm inputs, machinery, and food.

Who are your community stakeholders? How are local communities involved or consulted in this project?

Nori's community stakeholders vary by the farming communities they work with. Farming communities are tight-knit. For example, Adam Ullrich is in the same county in Iowa as the second farm to have listed NRTs with Nori: Kelly Garrett. Because Kelly's project was successful and resulted in him receiving payment for storing incremental carbon in his soil, he inspired Adam to enroll his fields in Nori, ensuring the carbon in his soil will be retained. Nori is focused on building relationships with these growers, and being transparent and open to inspire further adoption.

What potential risks do these communities face directly or indirectly related to your work? What steps have you taken to address these risks?

While operating with intensive agricultural practices (intensive soil tillage, monocrop, heavily relying on chemical inputs) has been engineered to become the typical farming practices, the agronomic practices that Nori encourages are practices that have historically been how farmers steward the land. Because these practices are proven and reflect how the land has been cultivated in the past, they present a low risk for farming communities to adopt.

However, anytime farmers change practices it can pose risks, particularly from current practices that require significant equipment and chemical inputs to manage cropping systems, as farming is a business of tight margins and unpredictable outcomes.

What non-carbon benefits from this project accrue to local communities? What are the land use implications on local communities as a result of your projects?

When Ullrich Farms and other small to medium producers sell carbon credits in Nori's marketplace, it provides additional revenues. Additional revenue in rural agriculture communities means more discretionary spending, farmers like them boosts local economies. Adam and Levi Ullrich are now able to spend more money locally on goods and services, such as fuel, farm inputs, machinery, and food.

Risks: What are the primary risks to the success of this offset project?

Primary risks include those to permanence (i.e., reversals due to natural events like flooding and erosion). Permanence may also be in jeopardy by large groups of farmers converting back to conventional farming practices, releasing carbon stocks obtained through periods of regenerative farming.

Nori, and other carbon markets, aim to create incentive structures to avoid reversion to conventional practices.

Additional risk can come in the form of too much land use being converted for farming purposes, which can sometimes release methane (see [source](#)).