



Field to Market®

REGENERATIVE AGRICULTURE GUIDANCE

A Guide to Using Field to Market Resources to Advance Regenerative Agriculture

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INTRODUCTION

With a vision to harness the collective action of the agricultural value chain to support resilient ecosystems and enhance farmer livelihoods, Field to Market is committed to leading efforts that address today’s agricultural challenges.

As regenerative agriculture gains recognition, Field to Market (FTM) is dedicated to developing collaborative, consensus-driven guidance that clarifies regenerative initiatives and provides effective pathways for implementation.

In 2022, FTM, along with its then 140+ members, developed an outcomes-based, consensus-driven definition of regenerative agriculture. Following the creation of this definition, FTM’s Standards Committee, which oversees the creation, refinement, and publication of governance and process documents that enhance the credibility and transparency of FTM programs, was tasked by the Board of Directors to operationalize the definition.

A Regenerative Agriculture Subgroup comprised of members of the Standards Committee and other FTM members was created to ensure the resources developed included perspectives from diverse stakeholders across all five membership sectors - affiliate (universities and public partners), agribusiness, brands & retailers, civil society, and grower. The goal of the subgroup was to develop credible guidance to help members strategically use FTM’s regenerative agriculture definition, the [Fieldprint® Project Standard](#), and the [Fieldprint Platform®](#) to achieve their regenerative agriculture goals.

This guidance equips all actors in the agricultural value chain with essential tools and resources to drive meaningful impact, empowering them to support regenerative actions that enhance soil health, biodiversity, climate resilience and resource efficiency. FTM’s approach ensures that regenerative agriculture remains both actionable and measurable, enabling stakeholders across the supply chain to implement practical solutions that contribute to healthier, more viable farming systems. Recognizing that farm profitability is critical to the success of regenerative agriculture, this guidance highlights innovative finance pathways to support practice adoption and enhance farms’ long-term resilience.

Field to Market’s Regenerative Agriculture Framework , which underpins this guidance, is organized into three pillars: environmental, economic, and social. As a holistic approach, regenerative agriculture not only addresses how management practices impact the natural world, but also how they impact human livelihoods and increase the resilience and sustainability of our agricultural system as a whole. This guidance is informed by Field to Market resources, scientific literature, industry frameworks and expert input. It integrates insights from multiple sources and perspectives to provide a practical, evidence-informed approach to implementing regenerative agriculture principles. A list of the sources consulted is provided at the end of the document.



PURPOSE

Over the past several years, regenerative agriculture practice adoption has increased among farmers, and the term has been used widely across company commitments, marketing campaigns, and a proliferation of definitions within the U.S. and globally. It is important for FTM to help the increasing number of members and farmers committed to this work understand how FTM's programs can measure progress toward regenerative agriculture goals. As new language continues to be introduced to the agricultural industry, FTM understands the confusion surrounding what it means to be sustainable, regenerative, or resilient. Significant overlap exists between these terms and this guidance aims to clarify how FTM's work aligns with these concepts.

As a leader in the industry, FTM is well-positioned to develop a consensus-based definition that ensures value chain stakeholders have a common understanding of what regenerative agriculture means in the context of FTM and across the broader landscape. This definition was created with the support of FTM members and farmers and serves as the foundation of this guidance.

Further, this document illustrates how FTM's mission and vision are aligned with the broader goals of regenerative agriculture and how the Fieldprint Platform tracks the implementation of regenerative practices and measures their environmental outcomes. To account for variability in the application of regenerative principles across crops and regions, FTM uses a flexible, outcomes-focused approach to measurement and implementation. This document also shows how the FTM regenerative agriculture framework aligns with existing frameworks published by other sustainability initiatives and FTM members.

FIELD TO MARKET'S REGENERATIVE AGRICULTURE DEFINITION

WHAT IS REGENERATIVE AGRICULTURE?

Using a systems-based perspective, regenerative agriculture sequesters carbon in the soil and intentionally improves soil health, biodiversity, water quality, and air quality while ensuring the viability of farm production.

Principles of Regenerative Agriculture:

The principles of a regenerative agriculture system are based on Indigenous ways of land management and are adaptive to local conditions and culture.

- Minimize disturbance
- Maintain living roots in soil
- Continuously covering bare soil with crop residue
- Maximize diversity with an emphasis on crops, soil microbes, and pollinators
- Integrate livestock where it is feasible

What is Sustainable Agriculture?

Field to Market defines sustainable agriculture as meeting the needs of the present while improving the ability of future generations to meet their own needs by:

- Increasing productivity to meet future food, feed, fiber and fuel demands
- Improving the environment
- Improving human health
- Improving the social and economic well-being of agricultural communities

While Field to Market’s definition of regenerative agriculture was recently developed, Field to Market’s definition of sustainable agriculture has been utilized for many years. These terms are related, yet there are notable distinctions between the two. Regenerative agriculture has a specific focus on restoring environmental processes that have been degraded, with an emphasis on improving soil health. Sustainable agriculture is more focused on maintaining and preserving natural resources so that they remain available and viable for future generations.

Despite their differences, these two management frameworks have similar goals of reducing environmental impacts and supporting human well-being. Viability of farm production and meeting the needs of the present speak to the economic vitality of both systems. It is important to point out that farms must be profitable if they are to be sustainable or regenerative. Regenerative and sustainable agriculture are not mutually exclusive, and the same practices can fall under both management systems. Furthermore, FTM’s farm measurement tool, the Fieldprint Platform, can be used to analyze environmental indicators that align with both regenerative and sustainable agriculture principles.

Positive Outcomes of Field To Market Regenerative Agriculture Principles

Regenerative agriculture offers specific mechanisms for achieving the broad goals of sustainable agriculture and improving soil health, farm resilience, and long-term viability. Examples of benefits associated with each of FTM’s five regenerative agriculture principles are outlined below:



Minimizing Soil Disturbance

- Improves soil conservation, which is important for productivity
- Improves soil structure and soil water holding capacity
- Reduces turbidity of nearby water sources, an indicator of water quality
- Reduces pesticide and nutrient losses into waterways, thereby improving water quality and protecting human health



Maximizing Diversity

- Contributes to an integrated approach to pest management by disrupting pest cycles and supporting a genetic reservoir for biocontrol
- Improves the environment by supporting a wider community of organisms occupying different ecological niches



Maintaining Living Roots in Soil

- Supports functional microbial populations that may make soil nutrients more available to crop roots and increase productivity
- Improves soil structure and soil water holding capacity



Integrating Livestock

- Improves soil structure and soil water holding capacity
- May reduce commercial fertilizer needs
- Fosters soil microbial function, thereby improving productivity
- Supports the economic and social well-being of communities where animal agriculture occurs



Continuously Covering Bare Soil

- Improves soil conservation, which is important for productivity
- Creates wildlife habitat and supports biodiversity

It is important to note that there may be trade-offs between these principles and potential outcomes. Each farm is unique and requires a tailored management system that takes into account factors such as climate, crop species, and available resources to optimize positive results. While the benefits listed above may vary across geographic regions and timeframes, they reflect the type of positive impacts that can be achieved when regenerative practices are adapted to the local context and farming system.

FIELD TO MARKET'S FIELDPRINT PLATFORM

The Fieldprint Platform is FTM's field-level measurement tool and assessment framework that empowers brands, retailers, suppliers, and farmers at every stage in their sustainability journey to measure the environmental impacts of commodity crop production and identify opportunities for continuous improvement in U.S. agriculture. This free, online, pre-competitive, and confidential tool helps farmers voluntarily and securely analyze how their management choices impact natural resources and production efficiency. The Fieldprint Platform can then be used to establish baselines and track how management practices impact the environmental footprint of farm operations.

QUICK FACTS:

- ▶ **The Fieldprint Platform produces scores for eight environmental indicators simultaneously.** These include biodiversity, energy use, greenhouse gas (GHG) emissions, irrigation water use, land use, soil carbon, soil conservation, and water quality. The indicators were developed via a strong multi-stakeholder process, using the latest science that can be applied at scale. They are updated regularly with the support of Field to Market member-led Metrics Committee to ensure scientific accuracy and validity.
- ▶ **Farm-specific data drives the Fieldprint Platform.** Once a user enters a field boundary, soil properties are automatically obtained from U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Soil Survey Geographic Database. Then, users enter management information about their operation to generate a Fieldprint Analysis to evaluate their sustainability performance.
- ▶ **Scores for each Fieldprint Platform indicator can be compared to state, national, and project benchmarks.** The Fieldprint analysis includes a radar chart, typically called a spidergram, that graphically illustrates the performance of a farmer's unique operation across all eight indicators. This visual report is supported by results presented in tabular form.
- ▶ **18 commodity crops can be analyzed using the Fieldprint Platform.** These include alfalfa, barley, chickpeas, corn (grain and silage), cotton, peanuts, potatoes, pulses (dry beans, dry peas, fava beans, lentils, lupin), rice, sorghum, soybeans, sugar beets, and wheat. This list will continue to grow and include new crops based on member needs.
- ▶ **The Fieldprint Platform calculations integrate forage production and manure application.** Environmental outcomes can be measured for crops like alfalfa and corn for silage. Manure is captured in the Energy Use and GHG Emissions indicators, and the soil carbon model estimates the impact of organic additions from manure applications. While the Platform doesn't fully integrate livestock systems at this time, the indicators incorporate aspects relevant to farms with livestock.
- ▶ **Collaboration with Qualified Data Management Partners increases farmers' access to the Fieldprint Platform.** These select farm management, precision agriculture, and decision support providers integrate Fieldprint Platform indicators into their tools and software. Through the Fieldprint API, farmers can simultaneously evaluate productivity, profitability and sustainability options as a part of their planning process.
- ▶ **The Fieldprint Platform is updated regularly to meet member needs and incorporate the latest science and technology available.** Fieldprint Platform Version 5.0, launching Summer 2025, features significant updates including a new quantitative Soil Carbon indicator, revised GHG Emissions and Energy Use indicators, and a refreshed user interface.
- ▶ **FTM's Fieldprint Project Framework enables organizations to engage groups of farmers in using the Fieldprint Platform.** These collaborative projects support local implementation and supply chain reporting by providing aggregated insights to project partners while maintaining farmer anonymity and data privacy.

FIELD TO MARKET’S REGENERATIVE AGRICULTURE FRAMEWORK

Field to Market’s Regenerative Agriculture Framework is organized into three pillars: environmental, economic, and social. The Fieldprint Platform is a tool specifically designed to measure the environmental impact of agricultural practices. Field to Market also recognizes that economic resilience and viability is imperative to any successful regenerative agriculture program. Supporting the people who bring these systems to life and rely upon their benefits is also of vital importance. Field to Market is committed to bringing these three foundational elements together – improving environmental footprint, economic resilience, and social well-being – to support stakeholders across the agricultural value chain.



ENVIRONMENTAL

Regenerative agriculture, as defined by FTM, impacts five primary environmental categories: biodiversity, climate, land, soil, and water. Each category is associated with specific indicators that are related to desired outcomes, which can be measured and tracked using the Fieldprint Platform.

The Platform enables farmers and the supply chain partners to measure and track progress towards regenerative goals based on management decisions made at the field-level.

This framework is not a rulebook, but rather a resource to guide users through the process of understanding, implementing, and tracking regenerative practices and associated impacts using the Fieldprint Platform®.

Biodiversity

Biodiversity can be influenced by many factors including natural habitat, species diversity, and ecosystem integrity. Maximizing biodiversity through habitat conservation and integrated pest management are key principles of regenerative agriculture.



Biodiversity - Measured through the Fieldprint Platform with the Habitat Potential Index (HPI), which scores the potential for a given field to support habitat on croplands. HPI scores range from 0-100 and measure the level of opportunity to improve or maximize habitat potential. The following data impact this score: land use change (in the past five years), residue cover (tillage practices), crop rotation, cover crops, nutrient management, pest management, including integrated pest management (IPM), water conservation, drainage water management, and wildlife enhancements on cultivated land (providing foraging habitat, breeding/nesting habitat, or seasonal flooding for rice).

Climate

Fieldprint Platform Version 5.0 (released summer 2025) includes three updated indicators that help farmers understand their progress towards climate-related goals. Greenhouse Gas (GHG) Emissions, Energy Use, and Soil Carbon indicators can be used to measure and track the impact of regenerative practices. Regenerative agriculture practices can enhance soil carbon sequestration and reduce greenhouse gas emissions by optimizing input use, reducing energy consumption, increasing on-farm resource efficiency, and improving soil health.



Energy Use - Estimates the cumulative energy demand (CED) associated with producing a given crop. The CED accounts for the primary energy, from fossil and non-fossil sources, used throughout the life cycle, including upstream supply chains. Specifically, the indicator incorporates:

- Upstream energy use associated with electricity generation and distribution, transportation of agricultural inputs, and production of fuels, fertilizers, pesticides, and seed;
- Mechanical energy use associated with mobile and stationary machinery on-farm; and
- Post-harvest energy use associated with mobile and stationary machinery outside the farm.

Energy use is reported as megajoules (MJ) / kg crop output in System of Units (SI units) and British Thermal Units (BTU) per crop production unit (e.g. BTU / bushel) in United States Customary System Units (USCS units).



GHG Emissions - Estimates emissions associated with producing a given crop and includes:

- Upstream emissions associated with electricity generation and distribution, transportation of agricultural inputs, and production of fuels, fertilizers, pesticides, and seed;
- Mechanical emissions associated with mobile and stationary machinery on-farm;
- Non-mechanical emissions associated with field-level CH₄ flux from non-flooded soils, CO₂ from carbonate lime applications to soils, CO₂ from urea fertilizer applications, non-CO₂ emissions from biomass burning, direct land use change emissions, soil N₂O, CH₄ emissions from flooded rice cultivation, and CO₂ from soil carbon stock changes; and
- Post-harvest emissions associated with mobile and stationary machinery outside the farm.

It is reported as kg CO₂e / kg crop output in SI units and lb CO₂e / crop production unit (e.g. lb CO₂e / bushel) in USCS units.



Soil Carbon - Uses Soil and Water Assessment Tool Plus (SWAT+), a process-based model, to estimate soil organic carbon dynamics. This model estimates annual soil carbon stock changes from consecutive calendar years for a given field boundary, using crop rotation and management history from 2008 to the latest available growing season. Specifically, the SWAT+ model simulates soil carbon stock, fluxes among carbon and nitrogen pools, and CO₂ emissions by soil horizon, as well as carbon and nitrogen loss through runoff, lateral flow, and percolation through the soil profile. The model output is reported as kg CO₂e / ha / year in SI units and in lb CO₂e / acre / year in USCS units.

Land

The land category refers to land management and land use impacts. Regenerative agriculture practices can optimize land efficiency by improving soil function, allowing for sustained or increased yield without requiring additional land. The Fieldprint Platform helps assess these impacts by providing insights into land use efficiency through the land use indicator.



Land Use - Determines productivity by accounting for the planted area used to produce a crop. Land use efficiency is a measure of the amount of land (acres) used to produce a unit of crop (bushels, pounds). The land use measurement is the inverse of yield (e.g., acres / bushel).

Soil

The soil category relates to soil conservation and soil health and is analyzed using the Fieldprint Platform’s soil conservation indicator. Regenerative agriculture practices can improve soil structure and soil water holding capacity, which reduce soil erosion.



Soil Conservation - A measure of soil lost to erosion from water and wind, calculated using the USDA NRCS Integrated Erosion Tool (IET), which is comprised of two models—WEPP (Water Erosion Prediction Program) and WEPS (Wind Erosion Prediction Service) and expressed as tons of soil lost per acre (i.e., ton/acre/year).

Water

The water impact category refers to water quality and water quantity and is analyzed using the Fieldprint Platform’s Irrigation Water Use and Water Quality indicators. Regenerative practices can enhance water efficiency by improving soil water infiltration and retention capacity while reducing run-off and nutrient loss, contributing to long-term water resource sustainability.











Irrigation Water Use - An efficiency indicator that accounts for the amount of water used to achieve an incremental increase in crop yield compared to non-irrigated conditions. This is calculated by dividing the total water used (acre-inch) by the yield gain from irrigation, which is the difference between irrigated and (estimated) non-irrigated yield. The measurement is reported as acre-inches per unit of crop production increase (e.g., ac-in / bushel).



Water Quality - Uses USDA NRCS’s Stewardship Tool for Environmental Performance (STEP) to assess the risk of losing nitrogen (N) and phosphorus (P) to waterways for a given field and analyze how well nutrient losses are being mitigated by farm management practices. The score for each nutrient loss pathway is a ratio of how effective management practices are at mitigating nutrient loss (Risk Mitigation Score [RMS]) to how sensitive the field is to nutrient loss (Field Sensitivity Score [FSS]).

Table 1 illustrates the relevant categories, indicators, outcomes, and measurement units for FTM’s regenerative agriculture framework. For more detailed information on the breakdown of the Fieldprint Platform indicators and measurement units, please view [Field to Market’s Metrics Documentation](#).

Table 1: Field to Market’s Regenerative Agriculture Framework - Environmental Pillar Overview: primary categories, indicators, outcomes, and measurement units.

Primary Environmental Categories	Indicators	Outcomes	Measurement Units
Biodiversity	 Biodiversity	Increased support for habitat	Realized habitat potential (0-100%)
Climate	 Energy Use	Reduced Energy Use	Btu per crop production unit
	 GHG Emissions	Reduced GHG emissions	Lbs CO ₂ e per crop production unit
	 Soil Carbon	Increased carbon sequestration	Kg CO ₂ e/ ha / year
Land	 Land Use	Optimized land use efficiency for crop production	Acres per crop production unit
Soil	 Soil Conservation	Minimized soil erosion	Ton of soil lost per acre per year
Water	 Irrigation Water Use	Increased water use efficiency	Ac-in per unit of crop production increase
	 Water Quality	Reduced nutrient loss risk to waterways	Ratio of the Risk Mitigation Score (RMS) to Field Sensitivity Score (FSS) for P and N levels

Impacts of Regenerative Agriculture Practices & Principles on Fieldprint Platform Indicators

There are many practices farmers can implement to achieve regenerative outcomes. A suite of options is outlined in this document, including a non-exhaustive list of potential regenerative practices that can be used to customize management choices and achieve regenerative outcomes.

Table 2 (below) shows how common regenerative practices impact the Fieldprint Platform’s indicators. This analysis is based on the inputs required to calculate each indicator and is intended to show users which practice they might adopt to achieve desired outcomes.



All practices will impact the environmental indicators, with some having more direct and immediate impacts on calculations and others having indirect or more long-term impacts by improving underlying conditions over time, which may not be immediately reflected in the indicator’s result. For example, implementing conservation tillage will have direct impacts on the Biodiversity, Energy Use, GHG Emissions, Soil Carbon, Soil Conservation, and Water Quality indicators, and may have indirect impacts on the Irrigation Water Use and Land Use indicators. *The circles in the table below show the impact (direct, indirect) each practice would have on the Fieldprint Platform indicators.* Not all impacts are positive, for example, planting cover crops may have a direct, but negative impact on Energy Use due to additional fuel combusted while planting and terminating the cover crops.

Table 2: Common Regenerative Agriculture Practices’ Impact on the Fieldprint Platform Indicators









Example of Practices	Biodiversity	Energy Use	GHG Emissions	Soil Carbon	Land Use	Soil Conservation	Irrigation Water Use	Water Quality
Conservation Tillage (strip and no-till)	●	●	●	●	○	●	○	●
Cover Crops	●	●	●	●	○	●	○	●
Crop Rotation	●	○	○	●	○	●	○	●
Nutrient Management	●	●	●	●	○	○	○	●
Water Management (rice production)	●	○	●	○	○	○	●	●

● Direct Impact ○ Indirect Impact

Note: Water management is included for rice fields only. It is important to note that FTM’s Regenerative Agriculture Guidance is outcomes-based rather than prescriptive. The practices referenced here are not intended to be exhaustive, and not all practices are applicable to every crop. This table provides a simplified version of which outputs will change based on practices implemented. For a deeper dive into which inputs are used to calculate each indicator, see the [FTM Metrics Documentation](#). It is important to note that there are many factors, including region, crop, and climate, that may also affect environmental outcomes.

Various regenerative principles align with the Fieldprint Platform’s eight environmental indicators, as outlined in Table 3 below. This table includes the inputs used for the Fieldprint Platform and the indicators that are impacted in conjunction with desired regenerative outcomes. *The circles in the table below show the impact (direct, indirect) these principles, and potential supporting practices, would have on the Fieldprint Platform indicators.*

Table 3: Regenerative Agriculture Principles, Practices, and Fieldprint Platform Indicators

Principles	Examples of Practices	Fieldprint Platform Inputs	 Biodiversity	 Energy Use	 GHG Emissions	 Soil Carbon	 Land Use	 Soil Conservation	 Irrigation Water Use	 Water Quality
Minimizing soil disturbance	Transitioning from conventional till to strip-till or no-till	Tillage type and intensity	●	●	●	●	○	●	○	●
	Using less intensive tillage implements or fewer tillage passes	Edge of field practices								
Maintaining living roots in soil	Planting cover crops after a cash crop or double cropping	Cover crops, crop diversification, crop rotation, rotation complexity	●	●	●	●	○	●	○	●
	Growing perennial crops Edge-of-field practices	Other NRCS conservation practices								
Continuously covering bare soil	Diversifying crop rotations, including cover crops	Cover crops, crop diversification, crop rotation, rotation complexity	●	●	●	●	○	●	○	●
	Planting buffer strips, vegetative cover, or other edge-of-field practices	Reduced tillage, other NRCS conservation practices								
Maximizing diversity with emphasis on crops, soil microbes and pollinators	Diversifying rotations, including cover crops	Adoption of diverse cash and cover crop rotations, other NRCS conservation practices	●	○	○	○	○	○	○	●
	Planting pollinator strips and other living edge-of-field practices	In-field and edge-of-field practices								
Integrating livestock where feasible	Application of manure	Manure application	○	●	●	●	○	○	○	○
	Rotational grazing	Alfalfa production								
	Grazing fields after harvest									

● Direct Impact ○ Indirect Impact

Table 2 and Table 3 analyze Fieldprint Platform indicators specifically, taking into consideration the inputs that are used to calculate each output. For instance, rather than showing generalized impacts a practice might have on biodiversity as a concept, this table shows how practices would directly impact the field scores for the biodiversity indicator in the Fieldprint Platform. These indicators have been designed to reflect on-the-ground realities, ensuring the platform provides practical and accurate insights.

Case Study

This fictional case study is based on a simulation under realistic conditions using crop enterprise budgets to provide a practical example of how farmers can use the Fieldprint Platform to measure and track the impacts of regenerative practices across their fields. This case study uses Fieldprint Platform Version 4.2's Soil Carbon, GHG Emissions, and Soil Conservation indicators.



Goal: Organization A wanted to improve its environmental impact by working with farmer-suppliers to implement regenerative practices. A Fieldprint Project was started with farmers in Georgia to implement regenerative practices and track the impacts using the Fieldprint Platform.

Crops: Cotton and peanuts

Project Duration: 13 years (2011-2023), implemented in 4 phases:

1. **Phase 1 (2011–2013):** Collected baseline data using conventional practices in a cotton–cotton–peanut rotation.
2. **Phase 2 (2014–2016):** Introduced strip-till as the first regenerative practice; farmers continued the same crop rotation.
3. **Phase 3 (2017–2019):** Continued strip-till and introduced cover crops for one season in 2019.
4. **Phase 4 (2020–2023):** Maintained strip-till and implemented cover cropping after every harvest.

Practices Implemented:

- **Strip-till:** Strip tillage creates a narrow band of “tilled” soil, while leaving the remainder of the field undisturbed. This undisturbed soil reduces soil erosion, increases pore space development through the soil profile, and generally increases overall soil health. Strip tillage creates a tilled zone of soil conducive to good soil to seed contact, promoting quick and uniform germination.
- **Cover crop:** Cover crop is growing a crop of grass, small grain, or legumes primarily for seasonal protection and soil improvement. This practice is used to control erosion, add fertility and organic material to the soil, improve soil tilth, increase infiltration and aeration of the soil, and improve overall soil health.
- **Crop rotation:** Growing a planned sequence of various crops on the same piece of land for a variety of conservation purposes, including improved soil health, reduced pest and disease pressure, and overall system resilience.

By entering their data into the Fieldprint Platform, farmers can analyze the impacts that these regenerative practices have on the Fieldprint Platform’s eight environmental indicators for each field. Tracking this information provides useful data insights that can help guide management decisions and reduce a farm’s environmental footprint.

For this example, data and results shown are from an individual field. Results are broken down by indicator and discussed below.

Simulated Input Data: Practices implemented and parameters for each year in the study.

Year	Type	Crop	Rotation	Soil Erosion	Soil Carbon Index	Irrigated Yield	N	P ₂ O ₅	K ₂ O	Rotation Diesel Usage
				ton/ac/yr	Index	lb/acre	lb/acre	lb/acre	lb/acre	gal/acre
2011	Irrigated	Cotton	Conventional	3.4	-0.26 (depleting)	800	80	40	40	6.3
2012	Irrigated	Cotton	Conventional	3.3	-0.24 (depleting)	900	85	45	45	5.9
2013	Irrigated	Peanuts	Conventional	3.2	-0.22 (depleting)	4000	0	40	40	8.1
2014	Irrigated	Cotton	Strip-till	2.1	0.12 (increasing)	1000	90	45	45	6
2015	Irrigated	Cotton	Strip-till	2.1	0.12 (increasing)	950	80	40	40	6
2016	Irrigated	Peanuts	Strip-till	2.1	0.13 (increasing)	4300	0	40	40	6
2017	Irrigated	Cotton	Strip-till	1.8	0.15 (increasing)	1000	95	45	45	6
2018	Irrigated	Cotton	Strip-till	1.7	0.18 (increasing)	1100	95	45	45	6.4
2019	Irrigated	Peanuts	Strip-till-1-yr-cover-crop	1.8	0.15 (increasing)	4500	0	40	40	8.4
2020	Irrigated	Cotton	Strip-till-cover-crop-each-yr	1.1	0.19 (increasing)	1000	95	45	45	8.5
2021	Irrigated	Cotton	Strip-till-cover-crop-each-yr	1.1	0.19 (increasing)	1000	95	45	45	8.8
2022	Irrigated	Peanuts	Strip-till-cover-crop-each-yr	1.1	0.21 (increasing)	4700	0	40	40	8.5
2023	Irrigated	Cotton	Strip-till-cover-crop-each-yr	1.2	0.19 (increasing)	950	80	35	35	8.5

Results: Analyzing impacts of reduced tillage and cover crops on a few Field to Market environmental indicators



Soil Carbon

The Soil Carbon indicator predicts that soil carbon will increase starting in 2014 when tillage is first reduced, and the score stays high for the remainder of the study. In this study, the Soil Carbon scores changed from negative to positive from the first year strip-till was introduced, predicting that conservation tillage rotation builds soil organic matter. Reducing tillage minimizes soil carbon loss, and planting cover crops can increase soil organic matter, contributing to an overall increase in soil carbon.

Understanding the Indicator: Data for this study analyzed soil carbon sequestration using the Soil Conditioning Index (SCI), which

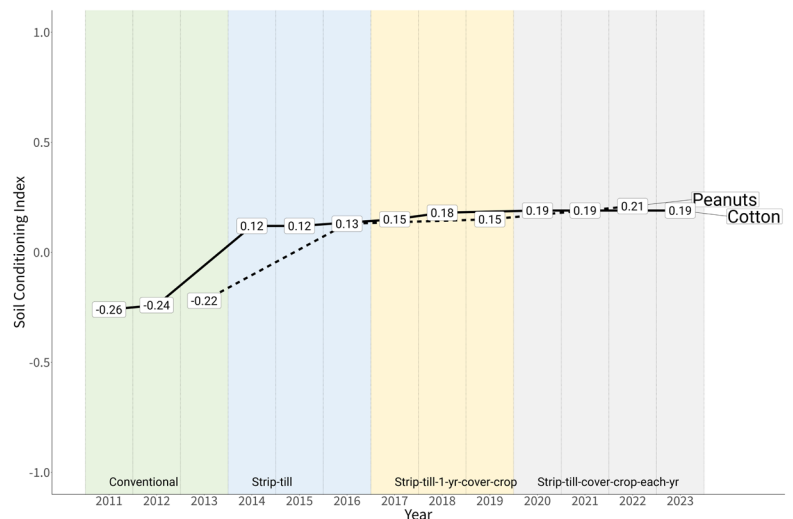


Figure 1: Soil Conditioning Index Score for Cotton-Cotton-Peanut Rotation 2011-2023

will be replaced in the Fieldprint Platform by the SWAT+ model in Summer 2025. SCI is a qualitative, directional measure of how soil carbon is impacted by the organic matter and crop residue on your field, the soil lost to wind and water erosion, and soil impacting characteristics of your field operations. The SCI returns a value between -1 and 1 for each field; a positive value predicts increasing soil carbon, a neutral value (between -0.05 and 0.05) predicts maintaining soil carbon, and a negative value predicts losses of soil carbon. **The magnitude of the index reflects confidence in the directionality and does not indicate a higher or lower quantity of carbon in the soil.**



Soil Conservation

The Soil Conservation score improved (erosion decreased) when tillage was first reduced in 2014 and continued to improve as cover crops were added to the rotation. From 2011 to 2021, erosion decreased by approximately 65% for the cotton-peanut rotation, demonstrating that these practices help prevent wind and water erosion. A minor increase in erosion is observed in the final year due to yield variability in the simulation, which resulted in less crop residue to cover the soil. However, overall erosion levels remain well below the initial baseline under conventional tillage. Reduced tillage and cover crop planting improve soil structure, increase water retention, and minimize erosion and soil loss across a field.

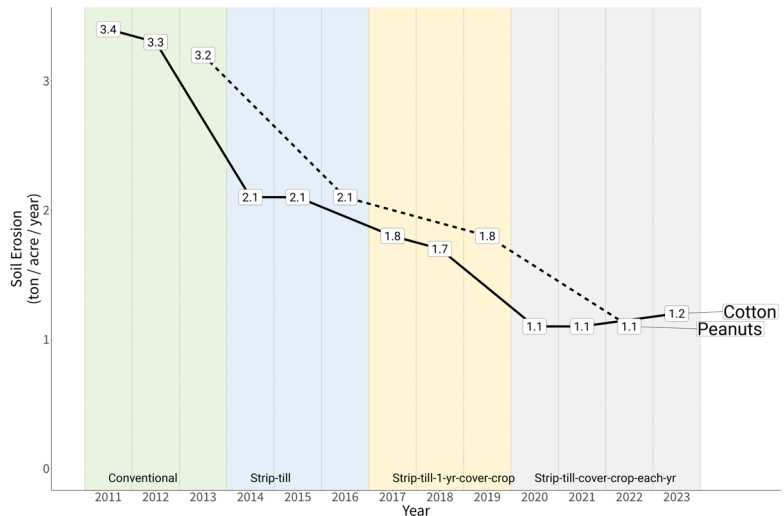


Figure 2: Soil Erosion for a Cotton-Cotton-Peanut Rotation 2011-2023

Understanding the Indicator: The Soil Conservation indicator measures the soil lost to erosion from water and wind and is expressed as tons of soil lost per acre per year (e.g., ton/acre/year). **Lower numbers are desirable and indicate less soil lost from erosion per acre.**



GHG Emissions

Overall, there was a slight decrease in GHG emissions from 2011 to 2023, though there were fluctuations. GHG emissions decreased when the farmer reduced tillage in 2014, a result of less fuel combustion due to fewer passes over the field for tilling. The GHG Emissions score for cotton increased slightly when cover crops were planted, which required an extra pass over the field (more fuel) to plant the seeds and an additional operation to terminate the cover crop. Overall, the GHG emissions per crop unit produced decreased by 9.9% for peanuts and 10.5% for cotton.

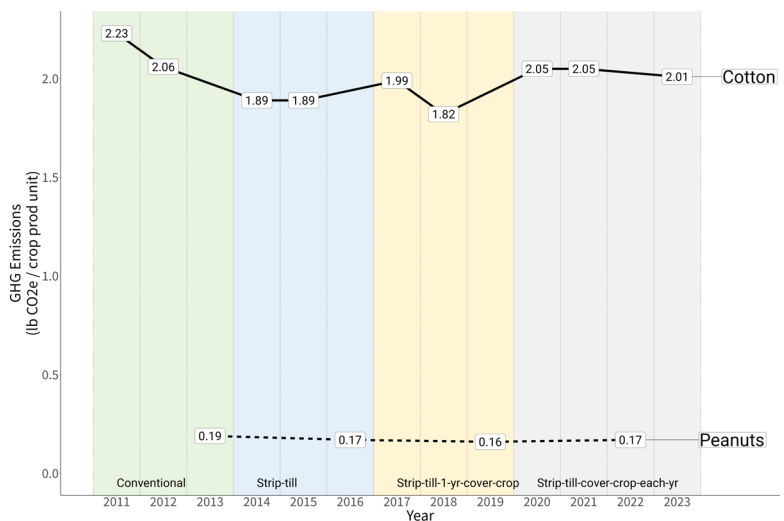


Figure 3: GHG Emissions for a Cotton-Cotton-Peanut Rotation 2011-2023

Understanding the Indicator: Data for this study were analyzed using the Fieldprint Platform GHG Emissions indicator, which will be updated in Summer 2025. The GHG Emissions indicator

shown here calculates the total emissions from four main sources – energy use, nitrous oxide emissions from soils, methane emissions for rice, and emissions from residue burning. Greenhouse gas emissions are reported as pounds of carbon dioxide equivalent (CO₂e) per crop unit produced (e.g. pounds). “CO₂e” means the N₂O and CH₄ emissions are converted to the equivalent amount of CO₂, to provide a common unit of all emissions in one measure, which is comparable over time and influenced by all the actions a farmer takes. **Low scores are desirable and indicate less greenhouse gas emitted per unit of crop yield.**

Summary: This simulation models the results a farmer might see if they were to gradually implement regenerative practices across their field. The results discussed here reflect a subset of Fieldprint Platform indicators. In reality, the Fieldprint Platform analyzes all eight indicators (biodiversity, energy use, GHG emissions, irrigation water use, land use, soil carbon, soil conservation, and water quality) simultaneously and provides scores for each in the final report. Planting cover crops and reducing tillage drive progress towards regenerative goals by helping to minimize disturbance, maintain living roots, and cover bare soil. In this example, soil carbon and soil conservation scores improve as these practices are implemented. Implementing a single regenerative practice will not dramatically improve all indicators at once. There may be trade-offs associated with practice implementation, as seen with the GHG Emissions indicator in this example. To optimize results, farmers may implement multiple practices that work together to improve outcomes, strengthen different aspects of the system and create a more holistic management approach that increases farm resilience.



Note: This fictional case study illustrates how a regenerative agriculture project might evolve over time through phased implementation. Results and timelines are site-specific and will vary based on geography, soil type, crops, climate, and other local factors. While this example spans 13 years, real-world Fieldprint projects using the Platform can generate meaningful insights and measurable impact in shorter timeframes.

ECONOMIC

Understanding the financial risks farmers face in adopting regenerative systems in addition to the agronomic risks is essential to developing meaningful incentive programs to support the implementation of regenerative practices. The guidance in this economic section will continue to evolve as the economic component of the framework is further developed.

In 2022, FTM developed an economic guidance titled [“Financial Innovations to Accelerate Sustainable Agriculture: Blueprints for the Value Chain.”](#) which outlines collaborative approaches value chain actors can employ to support farmers in addressing the agronomic and financial risk of scaling regenerative and sustainable agriculture practices. Below is a brief overview of the five financial pathways that are detailed in this resource.



Sustainable Finance

Sustainable finance incorporates responsible business goals into financial portfolio selection and management. It includes an array of loans, debt relief mechanisms, and investments that are used to encourage the development of new environmental activities or minimize the impact on the environment of existing activities.



Pay for Performance

Pay for Performance programs compensate farmers for the environmental outcomes they produce (i.e. reduced greenhouse gas emissions, improved water quality, and carbon sequestration) as a result of adopting regenerative practices.



Blended Finance

Blended finance is the use of catalytic capital from public or philanthropic sources to increase private sector investment in sustainable development.



Transition Risk Sharing

Innovative risk sharing mechanisms bear particular promise when a new practice is likely to be profitable and successful most of the time, or after an initial transition period, but evidence suggests that the risk of the transition is hindering farmer adoption of the practice. Examples of transition risk sharing include:

- i. Sustainability-linked crop warranty
- ii. Sustainability-linked crop insurance subsidy
- iii. Post-Application Coverage Endorsement (PACE) crop insurance endorsement
- iv. Sustainable reference price



Land Tenure and Leasing

Leases can incentivize conservation by setting expectations regarding the use of certain practices or management systems and outline the responsibilities between parties in how costs, risks, and benefits will be shared in the transition to or use of regenerative practices. Landowner cost-share or modification of lease terms to accommodate such practices can be part of this discussion.

These blueprints offer a starting point for exploring how financial mechanisms can support farmers in adopting regenerative practices. As a reminder, this guidance will be updated as the economic component of the framework is further developed.

SOCIAL

Regenerative agriculture also prioritizes positive impacts on farmer livelihoods and farming communities. Recognizing the importance of the social aspects of regenerative agriculture, FTM is developing guidance to help users understand and track social impacts, promote positive social outcomes, and build resiliency within the agricultural sector. This resource will support the assessment of social factors, ensuring that regenerative agriculture benefits not only the environment and the value chain, but also the people who sustain it. The social pillar of the Regenerative Agriculture Framework will be further developed as the guidance evolves.



ALIGNMENT WITH EXISTING FRAMEWORKS

As this guidance was developed, FTM wanted to ensure that the definitions, categories, and indicators included were aligned with existing regenerative agriculture frameworks. The language and metrics used by other sustainability initiatives and FTM member organizations were analyzed to identify similarities and differences across frameworks. Please see the tables below for a comparison.



REGENERATIVE AGRICULTURE FRAMEWORK COMPARISON

Guided by a multi-stakeholder process ensuring all food, feed, fiber and fuel voices, including growers, are incorporated, Field to Market’s Regenerative Agriculture Framework stands out amongst its peers. Table 4 (below) shows the different categories used by each regenerative agriculture framework analyzed. This table compares frameworks published by Field to Market, the Sustainable Agriculture Initiative Platform (SAI), the Textile Exchange, the World Business Council for Sustainable Development (WBCSD), Nestlé, PepsiCo, and Unilever. View the Appendix for a [detailed comparison](#) of these categories across these regenerative agriculture frameworks. All frameworks included in the comparison are also listed in the [Source section](#) for full reference and access to the complete documents.

Table 4: Framework Category Comparison

Organization	Environmental					Economic	Social
	Biodiversity	Climate	Land	Soil	Water		
Field to Market	●	●	●	●	●	<i>Under development</i>	<i>Under development</i>
SAI	●	●		●	●	<i>Under development</i>	<i>Under development</i>
Textile Exchange	●	●		●	●	●	●
WBCSD	●	●		●	●	●	●
Nestlé	●	●		●	●	●	●
PepsiCo	●	●		●	●	●	●
Unilever	●	●		●	●	●	●

While there may be a number of definitions of regenerative agriculture, Table 5 highlights those that are accompanied by an associated framework, offering both a definition and a structured approach. These examples are drawn from other sustainability initiatives as well as Field to Market members. A full list of [sources](#) can be found at the end of this document.

Table 5: Comparing Different Frameworks’ Regenerative Agriculture Definitions and Principles

Organization	Regenerative Agriculture Definition	Regenerative Agriculture Principles
Field to Market	Using a systems-based perspective, regenerative agriculture sequesters carbon in the soil and intentionally improves soil health, biodiversity, water quality, and air quality while ensuring the viability of farm production.	<ul style="list-style-type: none"> • Maintaining living roots in soil • Minimizing soil disturbance • Continuously covering bare soil • Maximizing diversity with emphasis on crops, soil microbes and pollinators • Integrate livestock where it is feasible
SAI	An outcome-based farming approach that protects and improves soil health, biodiversity, climate, and water resources while supporting farmer livelihoods.	
Textile Exchange	<p>Textile Exchange takes the view that the Regenerative Agriculture concept is inclusive of the following:</p> <ul style="list-style-type: none"> • A view of agriculture that works in alignment with natural systems, recognizing the value and resilience of interconnected and mutually beneficial ecosystems vs. extractive agriculture systems. • An acknowledgment that Indigenous and Native peoples have been employing this approach to growing food and fiber for centuries—it is not a new concept—and that regenerative agriculture must include a focus on social justice. • A holistic, place-based, outcome-focused systems approach, not a “one-size-fits-all” checklist of practices. 	<ul style="list-style-type: none"> • Minimize and ideally eliminate external inputs; maximize on-farm inputs. • Integrate livestock whenever possible given the cropping system. • Reduce tillage to preserve the life in the soil (by utilizing no-, minimal-, or conservation-tillage). • Aim for and monitor a broad and holistic set of outcomes including soil health, biodiversity, animal welfare, social justice, and the economic well-being of farmers and communities.
WBCSD	Related to agroecological evidence and principles, regenerative agriculture is a holistic, outcome-based farming approach that generates agricultural products while measurably having net-positive impacts on soil health, biodiversity, climate, water resources and farming livelihoods at the farm and landscape levels. It aims to simultaneously promote above- and below-ground carbon sequestration, reduce GHG emissions, protect and enhance biodiversity in and around farms, improve water retention in soil, reduce pesticide risk, improve nutrient-use efficiency and improve farming livelihoods.	

Organization	Regenerative Agriculture Definition	Regenerative Agriculture Principles
Nestlé	A holistic approach to farming that actively supports the three key agricultural resources – biodiversity, water and soil – and which can benefit communities as part of a just transition.	The Nestlé model brings regenerative agriculture to life through five pillars: biodiversity; water stewardship; soil health; diverse cropping systems and livestock integration; and collective and landscape action.
PepsiCo	A system of farming principles and practices that seeks to create a resilient farming system by rehabilitating and enhancing the farming ecosystem. It is a method of farming that aims to improve the resources it uses, rather than destroying or depleting them. At its heart, it is about ensuring financial profitability, community resilience, and ecological viability to enable farmers to keep farming into the future.	The core goal of regenerative agriculture is to improve the resilience of the agricultural system to adapt to and flourish as the world and the climate changes. It does this by placing a heavy premium on soil health with attention also paid to greenhouse gas emissions, water management, agricultural inputs, biodiversity and community.
Unilever	An approach to farming that focuses on regenerating nature, building long-term resilience into our food supply chain and helping farmers adapt to the worsening impacts of climate change while helping to mitigate the problem.	<ul style="list-style-type: none"> • Have positive impacts from agricultural practices on soil health, water and air quality, carbon capture and biodiversity. • Enable local communities to protect and improve their environment and well-being. • Produce crops with sufficient yield and nutritional quality to meet existing and future needs, while keeping resource inputs as low as possible. • Optimize the use of renewable resources while minimizing the use of non-renewable resources.

ADDITIONAL FRAMEWORKS

The additional global frameworks analyzed here are primarily designed for climate and nature goals but can still inform efforts related to regenerative agriculture, as many of their impact areas align with regenerative agriculture. Here, key categories and topics covered are broken down to show connection to FTM’s Regenerative Agriculture Framework.

Science Based Targets Network (SBTN)

SBTN guidelines are organized into four primary impact categories: land, freshwater, biodiversity, and ocean.

- The **land** category includes three targets: 1) no conversion of natural ecosystems; 2) land footprint reduction; and 3) landscape engagement (collaboration to improve ecological function at the landscape level). Land targets are meant to improve ecosystem function and health and reduce land conversion (habitat loss).
- **Freshwater** focuses on water use efficiency (reducing withdrawals from surface and ground water) and freshwater pollution from nitrogen and phosphorus. Water targets are intended to restore environmental flows to support healthy animal and plant populations.
- Specific guidelines for **biodiversity** are under development, but in many ways, improvements to biodiversity are embedded in the land and freshwater goals.

Although there are no explicit mentions of regenerative agriculture in the SBTN framework, its outcome-based goals are largely focused on restoring healthy ecosystems that can be supported through regenerative agriculture practices.

Companies can leverage FTM’s [SBTN White Paper](#) to understand how Fieldprint Platform indicators and the [Fieldprint Project Framework](#) can be used to set and act on their Science Based Targets for Nature.

Science Based Targets Initiative (SBTi)

SBTi provides a global framework to set science-based emission reduction targets in line with internationally recognized standards. As part of this effort, SBTi published the Forest, Land, and Agriculture (FLAG) sector guidelines, specifically focused on climate-related goals. Three pathways for GHG emissions and removals are covered:

- Land use change (LUC) emissions (CO₂ emissions from land conversion);
- Land management (non-LUC) emissions (CH₄, N₂O, and CO₂ emissions related to management practices including manure application, fertilizer production and application, flooded fields, waste burning, machinery and biomass transport, etc.); and
- Carbon removals and storage (Carbon removals are more specific to forest restoration and management, agroforestry, and agricultural management practices that enhance soil carbon).

The Fieldprint Platform and [Fieldprint Project Framework](#) provide practical solutions to meet climate goals by implementing actions and tracking progress within regenerative agriculture systems.



Taskforce for Nature-Related Financial Disclosures (TNFD)

TNFD has developed a set of disclosure recommendations and guidance that encourage and enable businesses and financial institutions to assess, report and act on their potential nature-related dependencies, impacts, risks and opportunities. It also provides guidelines specific to the food and agriculture sector to help organizations understand and address these factors. Due to their close alignment, TNFD recommends that corporates use methods from SBTN to set targets and take action towards nature-related goals. TNFD's areas for assessment include three categories:

Nature

- Includes four realms: land, ocean, freshwater, and atmosphere.
- Focuses on five drivers of nature change: climate change; land/freshwater/ocean use change; resource use/replenishment; pollution and pollution removal; and invasive alien species introduction/removal.

Biodiversity

- Distinguished from nature as “the variability among living organisms across these [nature] realms. It is an essential and integral characteristic of nature that enables ecosystems to be productive, resilient and able to adapt.”

Society

- Includes disclosures on human rights policies and engagement activities with respect to Indigenous peoples, local communities, and other stakeholders.

These categories align with FTM's land, water, climate, and biodiversity categories. Regenerative agriculture can minimize risk across these categories, and the Fieldprint Platform indicators can help establish baselines and measure progress towards nature-related targets.

Taskforce for Climate-Related Financial Disclosures (TCFD)

TCFD is a framework that provides a standardized way to understand and disclose the climate risks that financial institutions are exposed to and identify opportunities to reduce their climate impact. Sector-specific guidance has been developed for the agriculture, food, fuel, and fiber sectors where climate-related risks and opportunities are primarily focused on GHG emissions, water and waste management driven by land use, production practices, and changing land use patterns.

SBTi and TCFD are complementary frameworks that enhance the assessment, management, and disclosure of financial institutions' exposure to climate-related risks and opportunities.

Opportunities for improvement are separated into three categories:

1. Improve water use and carbon intensity per unit of output;
2. Reduce inputs and waste throughout production; and
3. Develop products with lower carbon and water intensity.

According to TCFD, disclosures should provide information on policies and risks related to GHG emissions and water, carbon sequestration, and increasing food and fiber production while reducing waste.

The Fieldprint Platform is a valuable tool that can be used to establish baselines and measure progress across key indicators including energy use, GHG emissions, water use, and carbon sequestration.

Note: The information provided in the section above represents what each initiative has made publicly available as of January 2025. These frameworks are under development, so the information provided here may not include future updates.



Regenerative Agriculture Certification and Verification Programs

For those interested in pursuing regenerative agriculture certification or verification, please see the [Appendix](#) for a non-exhaustive list of organizations that currently offer established programs.



NEXT STEPS & RECOMMENDATIONS

This Regenerative Agriculture Guidance is being published as Version 1.0 and an updated version will be released as the social and economic sections are further developed. Other updates may include recommendations from the Regenerative Agriculture Subgroup and FTM members gathered during the member comment period, including:

- Development of a “regenerative agriculture claim” for members who implement regenerative practices in line with the framework guidelines.
- Development of a working document to provide examples of a wide array of crops, practices, and impacts. This companion document may include more case studies to show how the Regenerative Agriculture Framework can be put into action.
- Continued coordination with and updates from other groups that have developed or are developing regenerative agriculture frameworks, standards, and certifications.

GLOSSARY

Cover crop: A crop such as grass, small grain, or legumes grown primarily for seasonal protection and soil improvement. This practice is used to control erosion, add fertility and organic material to the soil, improve soil tilth, increase infiltration and aeration of the soil, and improve overall soil health. ([NRCS](#))

Conventional Tillage: Conventional, inversion tillage is any method that leaves less than 30 percent ground coverage and usually involves the use of moldboard plows, disks, and chisels in tillage operations. ([USDA/ARS](#))

Conservation Tillage: Conservation tillage is a tillage method that results in 30 percent or more residue coverage after planting. ([USDA/ARS](#))

Crop rotation: Growing a planned sequence of various crops on the same piece of land for a variety of conservation purposes. ([NRCS](#))

Edge of Field: Edge-of-field management practices are needed in addition to in-field practices to address nutrient losses from agricultural systems and provide additional benefits. Established edge-of-field practices reduce tile flows moving downstream or create conditions that favor nitrate removal through denitrification and include: controlled drainage, denitrifying bioreactors, constructed water quality wetlands, drainage water recycling, and saturated buffers.

Indicator: A quantitative or qualitative factor or variable that provides a simple and reliable means to measure achievement, to reflect changes connected to an intervention, or to help assess the performance of a development actor. ([OECD/DAC](#))

Outcomes: The goal/intended result of regenerative practice implementation.

Strip-till: Strip tillage creates a narrow band of “tilled” soil, while leaving the remainder of the field undisturbed. This undisturbed soil reduces soil erosion, increases pore space development through the soil profile and generally increases the overall “soil health”. Strip tillage creates a tilled zone of soil conducive to good soil to seed contact, promoting quick and uniform germination. ([NRCS](#))

Systems-based approach: Approach in regenerative agriculture that integrates interdependent practices—such as cover cropping, crop rotation, reduced tillage, and managed grazing—within an interconnected ecosystem. It emphasizes holistic soil health, water retention, biodiversity, and resilience, while continuously adapting to feedback and socioeconomic factors, ultimately mirroring natural ecosystem processes for more resilient futures.

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APPENDIX

VERSION HISTORY

Version	Description	Link
Regenerative Agriculture Guidance Version 1.0	Subject to future review	Current Version
Second draft for member comments	Distributed for member comment	View Draft
Initial Draft	Reviewed by Regenerative Agriculture Subgroup	View Draft

REGENERATIVE AGRICULTURE SUBGROUP MEMBERS

#	First Name	Last Name	Organization	Sector
1	Erin	Killeen	The Sustainability Consortium	Affiliate
2	Teresa	Garcia-Moore	The Sustainability Consortium	Affiliate
3	Deepika	Mishra	U.S. Cotton Trust Protocol	Affiliate
4	Vaughn	Duitsman	Bartlett	Agribusiness
5	Bella	Morreale	Miller Milling Company	Agribusiness
6	Eric	Moon	Nutrien	Agribusiness
7	Mike	Gill	Nutrien	Agribusiness
8	Jeff	Seale	Regrow	Agribusiness
9	Jason	Sutton	The Seam	Agribusiness
10	Andrew	Utterback	Ingredion	Brands & Retailers
11	Emily	O'Halloran	Kellanova	Brands & Retailers
12	Dhruv	Agarwal	Kontoor Brands	Brands & Retailers
13	Mariana	Contreras	MARS	Brands & Retailers
14	Simone	Schenkel	Environmental Defense Fund	Civil Society
15	Makayla	Briester	National Fish and Wildlife Foundation	Civil Society
16	Carson	Fort	American Soybean Association	Grower
17	Andrew	Jordan	Cotton Inc.	Grower
18	Harley	Janssen	National Corn Growers Association	Grower
19	Sally	Shaver	National Corn Growers Association	Grower

Note: Names and affiliations reflect participation at the time of contribution. Some individuals are no longer with the subgroup or listed organizations.

DETAILED CATEGORY COMPARISON ACROSS FRAMEWORKS

The table on the following pages provides a comparison of the different categories used in frameworks published by other sustainability initiatives and FTM members. A [list of sources](#) for this table can be found in the source list on pages 25-26.

Organization	Environmental					Social	Economic
	Biodiversity	Climate	Land	Soil	Water		
Field to Market	Natural habitat, species diversity, ecosystem integrity	GHG emissions, energy use, carbon sequestration	Land use, land management	Soil conservation, soil health	Water quality, water quantity	<i>Under development</i>	<i>Under development</i>
SAI	Promote the diversity of species and ecosystems above and below ground; support pollination, pest control, and genetic resilience; prevent habitat loss and invasive species	Minimize GHG emissions, enhance carbon sequestration		Enhance soil structure, fertility, and biological activity; promote nutrient cycling, water retention, and carbon sequestration	Optimize water use; reduce runoff and pollution; enhance water retention in soils; maintain balanced water cycle	<i>Farmer Livelihoods category under development</i> Promote the socio-economic well-being of famers by enhancing productivity, supporting farm profitability and ensuring income stability. Also includes fair labor conditions, access to essential services, and fostering resilience against economic and environmental shocks.	
Textile Exchange	Improve ecological integrity; increase species diversity; reduce pesticide risk	Reduce GHG emissions; increase above- and below-ground carbon sequestration		Improve soil chemical, physical, and biological health; improve soil stability; baseline soil characteristics are known	Increase water use efficiency; minimize water pollution	<ol style="list-style-type: none"> 1. Farmers: income and asset security; knowledge and continuous learning 2. Workers & smallholder farmers: equal opportunities; dignified work; access to services & life quality 3. Communities: health and wellbeing; inclusive participation 	
WBCSD	Natural/restored habitat in agricultural landscapes, crop diversity, pesticides	GHG emissions, above and below ground carbon sequestration		Soil organic carbon, green water, pesticide, infiltration rate, bulk density, availability of soil nutrients to plants, soil invertebrate density, soil microbial diversity, soil erosion	Improved environmental flows, minimized water pollution (blue water, nutrient loss)	Food security (% of farm households classified as food secure in last 12 months); mental health (% of farmers reporting moderate to high well-being (i.e. > threshold score of 50% in the World Health Organization-5 Well-Being Index (WHO-5))	Farm net income; % of farm households that meet or are above the living income benchmark; farm resilience
Nestlé	Crop diversity, green buffers, etc.	Reduce net GHG emissions		Soil fertility and soil health (SOM)	Water security and quality	Farmer-centric: engage and train stakeholders (includes workshops, advocacy, communication strategy), provide expertise, foster partnerships	Ensure competitive solutions and create demand for farmers - includes funding models, benchmarking, and ensuring long-term demand (additional goal: yields and return on farm investments continue to improve)

Note: What is listed here is accurate as of April 2025. Field to Market’s environmental categories are subject to change as the Fieldprint Platform indicators are updated on a regular basis. Guidance for FTM’s social and economic outcomes are under development and will be published at a later date.

Organization	Environmental					Social	Economic
	Biodiversity	Climate	Land	Soil	Water		
PepsiCo	Protecting and creating needed habitats to increase diversity in plants/trees	Reducing carbon dioxide emissions; increasing carbon sequestration		Building a healthier and more fertile soil to support a productive and resilient ecosystem	Reducing nutrient runoff and the quantity of water from farms to water banks	Farm and worker security (food security, land rights, wages, labor practices); women’s economic empowerment (decision making, capacity building & participation)	Economic prosperity (profitability/income, relative poverty level)
Unilever	<ul style="list-style-type: none"> Do not convert natural habitats Create conditions and apply practices which increase plant and animal species numbers Create specific habitats for predatory insects which can control pest insects Only apply crop protection practices which don’t impact non-target species Apply planting patterns which avoid monotony 	<ul style="list-style-type: none"> Keep living roots in the ground at all times Apply zero-till or conservation till practices Avoid nitrogen fertilizers with a high potential for nitrification Plant trees for different purposes, e.g. timber, shade, windrow, animal feed, bird habitat 		<ul style="list-style-type: none"> Keep living roots in the ground at all times Apply zero-till or conservation till practices Prevent erosion through e.g. cover cropping, mulching, terracing Apply crop rotations with both shallow and deep rooting crop 	<ul style="list-style-type: none"> Protect water ways from erosion and runoff Select the most efficient irrigation technology and equipment Optimize irrigation plans in accordance with water availability in the watershed and the water needs of other users in the watershed 	<ul style="list-style-type: none"> Provide smallholder farmers access to training in regen ag practices, farm inputs, finance, land tenure and technology Support women economic empowerment Provide training in business skills Support professionalization of farmer cooperatives 	<ul style="list-style-type: none"> Provide smallholder farmers access to markets Support smallholder farmers in income diversification

EXAMPLES OF REGENERATIVE AGRICULTURE CERTIFICATION/VERIFICATION PROGRAMS

Organization	Areas of Assessment	Environmental	Social	Animal Welfare
<p>A Greener World Certified Regenerative</p>	<p>Certified Regenerative measures change through soil, water and air, while also requiring regenerative practices in biodiversity, buildings, animal health and welfare, and assurances of the protection of key International Labour Organization principals of social responsibility. Certified Regenerative is a “whole farm” program, meaning that all products produced on the farm, including plant- or animal-based products, must be produced according to the Certified Regenerative standards.</p>	●	●	●
<p>Fibershed Climate Beneficial™ Verification Program</p>	<p>Climate Beneficial™ fiber producers first create a holistic Resilient Ranch or Carbon Farm Plan, then monitor practices and report on results, supporting outcomes across 5 key impact areas: soil health, carbon sequestration, biodiversity, watershed health and community resilience. Each practice is mapped against these Climate Beneficial™ Verified (CBV) Outcome categories in order to support growers in an implementation strategy that will allow them to achieve holistic outcomes. *certification specific to fiber production</p>	●	●	
<p>Regenerative Organic Alliance Regenerative Organic Certified</p>	<p>Regenerative Organic Certified® uses the USDA Certified Organic standard as a baseline, and from there, it adds important criteria and benchmarks that incorporate the three major pillars of regenerative organic agriculture into one certification. These three pillars include: soil health & land management, animal welfare, and farmer & worker fairness. The certification covers requirements for farming and ranching operations, transportation, slaughter, and certain processing facilities. Regenerative Organic Certified® has three levels: Bronze, Silver, and Gold. Each requires a different number and scope of regenerative organic practices used. *requires USDA Organic Certification</p>	●	●	●
<p>Regenified Regenerative Agriculture Certification Regenified</p>	<p>Regenified is a practice- and outcome-based land verification and product certification program driving the growth of regenerative agriculture and the adoption of certified products. Regenified’s 6-3-4™ Verification Standard is based on six principles of soil health (context, disturbance, armor, diversity, living roots, livestock integration and husbandry), three rules of adaptive stewardship (compounding, diversity and disruption), and four ecosystem processes (water cycle, mineral cycle, energy flow, community dynamics). This standard helps farmers and ranchers understand where their practices and lands are on the regenerative path. It’s not a prescriptive to-do list but a framework measuring and assessing farming practices and their impact on ecosystem outcomes.</p>	●		●
<p>RegenScore RegenScore</p>	<p>The RegenScore™ framework integrates practice and outcome data to produce both a single farm/ranch score (RegenScore) and 5 ecosystem benefit scores including soil health, air quality, water quality, biodiversity, and equity/worker welfare. Rather than prescribing practices, RegenScore asks what a grower is doing to implement regenerative principles and monitor outcomes in their unique context.</p>	●	●	
<p>Soil & Climate Initiative (SCI) Soil & Climate Health Initiative Commitment & Verification Program</p>	<p>The Soil & Climate Health Initiative Commitment & Verification Program supports farms by providing a practical, science-based framework for Regenerative Management planning to achieve a farm’s desired outcomes, alongside field and lab tests, to track regenerative and soil health outcomes. It engages both farms and companies along the supply chain in actions that support the transition to Regenerative Management on an increasing number of acres over time. The Farm Commitment & Verification Standard requires enrolled farmers to 1) develop and implement three-year Field Plans that address the seven SCI Regenerative Pillars (Minimize Soil Disturbance, Living Roots in the Ground Year Round, Keeping Year Round Soil Coverage, Maximizing Diversity Above and Below Ground, Reducing Synthetic Inputs, Continuous Learning , Appropriate Integration of Livestock); 2) target continuous improvement over a baseline; and 3) track and report soil health outcomes.</p>	●		
<p>Soil Regen Regenerative Verified™ Regeneratively Grown™</p>	<p>The Regenerative Agriculture Verification Protocol certifies agricultural practices that promote soil health, environmental sustainability, and producer profitability. It uses two interchangeable trademarks: Regenerative Verified and Regeneratively Grown. This certification has two primary requirements: 1) soil sample test results must show that soils are being improved or regenerated as compared to the baseline condition; and 2) producers must show evidence that their management includes at least one of these Regenerative principles (1. Keep the soil covered at all times. 2. Minimize physical and chemical disturbance. 3. Maintain a living root throughout the year to harvest sun, rainfall, and carbon. 4. Strive for diversity in both plant and animal species. 5. Livestock integration / rotation. 6. Utilize these practices within the context of climate, personal experience, and individual situations.)</p>	●		



Field to Market[®]

777 N. CAPITOL STREET NE, SUITE 802
WASHINGTON, DC 20002

WWW.FIELDTOMARKET.ORG