

#### Education & Outreach Committee 17-18 March 2020

It is Field to Market's strict policy to fully comply with both the letter and the spirit of all applicable state, federal and international antitrust laws. Because competitors may be present at this meeting, several topics of conversation must be avoided. In general, the types of discussion that must not occur are those that may suggest or imply agreements among competitors with respect to: prices; terms of sale, discounts, credit or any other such items that could impact prices. Other topics that must be avoided include the allocation of customers, markets or territories; bid-rigging; and group boycotts or joint refusals to do business with others.

Field to Market will conduct this meeting in a manner that complies with all applicable antitrust laws. If at any time during the course of the meeting a participant believes that a topic prohibited under the antitrust laws is being discussed, or is about to be discussed, they should advise the facilitator and chair who will halt any further discussion. The Education and Outreach Committee supports the development of educational materials for use by entities that offer decision support services for growers, as well as information for use by local Fieldprint projects to standardize and identify best practices for engaging with growers that are participating in our program. This support includes identifying and prioritizing educational resources needed by members of their Field to Market sector, reviewing and providing feedback, and promoting and disseminating developed materials.

#### Agenda

#### Tuesday, March 17

- 12:00 pm Welcome, introductions, round-robin
- 12:15 pm Refreshed Member Portal and Learning Center Lexi Clark
- 1:00 pm Updating the Project Handbook Lexi Clark
- 1:30 pm Public Metrics Webinar Preview Allison Thomson
- 2:30 pm Break
- 2:45 pm Alignment with other sustainability programs Rod Snyder
- 3:30 pm Continuous Improvement Accelerator Academy Kelly Young
- 4:30 pm Motivating Behavior Change
- 5:15 pm Adjourn for the day

#### Agenda

#### Wednesday, March 18

- 9:00 am Updates from Other FTM Committees
- 9:30 am Fieldprint Analysis Tool Eric Coronel
- 10:00 am Farmer Case Studies Michelle Perez, American Farmland Trust
- 10:30 am Break
- 10:45 am Sustainable Ag Resource Inventory
- 11:30 am SPARC update
- 11:45 am Adjourn



#### Field to Market Education and Outreach Committee Meeting March 2020

#### **Round Robin**

What are you doing to maintain momentum during these times of selfisolation?

Ryan Kurtz Ariel Kittle Karen Scanlon Amy Roady Mark Biedenfield Liz Hunt\* Michelle Yoshinaka Adam Shea\* **Bethany Seibold** Andrew Utterback Kris Reynolds Leif Fixen Sunni Heikes-Knapton Anna Hartley John Hay **Donna McCallister** 

Member Portal and Learning Center Lexi Clark



### Project Handbook

Lexi Clark

#### **Preview of Metrics Webinar**

#### **Allison Thomson**



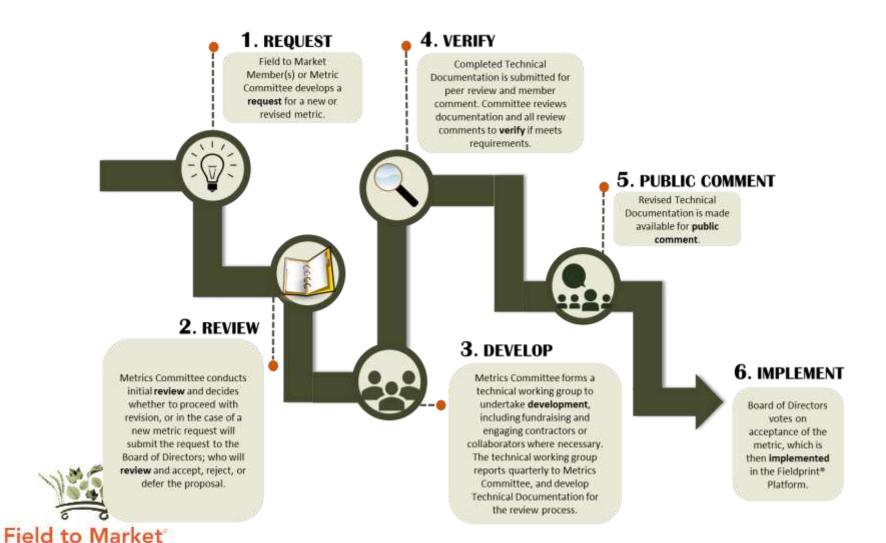
#### Field to Market Metrics Measuring Environmental Outcomes at the Field Scale

### **Agricultural Sustainability Metrics**

- Field to Market Metrics are designed to measure a specific environmental outcome:
  - That is important for ensuring environmental sustainability
  - At a scale relevant to a farm operation
  - That is responsive to changes in farm management
  - Where robust scientific understanding supports high confidence in modeled results
  - Where available tools balance robustness and simplicity for broad usability by farmers and their advisors

#### https://fieldtomarket.org/our-program/sustainability-metrics/

#### **Metrics Development and Revision Process**



# **Sustainability Metrics**

- Land Use: A measure of the efficiency of land use (land area per unit of crop yield).
- **Irrigation Water Use**: A measure of the efficiency of irrigation water applied (water applied per incremental increase in crop yield).
- Energy Use: A measure of energy use for all activities related to production on a field in one year (energy use per unit of crop yield).
- **Greenhouse Gas Emissions**: A measure of emissions from energy use, residue burning, soil N cycling and methane (flooded fields only) related to the production on a field in one year (emissions per unit of crop yield).
- Soil Conservation: A measure of soil lost to wind and water erosion (soil lost per acre; NRCS erosion models).
- Soil Carbon: A measure of the likelihood that a field is gaining or losing soil carbon in a given year (index value; NRCS Soil Conditioning Index).
- Water Quality: A measure of the potential losses of nutrients, sediment and crop chemicals from a field (index value; NRCS Water Quality Index)
- **Biodiversity**: An assessment of the potential of all lands on a farm to support a diverse ecosystem (index of habitat potential realized).

#### Land Use Metric

- Designed as a measure of land use efficiency, the metric accounts for the planted area used to produce a unit of crop output
- Metric is calculated as the inverse of crop yield
  - Required inputs: Crop yield, or planted acreage and production
- Outcome is units of planted land area per unit of production, for example acres required to produce a bushel of corn.
  - Units vary based on the crop being considered to account for US standard yield and land area units
- Benchmarks: State, National and Crop Reporting District level benchmarks are available, based on USDA National Agricultural Statistics Service (NASS) yields.
- Initially developed in 2009; reviewed but not revised in 2016. Review will open in summer 2019.

#### **Irrigation Water Use Metric**

- Designed to account for the efficiency of irrigation water use by measuring the effectiveness of irrigation in increasing yield.
- Metric inputs include
  - Volume of water applied in over the production period for that crop (including preplanting)
  - Irrigated crop yield
  - Non-irrigated yield measure or estimate for the same field (e.g. a dry corner from a center pivot irrigated field)
- The outcome is reported in units of volume of water applied (acre-in) per unit of increased production above a non-irrigated yield estimate
- Benchmarks are available at the National and State level using NASS crop yield and USDA Farm and Ranch Irrigation Survey irrigation data
- Initially developed in 2009, this metric was reviewed in 2016-2017 and additional efficiency tools are currently under development to help inform use of the metric results.

### **Energy Use Metric**

- A measure of energy use efficiency of on-farm operations, this metric includes:
  - Farm operations: Equipment usage in the field, drying and storage of harvest, transportation, irrigation
  - Seed, Fertilizer and Crop Protectants: Energy used in the production of seed and products applied to the field
- The metric captures all energy use from pre-planting field preparation through to the first point of sale
- Input data include: producer reported activities and published data on energy used in production of seed, fertilizer and chemical products.
- Metric outcome: units of energy (BTUs) per unit of crop production
- Benchmarks: National and State level benchmarks are based on USDA Survey data
- Initially developed in 2009; revised in 2017.

### **Greenhouse Gas Emissions Metric**

- Designed to provide a measure of GHG emissions from farm activities, this metric uses has the same boundaries as the Energy Use Metric.
- Energy is transformed into emissions based on the type of energy used and published conversion factors.
- Additional sources of emissions are included: Soil N<sub>2</sub>O emissions from fertilizer applications, methane emissions from flooded fields (rice) and emissions from crop residue burning.
- Units of output are carbon dioxide equivalents (CO<sub>2</sub>e) per unit of output (e.g. per bushel).
  - CO<sub>2</sub>e provides a common unit to represent the different radiative properties of the greenhouse gases emitted. Standard equivalents are based on IPCC methodology guidance.
- Benchmarks are available at the National and State level based on USDA data and published emissions factors.
- Initially developed in 2009, revisions to N<sub>2</sub>O calculations approved in 2017\*; additional revisions to rice methane emissions, and to add lime and residue burning, also approved and implemented in 2018.
- \*Phase 2 of the N<sub>2</sub>O revision is still in development

#### Non-energy GHG Emissions

- Nitrous oxide  $(N_2O)$  emissions from the use of nitrogen fertilizers:
  - N<sub>2</sub>O emissions from agricultural soils occur as part of the nitrogen cycling.
  - The amount emitted is impacted by additions of nitrogen in fertilizer, manure, compost or residue, the location of the field, the soil texture class and the crop grown.
  - Additionally, practices aligned with 4R nutrient stewardship can reduce N<sub>2</sub>O emissions from corn and wheat production in regions where sufficient science supports reductions.
- Methane (CH<sub>4</sub>) emissions from flooded fields for rice production
  - Methane is emitted from all natural and managed wetlands.
  - For managed wetlands, such as rice, the emissions are influenced by water and residue management, as well as fertilizer and organic material amendments
  - The metric was revised in 2017 to incorporate a methodology and emissions factors from a meta-analysis of published research
- Emissions from residue burning: If the residue from the prior crop is burned, greenhouse gases are emitted.

### **Soil Conservation Metric**

- This metric measure sediment erosion from fields due to water and wind.
- The metric is expressed as tons of soil loss per acre.
- The metric is calculated using the NRCS tools WEPP (Water Erosion Prediction Program) and WEPS (Wind Erosion Prediction System)
- Metric inputs provided through the rotation builder: crop rotation, residue management, conservation practices, cover crops and tillage practices.
- Additional environmental inputs soil properties and weather are automatically pulled from USDA databases based on field location.
- Benchmarks are available at the National and State level based on USDA Natural Resources Inventory erosion estimates by crop type.
- Initially adopted in 2010, this metric was revised in 2012 and again in 2018.

### Soil Carbon Metric

- This metric is currently represented by the NRCS Soil Conditioning Index (SCI)
- Inputs are soil properties, field location, soil characteristics, tillage and other field management
- The output is a qualitative score from +1 to -1 and is not crop-specific.
  - A value between -.05 to +.05 is considered to represent zero or no change in soil carbon.
  - As the value moves further away from zero, the magnitude can be interpreted as the level confidence in the trend of soil carbon increasing (+) or decreasing (-) in the soil
  - The metric outcome does not indicate the rate of change or absolute amount of carbon
- SCI accounts for three major factors influencing soil carbon:
  - Organic matter and crop residue returned to the soil
  - Soil erosion from water and wind
  - Field equipment operations.
- Initially incorporated into the Fieldprint Calculator in 2012, this metric underwent review in 2016 and in 2019 we are testing a potential approach for a quantitative replacement to the index.

#### Water Quality Metric

- This metric produces an index of water quality outcome that can be used to assess opportunities for improvement at the field scale
- The current tool is the USDA NRCS Water Quality Index (WQI)
- The metric inputs include soil and geographic conditions, tillage practices, conservation practices, fertilizer and crop protectant applications, crop type, residue management and cover crops
- The metric output is a qualitative index of water quality that can be broken down into components. No benchmark is currently available.
- The WQI was designed by NRCS as a conservation planning tool.
- This metric was adopted in 2014. A proposed revision is currently available for member comment.

#### **Biodiversity Metric**

- This metric was designed to evaluate a measureable conservation outcome of managing for biodiversity on a farm – the potential of the land to provide wildlife habitat – in a Habitat Potential Index (HPI).
- This metric focuses on optimizing habitat on existing land covers.
- HPI represents the whole farm, rather than a single field.
- Inputs include basic information on all land on the farm: Land cover type, crops grown, management practices, conservation practices, uses of non-cropped land types, and conversion between land types in the past five years.
- The results are presented as a score from 0-100 for each individual land type and for the farm as a whole.
- Scores indicate the potential opportunity for improvement in management for habitat on existing lands.
- This metric was developed in spreadsheet form in 2014 and was incorporated into the online Fieldprint Platform (ver3.0) in 2018. Additional farm-level biodiversity features are being added in 2019.

# For more information on metrics: <u>https://fieldtomarket.org/our-</u> program/sustainability-metrics/

To try the Fieldprint Platform online: https://calculator.fieldtomarket.org

Take a break

Reconvene at 2:45 EDT

# Alignment with Other Sustainability Programs

#### **Rod Snyder**





### Harmonization & Alignment Updates



### **Harmonization & Alignment Updates**

Field to Market partners with a number of other sustainability programs and standards to achieve the following:

More streamlined approach to ag sustainability for growers and supply chain companies

Added recognition and value for growers and companies utilizing Field to Market's metrics and process-based standard

At the request of members, introductory conversations are held between the organizations to explore mutual interests

Organizations often pursue a Memorandum of Understanding with approval from the FTM Board of Directors

Staffs of the two organizations work together to implement specific aspects of the MOU, which may include:

Technical metric evaluation and comparisons

Program structure and requirements

Claims and verification protocols

#### **Harmonization & Alignment Opportunities**



**HEALTHY PEOPLE • HEALTHY PRODUCTS • HEALTHY PLANET** 

#### **Ecosystem Services Market Consortium**

#### MOU signed in October 2018

Mutual commitment to science-based quantification of environmental outcomes and an effort to pursue alignment in methodologies where possible

Intent to partner in pilot projects to explore how supply chain sustainability efforts could create a runway for engagement in voluntary ecosystem service markets

#### FTM staff is participating in three of the ESMC workgroups

Water Asset Quantification

GHG Asset Quantification

MRV Technology

ESMC staff is observing the FTM Metrics Committee

Clear mutual interest in water quality and soil carbon research and metric development

# SAI Platform

SAI Platform Farm Self Assessment (FSA) is a detailed questionnaire used by many multi-national brands for global sustainable sourcing goals.

Several Field to Market members requested an equivalency program to align internal sustainability reporting but continue to use the Fieldprint Platform in US sourcing projects

MOU between FTM and SAI was signed in 2017

Agreement established bronze level equivalency for Fieldprint Platform participation with 14 supplemental questions needed to achieve FSA Silver or Gold

In 2019, additional guidelines and audit control points were finalized, and supplemental questionnaire was built into the Fieldprint Platform

Successful verification audit achieved for two pilot projects (sugar beets and wheat)

# The Sustainability Consortium

MOU signed between FTM and TSC in November 2014

Commitment to Content Harmonization in Overlapping Product Category Areas

Commitment to Data Platform Interoperability

Collaboration on Innovation Projects

In 2017-2018, Field to Market developed parameters for using Fieldprint Platform project results to report into 21 of TSC's Key Performance Indicators for 33 product categories

In 2019, Field to Market launched functionality within the Fieldprint Platform enabling projects to automatically calculate the aggregate project level information for TSC reporting

Guidance is available on the Field to Market member portal

TSC and Field to Market continue share information about metric development and revision

# Field to Market Canada

Canadian Field Print Initiative (CFPI) transitioned to Field to Market Canada with official announcement in October 2019

Field to Market has created a "Country Partner Toolkit" for branding, website design, brochures and other materials that may be developed

FTM-Canada is not required to have identical metrics but must adopt all other FTM governance, protocols and standards

License arrangements will be reviewed on an annual basis to ensure compliance with requirements

# Innovation Center for U.S. Dairy

MOU signed between Field to Market and the Innovation Center for U.S. Dairy in May 2015

Metric Alignment

**Tool Integration** 

#### Feed sustainability pilot projects now underway

3 participating cooperatives across the country with approximately 5 producers in each co-op

FARM-ES is an existing platform developed for dairy farms to evaluate energy and greenhouse gas footprint

The Fieldprint Platform provides environmental metrics for feed crops (e.g. corn silage and alfalfa)

Pilot projects will establish benchmarks for each co-op and compare learnings across participating producers

# U.S. Roundtable for Sustainable Beef

Letter of Agreement between FTM and USRSB signed in December 2017

- Recognizing Field to Market's Indicators, Metrics and Benchmarks within USRSB documents discussing sustainable feed;
- Recognizing USRSB's Indicators and Metrics within Field to Market documents discussing sustainable beef production;
- Encouraging USRSB and Field to Market members, where applicable, to utilize the resources of the other in pilot projects, potential supply chain agreements and appropriate public facing communication.

Feed sustainability pilot project is in the planning stages in Nebraska with joint FTM and USRSB members

Identifying location to focus on with feed producers and beef producers Align with USRSB sustainability metrics across the supply chain Fieldprint Platform will be used for the grain feed production sustainability assessments

# **U.S. Cotton Trust Protocol**

U.S. Cotton Trust Protocol is a new certification scheme developed by National Cotton Council and Cotton Inc. for growers and supply chains in the U.S.

Helps meet demand for third-party verified cotton while collecting data to support broader industry improvement targets

Field to Market metrics are a required component for enrollment along with grower self-assessment questionnaire

The protocol is currently being piloted with 300 growers and a more public launch is scheduled for 2020

The Seam built the Protocol's digital platform and is now working with Field to Market on Fielprint Platform integration Other Field to Market QDMPs will be engaged over time

# NRCS Conservation Application Ranking Tool (CART)

Effort is to enable users of either Platform to export/import data between the Fieldprint Platform and NRCS CART

Initial assessments of data inputs and data privacy considerations underway

Field to Market recently implemented farm management template sharing in Fieldprint Platform v.3.0

New funding agreement signed in fall 2019 detailing a 2year collaboration

## Gold Standard

Field to Market staff has participated in recent Gold Standard meetings and workgroups as we pursue tool alignment

Exploring how Field to Market's tools and projects can assist companies in meeting Gold Standard Requirements for Scope 3 emissions reporting

Fieldprint Platform (GHG and Soil Carbon Metrics)

Continuous Improvement Accelerator – Innovation Project/Impact Claims Protocol

Opportunity for FTM member company to pilot Gold Standard's Value Chain Intervention Guidance alongside their FTM Continuous Improvement Plan

### Mississippi River Cities & Towns Initiative

MOU signed between Field to Market and MRCTI in November 2018

Provide a model for how cities can support farmers in improving water quality

Provide proof of concept to engage food service companies with the potential development of a responsible food procurement directive

Two pilot cities have been announced in 2020

Dubuque, Iowa

Baton Rouge, Louisiana

# **Preliminary Discussions**

**Sustainable Rice Platform** (SRP) – USA Rice has requested alignment discussions with this global initiative

**Potato Sustainability Alliance** (PSA) – discussions regarding potential use of FTM metrics in PSA

**US Roundtable for Sustainability Poultry and Eggs** (USRSPE) – discussions regarding feed sustainability alignment

**Leading Harvest** (formerly known as Sustainable Ag Working Group) – new standard developed primarily by farmland investor community; initial discussions about possible alignment

### Continuous Improvement Accelerator Academy







April 20-21, 2020 New Orleans, LA

- Field to Market 101
  - Field to Market orientation
  - Guiding principles
  - Overview of program offerings
- Process-Based Standard: Understanding the intent and requirements within Field to Market's new standard
  - Introduction to Field to Market's process-based standard and theory of change
  - Brief overview of requirements for each phase of the continuous improvement process
- Farmer Engagement: Best practices for recruiting and retaining growers in sustainability projects
  - Understanding farmer motivation and earning trust
  - Using the Partnership Portal to identify natural resource concerns and the implementation partners and farmers' trusted advisers in project areas



- Project Pathways: Lessons from current project administrators on how to create a compelling project vision for each distinct pathway
  - Incubation Insight Innovation
- Sustainability Metrics: Understanding outcomes-based measurement and reporting
  - Overview of the eight environmental indicators measured by Field to Market's program
- Fieldprint Platform: A closer look at U.S. agriculture's leading sustainability assessment framework
- Platform features and functionality
  - Introducing Field to Market's Qualified Data Management Partners
  - Farmer user and project administrator demonstrations
- Data Analysis: Preparing accurate and robust project reports
  - Conducting quality control for project data sets
  - Creating meaningful reports and contextualizing results for growers and project partners
  - How data can help identifying opportunities for continuous improvement



- Shared Value: Best practices for how to motivate and reward growers for advancing continuous improvement
  - Exploring successful examples of value-added incentives from sustainability projects including technical assistance, financial support, market access, and recognition programs
- Claims and Verification: Exploring opportunities to credibly communicate about project outcomes
  - Understanding Field to Market claims categories and how to design projects based on communication needs
  - Participation, Measurement, Adoption and Impact Claims
  - Accounting systems enabled by Field to Market
  - Mass Balance and Volume Proxy
  - · Metrics revisions and how they impact data analysis and project reporting
  - Harmonization Understanding how Field to Market's metrics and process-based standard align with and support other sustainability programs and standards



- Sustainability Storytelling: Crafting messages that resonate with key stakeholders across the value chain
  - Identifying and communicating sustainability stories at each phase of a project's lifecycle
  - Recognizing success Field to Market's Sustainability Leadership Awards program and monthly spotlight series
- Online Resources: Finding what you need on Field to Market's website and member portal
  - Exploring key features and functionality of the Member Portal, Project Directory, Partnership Exchange, and Learning Center
- OPTIONAL FIELD TRIP: Visit a Louisiana rice farm enrolled in one of Field to Market's Continuous Improvement Projects; end the day with an authentic Cajun dinner

**Evaluating the Academy and Making Improvements** 

What to measure?

- Satisfaction
- Increase in knowledge, skills and abilities
- Intent to implement

Follow-up

- What do wish we would have covered?
- What have you implemented since the Academy?



### **Motivating Behavior Change**

RARE (www.rare.org. www.behavior.rare.org)

- Problem Behavior Actor Mapping Tool
- Behavioral Science Toolkit for Practitioners

How can work like this be applied in Continuous Improvement Projects to advance sustainability?

What would be a way to engage them in the Cross-Sector Dialogue?

"More typically, the evidence overwhelmingly shows that information alone is a weak route to behavior change; other barriers such as conflicting motives, hassle, ingrained habit, social norms, or non-conscious drivers of our behavior tend to dominate."

- Behavior Change for Nature: A Behavioral Science Toolkit for Practitioners





The environmental problem I'm trying to solve is: Food waste (example)

Use the space below to frame the problem and identify key actors and behaviors.

Moving from left to right, 1) State <u>what</u> the problem is. 2) Identify actors <u>who</u> are responsible for this problem. 3) List the behaviors of <u>what</u> these actors are doing/not doing now that contributes to the problem. 4) Identify the desired behavior of what you want them to do.

What is the problem?	Who is contributing (who are the actors)?	What are they doing or not doing (what is their behavior)?	What do you want them to do (what is the desired behavior)?
Food waste	Households	Throwing away leftovers	Eating leftovers
		Buying too much food	Buying less food
	Restaurants	Serving large portions	Serving smaller portions
	Grocery stores	Selling only perfect produce	Selling imperfect produce
		Throwing away food past 'sell by' date	Donating food past 'sell by' date



# Welcome back!

### Wednesday, March 18

- 9:00 am Updates from Other FTM Committees
- 9:30 am Fieldprint Analysis Tool Eric Coronel
- 10:00 am Farmer Case Studies Michelle Perez, American Farmland Trust
- 10:30 am Break
- 10:45 am Sustainable Ag Resource Inventory
- 11:30 am Adjourn

#### Field to Market Education and Outreach Committee Meeting March 2020

### **Round Robin**

What did you learn yesterday that you will bring back to your organization?

Ryan Kurtz Ariel Kittle Karen Scanlon Amy Roady Mark Biedenfield Liz Hunt\* Michelle Yoshinaka Adam Shea\* **Bethany Seibold** Andrew Utterback Kris Reynolds Leif Fixen Sunni Heikes-Knapton Anna Hartley John Hay Donna McCallister

### **Committee Updates**

### Upcoming Field to Market | In Focus Webinars

#### **Understanding Claims and Sampling**

March 24 | 1PM EST

<u>Register Now</u>

**Sustainability Metrics 101** 

April 13 | 1PM EST

Register Now

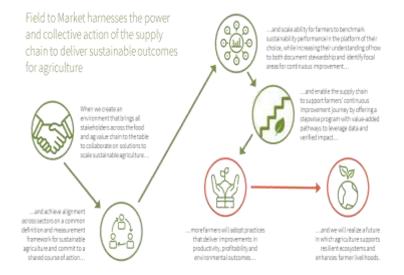


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- Upcoming metric releases in the Platform
  - Optional evaluation of 4R N management to achieve credit towards reducing nitrous oxide emissions in the GHG Metric
  - Release of full-farm Biodiveristy Metric scheduled for June 2020.

- Status of Committee Discussions
  - Member input period for exploration of a pest management metric is now open!
    Submit your ideas for tools to consider and experts to consult in the exploration process through March 31 to <u>comments@fieldtomarket.org</u>
  - Water Quality: Discussing replacement of WQI with the NRCS STEP tool.
  - Soil Carbon: Raising funds to support development of a quantitative approach using the DNDC model and working with Applied Geosolutions/Dagan Inc.
  - **Alignment**: Exploring opportunities to work with ESMC on metric development

 Developing a Monitoring and Evaluation System for Continuous Improvement Accelerator Projects based on Field to Market's Theory of Change to help us learn more about our program's effectiveness in creating positive impact



- Updating protocol documents in line with the new Process-Based Standard and in line with more flexible approaches to impact data analysis:
  - Impact Claims Verification Protocol and Guidebook
  - Measurement Claims Protocol
  - Assurance Principles
  - Sampling Framework

**New Spotlight Opportunities for Members in 2020** 

• Expanding monthly sustainability storytelling series to celebrate outstanding:



 Nominations for Sustainability Leadership Awards will open in summer 2020

### Fieldprint Analysis Tool

### **Eric Coronel**



# Farmer Case Studies



Michelle Perez American Farmland Trust

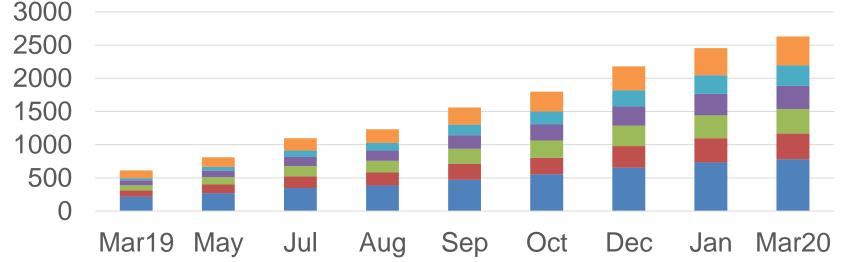
#### Field to Market Education and Outreach Committee Meeting March 2020

### **Resource Inventory for Learning Center**

# Adjourn

#### SPARC Update

#### **Online Module Enrollments**



- Developing A Sustainability Program
- The Farmer Business Case For Sustainability
- Measuring Sustainability Success
- Practices And Services Supporting Sustainable Agronomy
- Environmental Sustainability Metrics
- Sustainability 101