

Soil Enrichment Protocol V2.0 Update Workgroup Meeting Notes and Takeaways

Workgroup Meeting Date: 2/07/2024

Workgroup Members in attendance:

Name	Organization	Present (P)/Absent (A)
Lincoln Day	AgriCapture	Р
Matt Campbell	Aster Global Environmental Solutions, Inc.	Р
Shawn McMahon	Aster Global Environmental Solutions, Inc. (Alternate)	A
Sami Osman	ATOA Carbon	Р
George Burba	Water for Food Global Institute/LI- COR Biosciences	Р
Jocelyn Lavallee	Environmental Defense Fund	Р
Henk Mooiweer	Grassroots Carbon Public Benefit LLC	Р
Max DuBuisson	Indigo Ag	Р
Ryan Pape	Indigo Ag (Alternate)	Р
Josiah McClellan	Land O'Lakes Truterra	Р
Jennifer Nelligan	National Association of Conservation Districts	Р
Michael Nassry	Nutrien	Р
Mike Gill	Nutrien (Alternate)	Р
Lucia von Reusner	Regrow Ag	Р
Robert Parkhurst	Sierra View Solutions	Р
Jason Ackerson	Soil Health Institute	Р
Negar Tafti	The Nature Conservancy	Р
Brian McConkey	Viresco Solutions Inc.	Р
Karen Haugen-Kozyra	Viresco Solutions Inc. (Alternate)	Р



Agenda:

- Introductions
- Protocol Update Process
- Update Considerations
 - o Clarifications and Required Updates
 - Potential Additions or Updates
- Setting Priorities
- Open Discussion
- Next Steps

Main Points of Discussion in Meeting:

• Clarifications & Required Updates

- The topic of expanding to Canada was raised as something that might be considered during this update. Currently this expansion is not on the required updates list.
 - The Reserve develops protocols on a jurisdiction basis to assess local regulatory environment, additionality, and other components.
 - We do not have any Canada specific representatives for this workgroup, so while the idea of including Canada is open for discussion during this update, it's likely that we will not be able to include Canada within this specific update. We will provide a final decision on this at a later date.

• Project Definition – Section 2.0

- The issue of whether the project definition should be changed to require Soil Organic Carbon (SOC) to be measured as part of this protocol. Currently it's written as and/or in the definition, allowing it to be optional.
 - Arguments were raised in favor of both requiring and keeping SOC optional, both at a field level and project level.
 - Arguments for making SOC required:
 - Requiring all fields in a project to measure SOC was the main intent of the protocol, including in the development of the protocol name.
 - Section 4 outlining all SSRs includes SOC as an included SSR, suggesting that modeling and measuring SOC is required.
 - Arguments for making SOC optional:
 - Allows for including fields that may be doing other practices that don't impact SOC but do affect other emission sources like N2O. Would be an unnecessary burden to take soil measurements on these fields.
 - Could improve the uptake of SEP projects if SOC measurement remains optional given the challenges in measuring SOC.
 - Soil enrichment could also refer to other practices such as those addressing methane abatement that also benefit soil



beyond just SOC gains.

- A compromise could be made between what makes a field eligible and what the required SSRs are. Project developers could argue that if the impact on SOC from field practice changes is de minimis and that they are only focused on credits related to reductions, not removals, then it wouldn't be necessary to measure this SSR.
- The issue of double counting was raised as a topic to further discuss when projects are combining SOC and nitrogen management protocols.
- Would the protocol name need to change if SOC is optional? Are there alternative names that would be more appropriate for what is being measured?
- This topic will be discussed in greater detail in later workgroup meetings to reach a consensus.
- Defining the Project Area & Project Start Date language around project start date vs. field start date.
 - More an administrative improvement around providing projects with guidance on how these requirements will be assessed.
 - Verifiers have a strong interest in having this topic addressed.
 - Interest in re-evaluating timing between when a practice change occurs and when a project is officially submitted to the Reserve. At other registries a longer time frame is allowed and there's interest in seeing if expanding that timeframe would be possible for SEP.
 - There's interest in moving away from submittal to the Reserve as the timing that dictates eligibility of a field.

• Permanence

- Need more guidance in the protocol for how to assess permanence and improved definitions of what constitutes a reversal event.
- The possibility of using remote sensing was raised as a tool to continue monitoring fields where a grower may have dropped out of a project. Allowing for remote sensing to assess whether a reversal event occurred would allow that field to continue to be monitored without assuming a reversal occurred due to lack of monitoring data.
 - Indigo Ag noted that they are already using remote sensing for monitoring reversal events.
- More guidance on reversal events is needed for example going from no till to reduced tillage.
- Need more guidance on project level accounting of reversals vs. event based reversals (field leaving, land use change etc.). These two types are not well distinguished in the protocol.
- Consideration was raised for the situation where a farmer leaves a project and then re-joins, a new baseline should be calculated for that field. It was proposed that this should trigger a new soil sampling event to have to occur to set this baseline.

• Quantification

- Fossil fuel quantification
 - Challenges in collecting this information from farmers data collected



most likely not accurate.

- Proposed changes include measuring fossil fuel use by practice change instead of by measurement of fuel consumption.
- Could also include crediting towards switching from fossil fuels to biofuel.
- There's also the possibility of using new technology that would monitor CO2 emissions and be able to track this better.
- Grazing quantification
 - There are technologies that exist which allow for directly measuring emissions related to changing grazing practices but unclear whether these technologies would be cost prohibitive for projects.
 - For approaches that use modeling, there's a preference for improving modeling guidance to allow for model improvements as more data becomes available (similar to how weather models are updated)
 - Support for allowing AUEs as an alternative metric from AGDs to measure grazing activity. Animal composition can change throughout the year and AUEs allows for accounting for this.
 - Other grazing issues not just related to quantification:
 - Tree cover definition in areas where there's grazing currently tree cover definition may be too narrow for areas where grazing can occur.
 - Allowing changes in herd management to be factored into quantification.
 - Feed additives should be included in protocol. EFs not sufficient for estimating these.
 - Concern for including enteric fermentation as part of grazing discussion – it was suggested that this may be an over-reach of the protocol.
 - Interest in expanding grazing topic further, as long as approach is conservative. Others also advocated for a flexible approach in quantification to allow more grazing activities to be accounted for.
 - Concern over using EFs only for quantifying and whether this is appropriate for field-scale projects.
 - Further discussion is needed to review evidence supporting GHG benefits of grazing practices before including them more fully in the protocol. Questions were raised whether there is sufficient literature to support positive effects on SOC from grazing, as current literature has not reached a consensus. Currently, fully accounting for grazing in the protocol, while an allowable practice change, is limited by insufficient validation data to allow for modeling of the practice and thereby issuing credits related to grazing.
- Further quantification topics (defining baseline scenarios, removals & reductions, methane and nitrous oxide emissions, etc) shortened due to time constraints for this meeting.
 - Will revisit all quantification issues more in depth in later meetings.
- Strong interest in re-visiting measurement of SOC and how that is accounted for in the protocol.
- o QA/QC
 - Discussion around this topic shortened due to time constraints main focus areas summarized on slides, but this topic will also be focused on in future



meetings.

- Main areas for improvement though focused on the administrative side improving templates and forms for facilitating review of QA/QC
- Another large area to focus how soil sampling is factored into measurement, particularly re-measurement of soil over fields crediting period. How are these measurements used for quantification vs. improving model performance? What is the purpose of "true up", insufficiently addressed in the protocol.
- Model Guidance and Validation Documentation
 - Currently there's a separate document to the protocol that outlines requirements for validating models being used in a project.
 - Need for improving the guidance outlined in this document. Will be a focus on future discussions.
- Tree Coverage Guidance
 - More guidance needed on improving the threshold for allowable tree cover on fields enrolled in SEP.
 - Ties into grasslands/grazing conversation as well.
 - Will include in future discussions on project definition and grazing guidelines.
- Initial Verification Deadlines
 - More of an administrative issue need to provide more guidance on how strict these deadlines are.
 - Some interest in keeping deadlines longer, will require more discussion.
 - Interest in allowing remote verification activities as well.

Potential Updates or Additions

- This list consists of items that might be considered additions to the protocol rather than issues that need to be fixed.
- Discussion around these topics shortened due to time constraints of the meeting. Topics flagged as potential additions include expanding eligible practices, improving additionality tools used for the performance standard test, adding guidance around ecosystem payment stacking, improving guidance around soil sampling measurements, allowing for sub-field management zones to be unit of measurement for quantification, cumulative accounting, and allowable uses of remote sensing

• Additionality tool for Performance Standard Test

- It was noted that USDA data is being released this month with updated data
 may be more of an administrative task then to update this tool.
- Sub-field management zones
 - Strong interest in including this option. Would allow projects to have more flexibility in defining their sampling unit.
- Setting Priorities
 - Will send a survey to all workgroup members to allow them to record their thoughts on all of the topics discussed in this meeting, as well as add any additional topics that they believe should be discussed during this update.
 - Survey responses will be collected by the end of the month and will be used to set the following meeting agendas.

Next Steps

- Workgroup to fill out survey
- Reserve will identify priorities for discussion at the next meeting
- Doodle poll will be sent to determine March meeting time.



Pending Questions for the Workgroup:

• Workgroup to fill out survey for identifying top priorities of the protocol update – survey responses should be completed by Feb 29 (end of the month).

Action Items for the Reserve:

- Review survey responses from workgroup and use responses to draft workgroup meeting agendas.
- Doodle poll will be sent out by end of the month to schedule March workgroup meeting.