



Field to Market®

FRAMEWORK FOR EVALUATING SAMPLING METHDOLOGIES FOR CONTINUOUS IMPROVEMENT ACCELERATOR PROJECTS AND ASSOCIATED CLAIMS

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VERSION HISTORY

Version/Date	Change	Link
1.0	Initial Publication	Version 1.0

Field to Market Framework for Evaluating Sampling Methodologies for Accelerator Projects and Associated Claims

Background:

Field to Market Members have expressed interest in using sampling as a cost effective and user-friendly way to measure and assess the impact of continuous improvement strategies in commodity crop farming. The Verification Committee researched multiple approaches to sampling that could be utilized as the basis for an impact claim for a group or region of growers of the same crop. Given the diversity of size, location and crops that Members are interested in, the Verification Committee agreed to enable a sampling framework that allows flexibility in approach.

Framework:

Any project that wishes to use sampling must meet the following criteria:

1. Define the Project Population:

Field to Market claims are project-based, utilizing one of the three project types enabled in the Continuous Improvement Accelerator. Where sampling is to be used, the total Project Population must be defined, including the names of growers and their associated acres – this is the population of growers and acres that a desired claim would include. Specific names are not required to be shared with Field to Market, but they are an important step in defining the reach of the Project. Each of the growers in the Project Population must agree to participate in the project. Participation in the project in the context of sampling is:

- Agreement to be a part of the pool of growers from which a random sample will be selected to enter data annually into the Fieldprint Platform
- Agreement to, if chosen to be one of the growers required to enter data, have that data aggregated and anonymously shared with the Project Population for learning purposes.

2. Determine if there is a need for stratification:

The Project must determine if a stratified sample is required. A stratified sample should be used where there are subgroups with distinct characteristics that could lead to different results. In these cases, growers would be randomly sampled from within the separate subgroup, rather than at random from the whole population. It is important to structure a sample that allows for the collection of data that is representative of the different soils, crop rotations, and topography of the farms represented in the

project population. The selected sample will have data shared back to growers within their project sub-group (stratum) so the growers must be farming under similar conditions for the data to be relevant. Possible approaches include:

- Stratify based on similar soil and climatic characteristics, and crop rotations (if varied across project area)
- Stratify based on USDA data
- Determine that stratification is not needed based on previously collected data that has been analyzed to show that stratification is not needed (e.g. historical project data on the full project population)

3. Determine Sample size:

Projects should use a sample size that is, at a minimum, the square root of the total population. While some members of the Verification Committee and even some members of the certification and verification community that utilize the square root debate its statistical validity, it is commonly used in group certification. Projects can instead choose to utilize alternative sampling methodologies, including the Sampling Guidelines used by SAI Platform/FSA. It should be noted that utilizing the FSA sampling methodology results in a larger sample size than utilizing the square root until you get to 1600 growers, at which point the FSA sample is much smaller.

The table below shows the group self-assessment sampling size utilized in the SAI Platform FSA Implementation Framework¹. It is based on statistical sampling methods with a fixed accuracy of 12.5%

# Farms in Group	0-10	11-20	21-30	31-50	51-100	101-200	201-300	301-400	401-500	501-1k
Self-Assessment Sample Size	6	10	13	17	23	29	33	34	35	37
# Farms in Group	1k-2k	2k-3k	3k-4k	4k-5k	5k-7.5k	7.5k-10k	10-20k	20-30k	30k+	
Self-Assessment Sample Size	39	39	39	40	40	40	40	40	41	

In cases where a stratified sampling methodology is being utilized the sample size should be applied to each stratum.

¹ SAI Platform Implementation Framework Version 2 Released 15 June 2016

The selected sample set of growers should enter data from a minimum of 10% of the acreage for the given crop that they wish to enroll, and that 10% should be representative of the total enrolled acres. Growers are encouraged to enter more, especially in cases where data is not being entered manually and may be more readily available, as is often the case when working with a Qualified Data Management Partner. This 10% allowance is in line with previously approved protocols.

It should also be noted that there may be cases where a sufficient amount of data exists to be able to determine other sample size determination methods that are statistically relevant. The Project can work with a statistician in these cases.

4. Develop a mechanism for getting continuous improvement information to the total Project Population:

To ensure the continued validity of the sample, Projects must develop a mechanism to ensure that the Project Population receives the same support that the sample receives. In addition to determining which growers will enter data, there must be an educational feedback mechanism to communicate a Continuous Improvement Plan to the Project Population, and to share results from the data that is being collected from the sample back to the Project Population. Outreach dates, channels and feedback should be defined.

Some potential feedback mechanisms include:

- Projects share what is learned from the sample population at annual meetings or other outreach mechanisms where the total Project Population is invited to attend
- Project Specialist disseminates materials in line with the Continuous Improvement Plan to the total Project Population and/or gives documented trainings
- Projects connect the total Project Population to local resources that can assist with the implementation of the Continuous Improvement Plan
- Projects budget for value added incentives for the full Project Population and determine delivery mechanisms that reach the full population

Testing of broader Project Population where impact claims are desired:

In any year that an impact claim is desired, an additional sample of growers must be chosen from the total Project Population to enter their data into the Platform to ensure that values support a broader impact claim. The selection methodology that will be used must be in line with the initial sample. For example, in the case where a sample of 33 growers out of 300 enters their data annually for 5 years, and

the data supports an impact claim, a new random sample of a minimum of 33 growers must be chosen to enter data to ensure that the broader population has also realized the improvement seen in the sample.

Potential use of sampling in claims language:

Field to Market requires full transparency of the sampling methodology for any claim that is made, and third-party verification where an impact claim is filed. Please contact Field to Market before making any claims on the Project Population.

Sample Project Participation Claim -

Company X is actively measuring the environmental outcomes of a sample of 33 growers and 33,000 acres out of a larger project of 300 growers and 300,000 acres that are engaged in an Accelerator Project on a journey of continuous improvement.

For project accounting purposes, projects may account for volumes associated with the full production volume of the full Project Population. In the example given above, this would be the production volume of the full 300,000 acres.

Applicability to existing Continuous Improvement Accelerator Projects

Where an existing Accelerator Project wishes to utilize data collected by growers within that project to make a statement about a broader population, the onus is on that project to demonstrate the applicability of the findings of the existing Accelerator Project to a broader population. The project would have to demonstrate that the sample has met the same level of rigor defined by this framework document. Project wishing to utilize this path should first contact Field to Market to discuss proposed strategies.