

Report for the Sustainable Farming Association Soil Health Network Feedback Survey

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Section 1: Overview of Survey Design

The Soil Health Network Feedback survey is conducted by the Sustainable Farming Association to measure the impact of their soil health workshops. This post-event survey was sent out via email on the next business day. The survey is expected to take less than 5 minutes to complete. It contains 11 questions and all of them are mandatory. The questions can be divided into three categories: multiple-choice, free-text, and check-all-that-apply. Below is a discussion of the questions in the survey:

- **First Name & Last Name:** This is a free-text question. Since response for this question is mandatory, we may lose survey respondents who wish to leave feedback anonymously. We recommend removing this question in the future surveys or making it optional.
- **What soil health event did you attend:** This is a free-text question. Survey respondents have used various ways to describe the events. Some used partial title, while others used location or the date of the event. We recommended using a drop-down menu that describes the events in consistent language (event title + location + date). This practice will simplify the analysis for this question and help survey respondents remember the events they have attended. We may also use check-all-that-apply if it is likely some attendees are present in multiple events.
- **What is your occupation:** This is a check-all-that-apply question. It effectively captures the multiple occupations some attendees have. From the survey results, about 30% of the respondents selected “other” in their response. This indicates that the options listed in this question needs to be expanded. It will also be helpful to leave a free-text box next to the option “other” so that people can specify their occupations.
- **How did the event increase your knowledge and understanding of soil health:** This question is also check-all-that-can-apply, but we suspect that it was designed to be

multiple-choice. It is a very useful question as it ascertains the respondents' overall impression of the events.

- How did your understanding of the first/second/third/fourth/fifth soil health principle, “**brief description of the principle**” improve : This series of questions focuses on specific topics of the events. Each of them is a multiple-choice question followed by a free-text box titled with the phrase “comments on above”? It is important to make sure that the concepts in these questions are clear to the respondents without outside knowledge. The brief descriptions of the principles that appear at the end of the questions are helpful. However, we need to take caution that the language used in the descriptions may have different meanings for the survey designers and survey respondents. Further, all of the questions ask about the attendees' level of understanding, which may be confounded with another question—“How important is this topic to you”? If a respondent answers “Not at all”, it may be due to fact that he is not motivated to learn instead of the workshop being ineffective. To avoid obscuring these two dimensions, we recommend adding another option: “not interested in the topic”.
- How much did the event inspire you to implement new practices on your farm: This is a multiple-choice question followed by a comment box. We need to consider if the question is relevant to the respondent, i.e. whether the respondent has a farm. We suggest that the survey asks about whether the respondent has a farm first, and then follows up with this question if the respondent answers yes. Further, “inspire” is a loaded term. It sets a high bar and makes the question very leading. We may want to replace it with some other word.
- How much did the event inspire you to design and host future training events: Similar to the last question, we need to address the relevancy of the question and the wording. In addition, we may want to decouple the two actions in the question (“design” and “host”), since there may be cases where people want to do one but not both. The meanings of “design” and “host” need to be clearly defined in the questions as well.

Additional suggestions for survey design:

- SFA was not able to send the survey to all attendees. Since many attendees do not pre-register (they show up and pay the registration fee at the door), SFA struggles to obtain their contact information and are thus unable to send them a survey in a timely fashion. One solution could be to prepare paper versions of the survey and reserve time in the event for the attendees to fill out the survey. This practice could also increase the response rate. Another solution is to have the attendees leave email addresses when they pay the registration fee at the door, depending on the convenience of such practice.
- Adding a brief description of the purpose/benefit of the survey and the expected time to complete it (“it only takes 5 minutes”) may increase the survey response rate.

- The survey has free-text comment boxes after most questions. We recommend reducing the number of comment boxes to only one, or one for each section of the survey. We want to restrict the number of comments solicited, because too many free-text boxes can dissuade people from completing the survey.
- Depending on the goal of the survey, we may want to measure the impact of the event in different aspects. For example, networking, finding support etc.
- Sending one or two reminders can recuperate additional responses.
- Some potential questions to ask:
 - Understand the motivations of the attendees: Why are you attending the event? (check-all-that-apply: required by employer, interested in the topic, etc.)
 - Measure the overall impact of the event: Would you recommend this event to somebody in your occupation? (multiple-choice: yes, no, maybe)

Section 2: Analysis of Survey Responses:

We received 23 survey responses. Since the sample is small, many of the conclusions written below must be taken with a grain of salt. Survey Responses were analyzed using Excel and R.

- The survey was sent out to about 65 attendees. The response rate is 35%. This is considerably higher than the expected 10% response rate in the survey community.
- About half of the survey (11) respondents identified themselves as farmers. Researcher/extension staff makes up the smallest category (2 people). 7 people (30%) selected more than one occupations.
- All survey respondents came from the attendees of the 3 most recent events. This may be because the 3 most recent events have the majority of the attendees of the soil health network event series. All survey responses are received within 13 business days post-event.

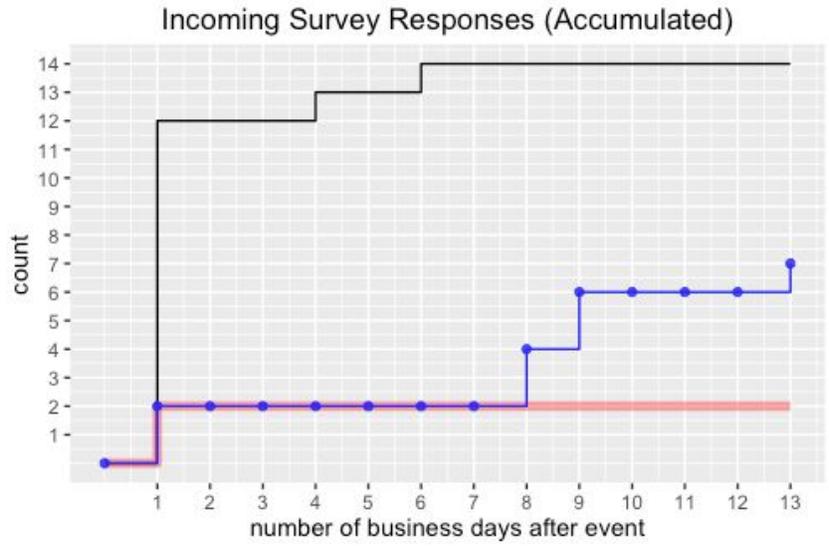


Figure: The Accumulated Number of Survey Responses for the Three Most Recent Events
 Black line: Dirt Rich: Building Soil Health Experts, Aug. 16-17
 Blue line: Soil Health & Grazing Field Day, Sept 29,
 Red line: NEFGC Summer Tour, Sept 8

- The majority of the attendees indicate that the event either greatly or moderately improved their overall knowledge on soil health and the understanding of the 5 principles of soil health. More attendees selected “greatly (improved)” in the survey question of the overall knowledge than those of 5 principles. Principle 2 received the least satisfactory survey responses among the 5 principles, which implies that the events could improve the presentation of Principle 2.

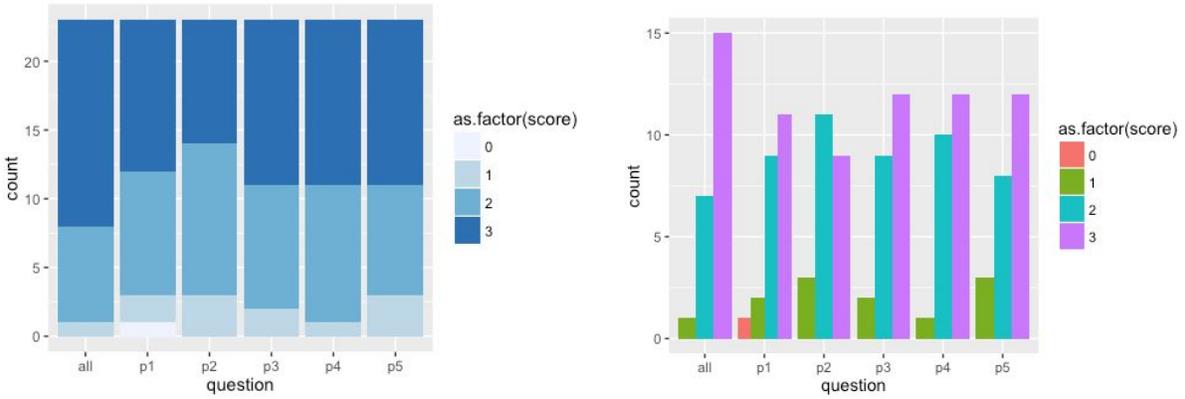


Figure: counts of survey responses for overall knowledge and the 5 principles of soil health.
 3 = greatly (improved); 2 = moderately (improved); 1 = slightly (improved); 0 = not at all.

- Most respondents rated similarly for the questions on the five principles, which means that the attendees found that the events having similar educational effects for the five principles. See **Appendix B** for visualization of the survey responses.

- We did not find any association between occupation and the level of improvement in overall understanding or those of the 5 principles. Perhaps a larger sample will give out stronger signals.
- None of the farmers selected “not applicable” for the survey question on implementing new practices on your farm. This implies that the self-identified farmers usually have their own farms.
- 3 survey respondents selected “not applicable” on both implementing new practices and hosting future training events. Very likely these respondents do not own a farm.
- 2 survey respondents selected “not applicable” for hosting future training events while finding that implementing the new practices on their farm applicable. One of them explained that he did not have an opportunity to host in his current line of volunteer service. This indicates that the reason for finding hosting events not applicable does not limit to lack of access to a farm. It may be beneficial to inform the farmers what hosting an event is like and what is expected of them as the host.
- On the other hand, we discovered 3 respondents who selected “not applicable” for implementing the new practices on the farm but were willing to host training events on their farms. We do not yet have a guess as to why.
- About half of the survey respondents (11) wrote comments. Two of them left comments in every comment box. The contribution of comments from this group of respondents is remarkable. Perhaps people working in agriculture are more willing to provide comment feedback than the general population. See **Appendix C** for the word cloud generated by the comments.

Acknowledgement:

We thank Andrew Sell (sell0136@umn.edu) from the Liberal Arts Technologies and Innovation Services at the University of Minnesota who provided insightful advice during our project. Many analyses in the report are inspired by his ideas.

Appendix A: survey results

- What soil health event did you attend: Respondents identified 3 events. They are the three most recent events in the soil health network series.
 - Soil Health & Grazing Field Day, Sept 29, 2016 @ Pinederosa Farm, Pine City, MN: 7 responses
 - NEFGC Summer Tour, Sept 8, 2016 @ Bob Durovec farm, Meadowlands, MN: 2 responses
 - Dirt Rich: Building Soil Health Experts, Aug. 16-17, 2016, Redwood Falls & Marshall, MN @ Grant and Dawn Breitreutz farm, Allen Deutz farm: 14 responses

- What is your occupation:

Occupation	Farmer	Agency Staff	Researcher/Extension	Consultant	Other
Count	11	6	2	5	7
Percentage	48%	26%	9%	22%	30%

7 people (30%) identified themselves as having more than one occupation.

- “How did the event increase your knowledge and understanding of soil health?”

Answer	Greatly increased	Moderately increased	Slightly increased	Not at all
Count	15	7	1	0
Percentage	65%	31%	4%	0

- “How did your understanding of the first soil health principle, "Keep the Soil Covered," improve?”

Answer	Greatly	Moderately	Slightly	Not at all
Count	11	9	2	1
Percentage	48%	39%	9%	4%

- “How did your understanding of the second soil health principle, "Minimize Soil Disturbance," improve?”

Answer	Greatly	Moderately	Slightly	Not at all
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Count	9	11	3	0
Percentage	39%	48%	13%	0

- “How did your understanding of the third soil health principle, "Increase Crop Diversity," improve?”

Answer	Greatly	Moderately	Slightly	Not at all
Count	12	9	2	0
Percentage	52%	39%	9%	0

- “How did your understanding of the fourth soil health principle, "Keep Living Roots in the Soil," improve?”

Answer	Greatly	Moderately	Slightly	Not at all
Count	12	10	1	0
Percentage	52%	44%	4%	0

- “How did your understanding of the fifth soil health principle, "Incorporate Livestock," improve?”

Answer	Greatly	Moderately	Slightly	Not at all
Count	12	8	3	0
Percentage	52%	35%	13%	0

- “How much did the event inspire you to implement new practices on your farm?”

Answer	Greatly	Moderately	Slightly	Not at all	Not applicable
Count	11	5	0	1	6
Percentage	48%	22%	0	4%	26%

- “How much did the event inspire you to design and host future training events?”

Answer	Greatly	Moderately	Slightly	Not at all	Not applicable
Count	9	7	2	0	5
Percentage	39%	30%	9%	0	22%

Appendix B: Visualization of the Multiple-choice Questions

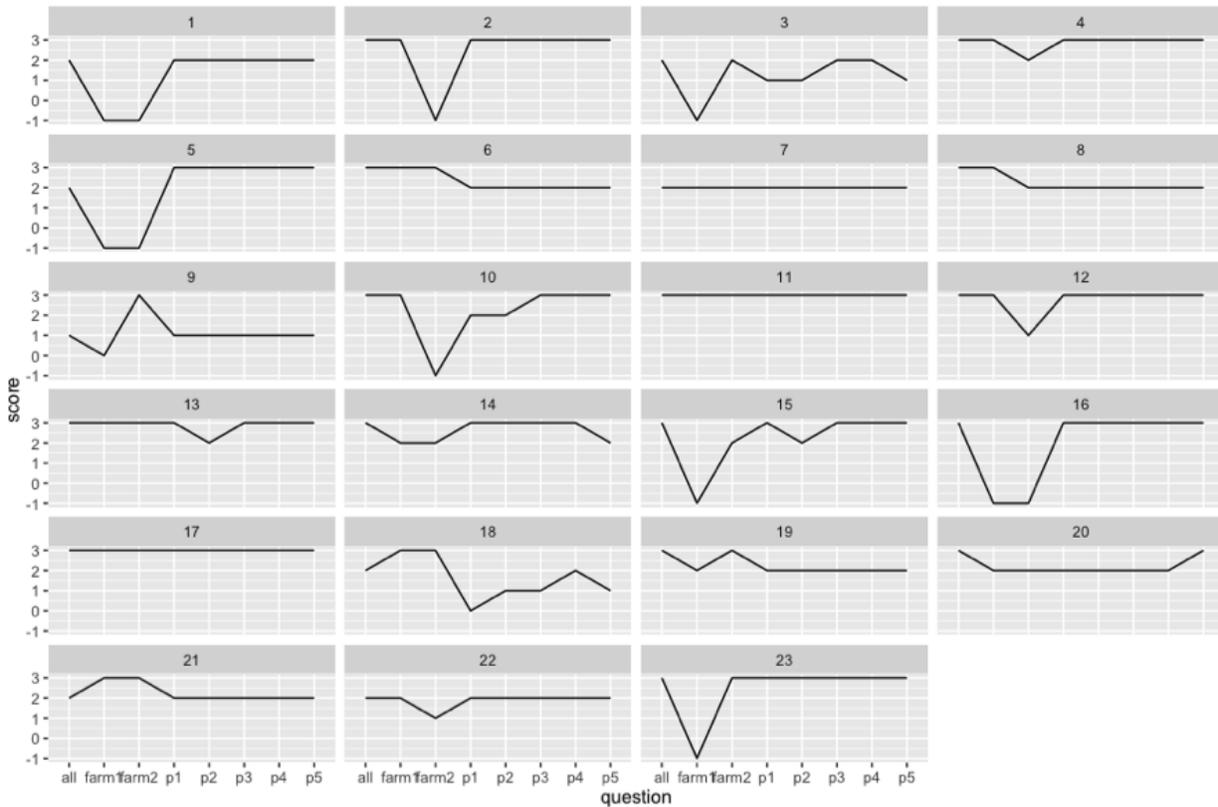


Figure: response of the multiple-choice questions for each survey respondent.

Question indices:

All = How did the event increase your knowledge and understanding of soil health?

Farm1 = How much did the event inspire you to implement new practices on your farm?

Farm2 = How much did the event inspire you to design and host future training events?

P1 = How did your understanding of the first soil health principle, "Keep the Soil Covered," improve?

P2 = How did your understanding of the second soil health principle, "Minimize Soil Disturbance," improve?

P3 = How did your understanding of the third soil health principle, "Increase Crop Diversity," improve?

P4 = How did your understanding of the fourth soil health principle, "Keep Living Roots in the Soil," improve?

P5 = How did your understanding of the fifth soil health principle, "Incorporate Livestock," improve?

Score indices:

3 = greatly (improved);

2 = moderately (improved);

1 = slightly (improved)

0 = not at all;

-1 = Not applicable

