One of the extension outreach goals for CenUSA is to measure increased awareness or knowledge among participants who attend bioenergy events sponsored by CenUSA partner institutions. We use survey results to document that CenUSA is meeting the deliverables outlined in our grant proposal for the first 2 years of the project, i.e. increased knowledge of perennial grass and biochar agriculture among:

• 200 Extension educators
• 5,000 agricultural producers, agricultural industry leaders and educators, and
• 500 horticultural producers and industry leaders.

The retrospective pre-then-post survey format is an evaluation tool that can generate valuable data by asking participants to rate how they changed as a result of an educational event. It is particularly useful in efficiently measuring changes in knowledge or behavior.

At the end of the event, participants answer two questions in one survey: 1) their behavior relative to the information presented before the program (pre-test), and 2) their behavior as a result of learning because of the program (post-test).

The post-then-pre design corrects the problem of poor recall by participants when responding accurately to the questions being asked on a post-test. With this evaluation format, participants are provided sufficient knowledge to answer the questions. This format also has the advantage of not overwhelming participants with multiple surveys before and after an event.

Below is an example of a retrospective pre-then-post survey format. The scale categories could be changed depending on what we want to measure. Using the retrospective pre-then-post approach allows data collection to be as consistent as possible, which could allow aggregating data across multiple events.

**EXAMPLE**

Specific topics presented at the event are listed individually so participants can show their knowledge gain for each topic after an event.

Instructions: Please indicate the level of knowledge you gained from each topic that was presented at [name of event] on [date of event]:

<table>
<thead>
<tr>
<th>BEFORE [name of event]</th>
<th>Changes as a result of [event]</th>
<th>AFTER [name of event]</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>A little</td>
<td>Some</td>
</tr>
<tr>
<td>None</td>
<td>A little</td>
<td>Some</td>
</tr>
</tbody>
</table>

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