

## Extracting Numbers from ANR Regional Results

Results for ANR Regional scan forms are presented in two reports (Short and Long). The Short Report provides summary tables and other top-level information. The Long Report provides more detailed results for retrospective post and intentions to adopt items, and other survey questions. This interpretation guide discusses content from both reports.

### Descriptive Statistics

	N	Sum
Total Number of Respondents	39	39
Valid N (listwise)	39	

### Event Profile

First Name	JOHN
Last Name	AGENT
Primary County	Lone Star
Additional County	
Additional County	
Additional County	
Additional County	
Additional County	
Additional County	
Type of Plan	Output
State Goal	Goal 2 (Agriculture, Natural Resources, Economic and Environmental Education)
TEXAS Plan Number	.
TEXAS Task Number	.
Type of Event	Group educational event
Event Title	COW COUNTRY CONGRESS
Event Date	18-OCT-2024
Economic Benefit an Explicit Go	Yes
CEUs Offered	Other
Partial Cost Recovery Event	Yes
Zip Code Where the Event Occurred	77320
Scan Form ID	48234
Batch number assigned by OD	62795
Surveys Returned	39
Total Attendance	39
Survey Response Rate	100.0%

The first page of your output is standard for most results sent by the Office of Data and Accountability (ODA). It contains a profile of your event built mostly with information from your cover sheet. ODA adds the calculation of a **response rate** by comparing the **number of surveys returned** versus **attendance**. You may want to report these three pieces of information.

In this example, 39 survey forms were processed while attendance was listed as 39 on the cover sheet, for a response rate of 100%. If you had a total attendance of 39, and 37 surveys that were returned, the response rate would be 94.9%.

### Descriptive Statistics

	N	Minimum	Maximum	Sum	Mean
Number of acres you manage	37	0	1,000	7,635	206.35
Head of beef cattle that you manage	36	0	350	1,774	49.28
Valid N (listwise)	36				

Please review and confirm that the numbers in **RED** are plausible for your event. They are the largest value for acres and/or head of livestock as picked up by the scanner.

- If the values are plausible, then you can proceed with using all the results provided to you.
- If one or both the maximum values are suspect (seem implausibly large), then a respondent error or scanning error may have occurred. Therefore, your estimates of anticipated economic benefit are invalid and should not be used. Contact ODA to review and resolve such values – which may include removing the suspect value(s) and rerunning results.

In this table, the **SUM** column in **BLUE** shows the totals for number of acres and the heads of beef cattle managed. Participants reported that they managed a total of 7,635 acres and 1,774 heads of beef cattle.

The **MEAN** column indicates the average number of acres and heads of beef cattle managed per participant. Participants had an average of 206.35 acres and 49.28 heads of beef cattle.

**Table: Pre Means, Post Means & Percent Change**

	Program Content	Mean Before	Mean After	Percent Change
1	Cimmaron result demonstration results	1.89	3.25	45.3%
2	Hay storage	2.78	3.70	30.7%
3	Fencing for livestock	2.18	3.16	32.7%
4	Standing forage for winter	2.32	3.41	36.3%
5	Can i afford not to sell her?	2.42	3.56	38.0%

$$\text{Percent Change} = ((\text{Post Mean} - \text{Pre Mean}) / 3) * 100$$

This summary table, from the Short Report, shows the mean score in level of understanding for each statement before and after the program (highlighted in blue) using a 4-point scale where 1=Poor, 2=Fair, 3=Good, and 4= Excellent. For example, the mean level of understanding of hay storage was 2.78 before; then 3.70 after the program (a 30.7% percent increase on the scale). Here is an example statement to report this:

- As a result of the program, there was a 30.7% increase in mean level of understanding (post vs. pre) of hay storage.

However, some may find it easier to interpret change in level of understanding by discussing the proximity of the mean scores to the four points on the scale rather than the percent change value. Here are a few example statements using that approach:

- On average, participants moved roughly from a “good” understanding to “excellent” understanding of hay storage (on a 4-point scale).
- On average, participants moved roughly from a “fair” understanding to an “good” understanding of fencing for livestock (on a 4-point scale).

Percent change (highlighted in red) is calculated using the following formula:

$$\text{Percent Change} = ((\text{Post Mean} - \text{Pre Mean}) / (\text{Number of Scale Points} - 1)) * 100$$

This differs from the traditional percent change formula as this takes scale points into consideration. The traditional formula returns the relative increase or decrease between two values (pre and post), expressed as a percentage of the initial value (pre). On other hand, the modified percent change calculation returns the relative increase or decrease along the length of the scale. There are two arguments in favor of using this formula over the traditional calculation of percent change:

- Percent change does not exceed 100 (traditional percent change can exceed 100)
- Percent change is consistent for the same “post – pre” distance on the scale (traditional percent change will produce different numbers). For example:
  - Traditional percent change
    - $\text{Pct Chg} = (3.50 - 2.25) / 2.25 = 55.6\%$
  - Traditional percent change with same “post – pre” distance of 1.25
    - $\text{Pct Chg} = (4.00 - 2.75) / 2.25 = 45.5\%$
  - Percent change on a scale
    - $\text{Pct Chg} = (3.50 - 2.25) / 3 = 41.7\%$
  - Percent change on a scale with same “post – pre” distance of 1.25.
    - $\text{Pct Chg} = (4.00 - 2.75) / 3 = 41.7\%$

**Table: % at Good/Excellent, Pct Who Increased Understanding**

	Program Content	Pct. at Good or Excellent Before the Program	Pct. at Good or Excellent After the Program	Pct. Point Difference (After vs. Before)	Pct. With Any Increase in Understanding
1	Cimmaron result demonstration results	19.4%	91.7%	72.3	86.1%
2	Hay storage	70.3%	100.0%	29.7	67.6%
3	Fencing for livestock	44.7%	86.8%	42.1	71.1%
4	Standing forage for winter	40.5%	89.2%	48.7	81.1%
5	Can i afford not to sell her?	47.2%	97.2%	50.0	83.3%

In this summary table from the Short Report, the Program Content column shows the items listed on the survey instrument. The next two columns (highlighted in green) show the percent of participants at a “good or excellent” level of understanding before the program vs. after, for each item. Percent Point Difference (highlighted in blue) is calculated by subtracting the % of good or excellent **BEFORE** the program **from** the % of good or excellent **AFTER** the program. In this case, there was a 29.7 percentage point increase in participants at an excellent or good level of understanding of hay storage (after the program vs. before the program).

The final column indicates the percentage of participants with any perceived increase in understanding of the item (highlighted in red). This includes any participant who had an **AFTER** rating higher than **BEFORE** (poor to fair, poor to good, poor to excellent, fair to good, fair to excellent, and good to excellent). Looking at the table, two of three participants (67.6%) perceived an increase in their understanding of hay storage.

## 2nd Change in Understanding Item - Before v. After

### (Understanding Before) - Hay storage

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Excellent	6	15.4	16.2	16.2
	Good	20	51.3	54.1	70.3
	Fair	8	20.5	21.6	91.9
	Poor	3	7.7	8.1	100.0
	Total	37	94.9	100.0	
Missing	System	2	5.1		
Total		39	100.0		

### (Understanding After) - Hay storage

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Excellent	26	66.7	70.3	70.3
	Good	11	28.2	29.7	100.0
	Total	37	94.9	100.0	
Missing	System	2	5.1		
Total		39	100.0		

In your results, mostly in the Long Report as seen above, you'll see a lot of frequency tables. These will indicate how many people selected each answer choice (Frequency) and the percentage that frequency represents of all responses (Valid Percent).

**Valid Percent** columns are highlighted in blue text. The Valid Percent column excludes missing values, as compared to the Percent column which includes missing values. If a data set does not have any missing values, the percentages in these two columns will be the same. As for this case, there were 2 missing data entries for this question. Typically, Valid Percent columns are used to report percentages.

**Cumulative Percent** adds up valid percentages across answer choices. This can be useful for quickly seeing the combined percentages of the top two categories. In the example, 100% of participants had an "Excellent" or "Good" understanding of hay storage after the program vs. 70.3% before the program (29.7% percentage point increase).

\*\*\*\*\* CLIENT CHANGE: INTENTIONS TO ADOPT \*\*\*\*\*

Client Change: Intentions to Adopt

	Practice or Technology that Could Be Adopted	Number Who Probably or Definitely Will Adopt	Number Who Could Adopt *	Pct.
1	Cimmaron result demonstration results	22	33	66.7%
2	Hay storage	26	27	96.3%
3	Fencing for livestock	13	33	39.4%
4	Standing forage for winter	22	32	68.8%
5	Can i afford not to sell her?	25	29	86.2%

\* Excludes 'Not Applicable' or 'Already Adopted'

(Intentions to Adopt) - Hay storage

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Definitely will ***	13	33.3	48.1	48.1
	Probably will	13	33.3	48.1	96.3
	Undecided	1	2.6	3.7	100.0
	Total	27	69.2	100.0	
Missing	Already adopted	11	28.2		
	System	1	2.6		
	Total	12	30.8		
Total		39	100.0		

For the **Intentions to Adopt** section, there is a frequency count for participants who “Probably will” and “Definitely will” adopt each practice/technology on the survey. These are the two answer choices of most interest. Also shown is the total number of participants who possibly can adopt each practice/technology (excluding those who indicated “Not Applicable” and “Already Adopted”).

These two numbers are divided and used to calculate the % of eligible participants who will adopt a practice/technology. For the summary table above, 96.3% of participants who could adopt recommended practices on hay storage indicated they will definitely or probably do so. This number can also be calculated by adding the valid percents of both “Definitely will” and “Probably will” answer choices in the individual frequency table for a practice/technology.

In reporting, one approach is to combine “Definitely will” and “Probably will” adopt along with the listing “Definitely will” alone. For example, almost all participants (96.3%) who haven’t already adopted the applicable recommended practices on hay storage, indicated that they definitely or probably will do so (48.1% definitely).

**Do you anticipate an economic impact benefit from your participation in this Extension program?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes ***	31	79.5	79.5	79.5
	No	8	20.5	20.5	100.0
	Total	39	100.0	100.0	

**Descriptive Statistics**

	N	Minimum	Maximum	Sum	Mean
Total anticipated economic impact for the operation (using head of livestock)	26	\$0	\$8,925	\$24,669	\$948.81
Valid N (listwise)	26				

As with the acreage table from earlier, please review and confirm that the number in **RED** is plausible for your event.

- If the value is plausible, then you can proceed with using all results provided to you.
- If the maximum value is suspect (implausibly large), it is due to the number of acres or head of livestock (which go into the calculation) being suspect (implausibly large). A respondent error or scanning error may have occurred. Therefore, your economic estimates are invalid and should not be used. Contact ODA to remove such values and we will rerun the results.

As shown above, the percentage of participants who anticipate an economic benefit as a result of the Extension program can also be found in the results table. When reporting “Yes” answers for economic benefit, it is recommended to report valid percent.

Similar to the acreage table, the **SUM** is the total amount of anticipated economic benefit from all participants in dollars and the **MEAN** is the average anticipated economic benefit per participant in dollars.



### Distribution of Client Categories for Your Event

		Count	Column Valid N %
Client Category	Promoters	32	82.1%
	Passives	4	10.3%
	Detractors	3	7.7%

### Your NPS Calculation

1	NPS = 82.1 - 7.7
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### Net Promoter Score for Your Event

Your Score:	74.4
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The Net Promoter Score® (NPS) is a measure of clientele loyalty. NPS is calculated from responses to one simple question, measured on a 0-to-10 rating scale: “Would you recommend us to a friend or colleague?” Based on the NPS, each client is placed into one of three categories: promoters, passives, and detractors. Ultimately, the goal of using the NPS is to increase promoters and decrease detractors. Promoters are 9-10 on the scale, passives are 7-8, and detractors are 6 and below.

- Net Promoter Score (NPS) = % Promoters - % Detractors
- Maximum score possible = 100
- Minimum score possible = -100
- The average NPS for all programs using ANR Regional scan forms since 2010 is 60.4.

For more information on Net Promoter Scores, visit:

<https://oda.tamu.edu/net-promoter-score/>