



**Roth Market Fresh**

**Research Assignment**

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## Executive Summary

This report was conducted to look at how the new Roth Market Fresh concept appeals to its main target audience. The focus of this report is on the final impression that customers get after eating at Roth Market Fresh and whether it is consistent with the goal of offering fresh and tasty food.

The main competitors on campus are Wendy's, SAC Food Court, Red Mango, Jasmine, West Side Dining, and Starbucks. Now the main focus for Roth Market Fresh is not to simply pull customers away from the other dining facilities offered on campus but to promote the new, healthy, fresh, and tasty food choices that are being offered at Roth Market Fresh as well as other places on campus.

In order to collect the necessary data, we created a survey consisting of numerous questions to be answered by Roth Market Fresh Customers before, during, and after their time at Roth Market Fresh. The surveys were distributed to a countless number of customers, all of who completed the survey and were instrumental in helping us collect the necessary research information.

We came up with a few specific recommendations for Roth Market Fresh. It was discovered that perceived freshness exceeds perceived tastiness. To increase perceived tastiness it was discovered that green is associated with tasty food more than fresh food. In conclusion this knowledge could be used to implement change. Our first recommendation for Roth Market Fresh is to serve the food on a bed of lettuce, as well as have lettuce and green vegetables in the showcases, under the food, and they could have plants around Roth Market Fresh area.

Also, we found that the customers perceived freshness more after they ate. After thorough research it was discovered that many respondents agreed knowing that ingredients used are locally grown contributes to customer's perception of freshness. Our next recommendation for Roth Market Fresh is to promote locally grown ingredients through signs and banners. They should be displayed around Roth Market Fresh to promote that all meat, chicken, and fish used is locally grown and then prepared to order.

## Introduction

Roth Market Fresh is a dining center located at Stony Brook University. It offers lunch and dinner to the campus community. The main problem management faces is, how can they promote healthy food choices among college students at Stony Brook? Is the new food service platform Roth Market Fresh effective in promoting healthy food choices? The marketing research problem this report focuses on poses the question, Is the final impression that customers have after eating at Roth Market Fresh consistent with the goal of offering fresh and healthy food?

This report focuses on the final impression that customers have after eating at Roth Market Fresh (the quality of their food, option to have it served on a real, reusable plate with discount for returning plate and utensils, price/value perception, recommending it to friends, etc.). Specifically, we tested whether this final impression is consistent with a perception of having made a meal choice that is fresh, tasty, and health? The results will be used to generate more insight with regard to the following overall questions: Does the RMF concept help promote healthier food choices among students on campus? Future classes, Dietary Interns, and Campus Dining could conduct what changes and what additional research?

We focused on the following specific research questions:

- Does Roth Market Fresh signal freshness and tastiness to the same extent?
- Does the respondents associate the color green with freshness and tastiness to the same extent?
- Do women associate the color green with freshness more than men?
- Do women associate the color green with tastiness more than men?
- Did those who view the reusable plate feel that it enhanced the presentation of their food?
- Does RMF make respondents believe that freshly prepared food portrays a fresh and tasty meal to the same extent?
- Comparing perceived tastiness before they eat to perceive after they eat.

## Methodology

For the initial phase of our project, we conducted exploratory research to understand the problem at hand better and also to generate initial insights. The results were then used to (a) define variables and specific research questions that are important when trying to answer the marketing research question, and (b) develop a survey that can be used to answer our research questions. We used this questionnaire that we had created and brought it directly to the customers. This method of data collection is what is known as primary data. We conducted the research ourselves first-hand and did not rely on any type of third-party such as government or university statistics in order to gather our numbers. After having them each fill out their own survey, we collected and logged all of the data.

Next, our group brainstormed certain questions that we felt needed to be answered in order learn if Roth Market Fresh was consistent with their goal of providing customers food that is not only healthy, but fresh and tasty as well. We created numerous questions such as; Does RMF (Roth Market Fresh) signal freshness and tastiness to the customers to the same extent, and also how a customer perceives the tastiness initially as opposed to after they have already eaten their meal. Getting the answers to these questions as well as a few others proved to be absolutely vital in helping our team achieve the types of recommendations that were required by the client.

Once we conducted the specific tests that coincided with the questions that we were asking, we had to decide as a group which tests would be correct. The main questions we asked were:

- Does RMF signal freshness and tastiness to the same extent?
- Do the respondents associate the color green with freshness and tastiness to the same extent?
- Is perceived freshness lower before someone eats at RMF compared to perceived freshness after they eat?
- Does locally grown ingredients give the customers the impression that the food will be fresh?

In order to run those first three tests, we used paired-sample t-tests. By using this type of test, we were able to determine the correlation between each respective variable.

After learning that customers felt that RMF signified freshness more so than tastiness and also that customers associate the color green with tastiness, we came up with a recommendation that would rectify both of these problems. We suggested that RMF should introduce more of the color green to both their menu as well as their dining area. By adding things such as leafy greens to the plate or presenting the food

on a bed of lettuce, it would boost the customer's perception of tastiness throughout RMF. By increasing perceived tastiness, RMF would be able to balance out the perception of freshness and tastiness. We also recommended that RMF better promote the fact that they use locally grown ingredients. By doing this, customers would be more inclined to perceive RMF as fresh. All of this data that we used was primary data collected by our team as well as the other students in the class.

## Results

Our main goal was to figure out if the customer's final impression after eating at Roth Market Fresh was consistent with the goal of offering fresh, tasty, and healthy food. The lead us to our first question to focus on which was, Does Roth Market Fresh signal freshness and tastiness to the same extent? By asking this question we wanted to figure out customers perception of tastiness and freshness of Roth Market Fresh before eating there and if one of the perceptions was greater than the other (*Test 1*).

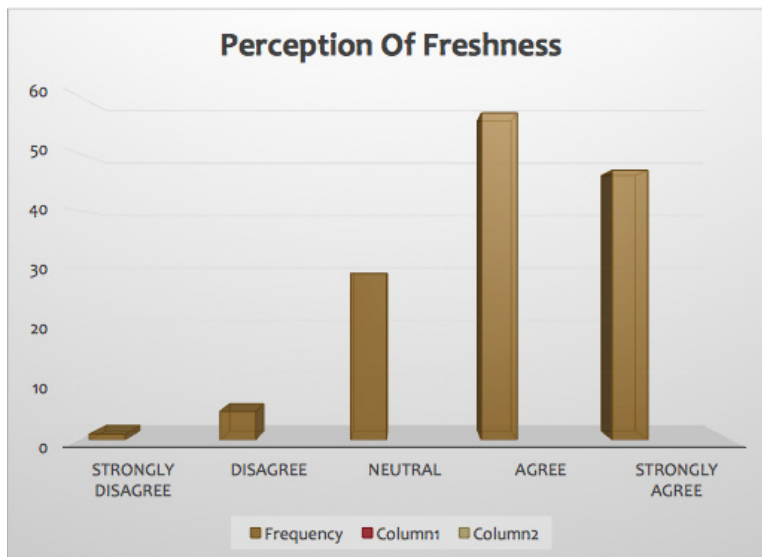


Figure 1

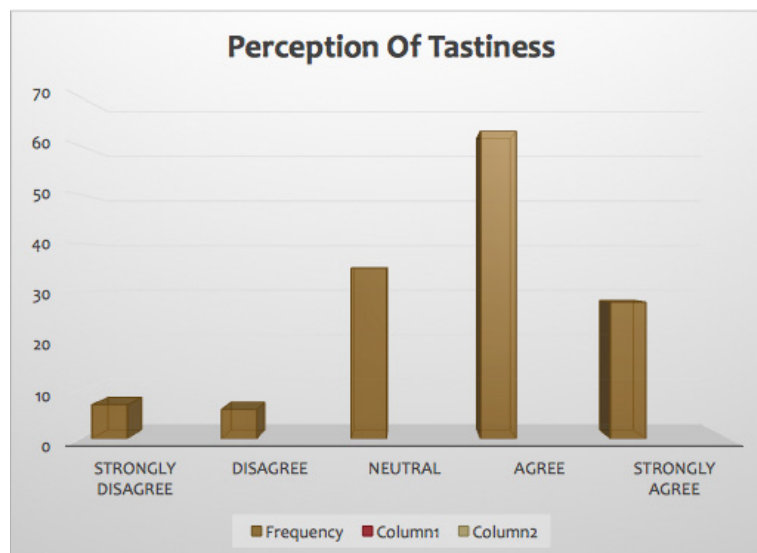


Figure 2

A paired-samples t-test was conducted to compare customers' perceptions of freshness and tastiness at Roth Market fresh. As seen in Figures 1 and 2, there was a significant difference in the scores for freshness ( $M = 4.04$ ,  $SD = .87$ ) and tastiness ( $M = 3.71$ ,  $SD = 1.00$ );  $t(138) = 3.84$ ,  $p < .05$ . These results suggest that Roth Market Fresh signals fresh food more than tasty food.

Knowing that Roth Market Fresh signals fresh food more than tasty food, the next step was to research how Roth Market Fresh can signal tastiness more to match the already strong perception of freshness. This led us to the question, do the respondents associate the color green with freshness and tastiness to the same extent?

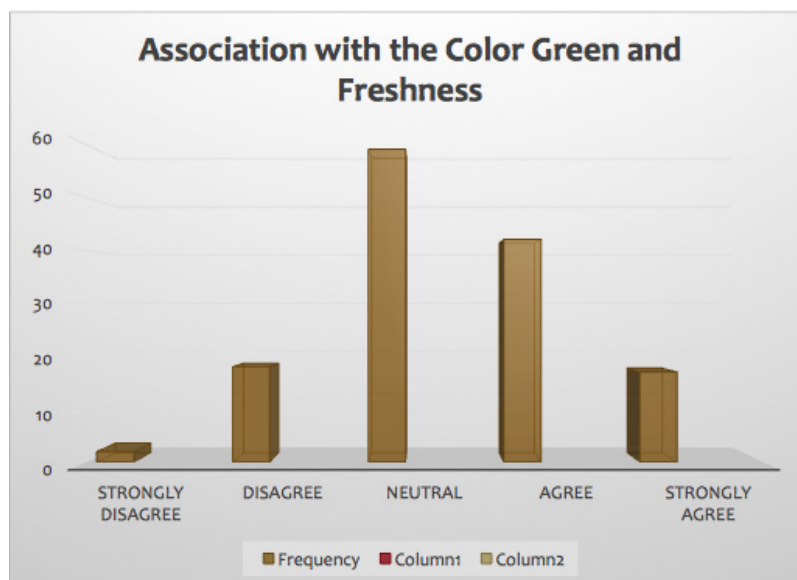


Figure 3

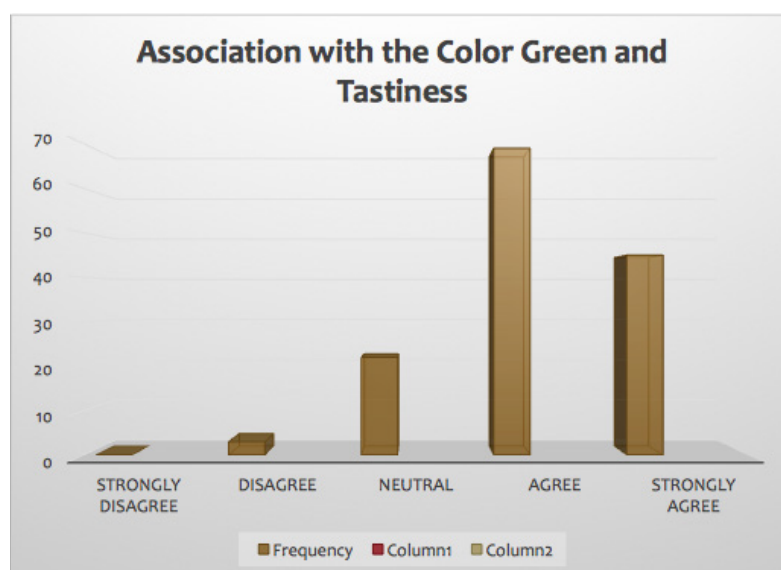


Figure 4

A Paired-Samples T-test was conducted to compare whether customers at Roth Market Fresh associate the color green with freshness and tastiness to a different extent. Demonstrated in Figures 3 and 4, there was a significant difference in the scores for freshness (Mean= 3.39, SD = .92) and tastiness (Mean= 4.12, SD = .07466). These results suggest Roth Market Fresh customers associate the color green with tasty food more than fresh food (*Test 2*).



The next step was to focus on the customers final impression after they ate and if Roth Market Fresh met or did not meet their expectations. We posed the question, Is perceived freshness lower before someone eats at Roth Market Fresh compared to perceived freshness after they eat?

**Initial perceived Freshness: Mean = 4.04**

**Actual perceived Freshness: Mean = 4.19**

*(Test 3)*

A paired-samples t-test was conducted comparing perceived freshness before they ate to perceived tastiness after they eat. There was a significant difference in the scores for before and after. These results suggest there was a significant difference in how customers perceived freshness, the perceived it more AFTER they ate.

Freshness is a very important factor to Roth Market Fresh and since people found it fresher after they ate, it was very important to us to find out how to enhance the initial impression of fresh food. It was then important to find out how to increase the perception of freshness before ordering. This lead us to ask the question, Does locally grown ingredients give the customers the impression that the food will be fresh? *(Test 4)*

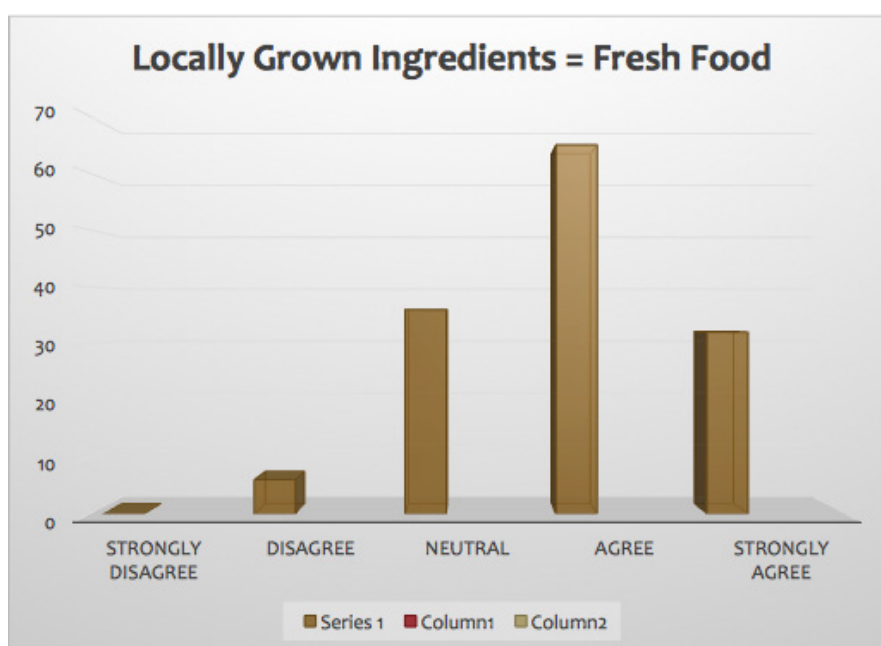


Figure 5

Figure 5 demonstrates the extent to which customers believe locally grown ingredients give the impression the food will be fresh. We ran a descriptive statistics test and found the mean to be 3.89. This means that most people agree that knowing the ingredients Roth Market Fresh uses are locally grown will give them a strong initial impression of freshness.

It then became critical to see if locally grown ingredients gave the impression that the food would also be tasty. A Paired T-Test comparing perceived tastiness before they eat to perceived tastiness after they eat was previously ran, but the results were not significant. The next question researched was, Does locally grown ingredients give the customers the impression that the food will be tasty? (*Test 5*)

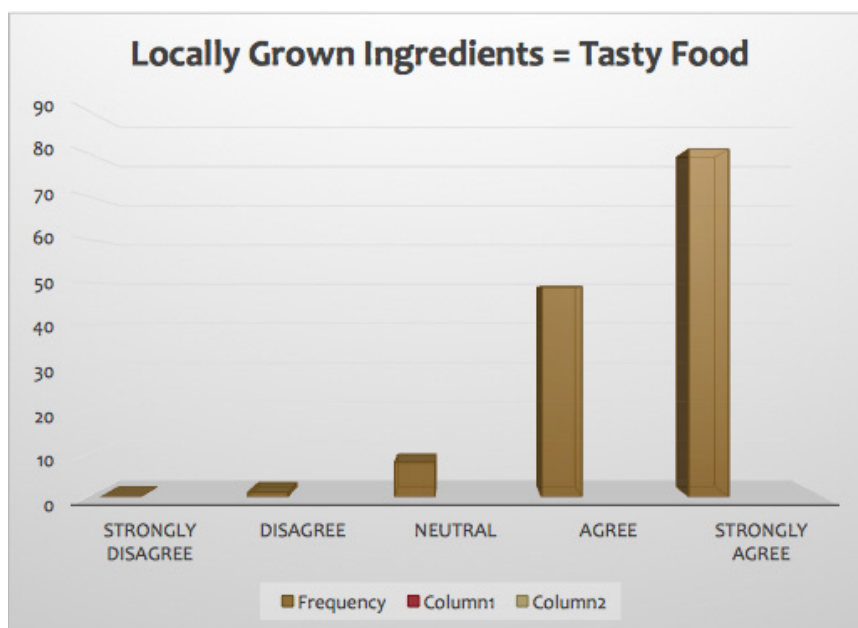


Figure 6

Figure 6 demonstrates the extent to which customers believe locally grown ingredients give the impression the food will be tasty. A descriptive statistics test was ran and found the mean to be 4.5. This means that most people very strongly agree that knowing the ingredients Roth Market Fresh uses are locally grown will give them a strong initial impression that the food will be tasty as well.

Our next tests including running a few multiple regression tests to see which statement predicts loyalty, enjoyment of meal and tastiness based on the customers perceptions of tastiness and freshness. The first was based on loyalty; does likelihood to return depend on perception of freshness and tastiness? (*Test 6*). A general linear model was run to assess whether the likelihood to return depends on the perception of freshness and tastiness. It was found that the perception of both freshness and tastiness was significant on whether a customer was likely to return.

A multiple regression test was then run to assess whether someone's enjoyment of their meal depended on perception of freshness and tastiness. (*Test 7*). It was found that the perception of both freshness and tastiness was significant on whether a customer found their meal enjoyable.

The last multiple regression tests ran posed the following question, did the extent to which someone found their food to be tasty depend on their initial impression of freshness and tastiness? (*Test 8*). It was found that the perception of both freshness and tastiness was significant on whether a customer found their food to be tasty.

## Conclusions and Recommendations

“Does Roth Market Fresh signal freshness and tastiness to the same extent?” The rationale for obtaining an answer to this question is to determine if there was a difference in how well Roth Market Fresh was conveying focuses of both freshness and tastiness to their customers. It was discovered that perceived freshness exceeds perceived tastiness. After ascertaining this information it is apparent the following goal should be to boost the perception of tastiness so in sync with the perception of freshness.

The goal is to boost the perception of tastiness in the minds of the consumer. A question was posed that addressed this, “Does the respondents associate the color green with freshness and tastiness to the same extent?” This particular question was asked to find out if there was a way to enhance how Roth Market Fresh signals certain perceptions. It was discovered that green is associated with tasty food more than fresh food. In conclusion this knowledge could be used to implement change. Our first recommendation is that Roth Market Fresh should serve their food on a bed of lettuce, as well as have lettuce and green vegetables in the showcases under the food, and they could have plants around Roth Market Fresh area.

Using the information we already obtained, respondents were asked about perceived freshness before a customer ate to perceived freshness after they ate. The results were customers perceived freshness more after they ate. It is necessary to increase perceived freshness of Roth Market Fresh prior to eating, since the data indicates this is the area that’s lacking.

Respondents were asked if knowing that locally grown ingredients are used, would that increase the customers initial perception of freshness. It was discovered that many respondents agreed knowing that ingredients used are locally grown contributes to customer’s perception of freshness. The strategy should be to promote locally grown ingredients because it promotes the perception of freshness. Our second recommendation is that signs and banners should be displayed around Roth Market Fresh to promote that all meat, chicken, and fish used is locally grown and then prepared to order.

Through research it was concluded that initial perception of freshness and tastiness is very important since it predicts how likely a customer is to return, their enjoyment of a meal, the extent to which one found their food to be tasty, and ultimately their satisfaction of the tastiness and freshness.

## Appendix

### Test 1

Paired Sample T-Test: Does Roth Market Fresh signal freshness and tastiness to the same extent?

•Variables:

–IV: entire sample, no subgroups

#### Paired T Test for freshness - tastiness

Null Hypothesis: difference = 0

Alternative Hyp: difference <> 0

|              |        |
|--------------|--------|
| Mean         | 0.3237 |
| Std Error    | 0.0843 |
| Mean - H0    | 0.3237 |
| Lower 95% CI | 0.1570 |
| Upper 95% CI | 0.4905 |
| T            | 3.84   |
| DF           | 138    |
| P            | 0.0002 |

Cases Included 139      Missing Cases 0

–2 DVs: Freshness (5-point Likert scale) and Tastiness (5-point Likert Scale)

#### Descriptive Statistics

| Variable  | N   | Mean   | SD     | Minimum | Maximum |
|-----------|-----|--------|--------|---------|---------|
| freshness | 139 | 4.0360 | 0.8715 | 1.0000  | 5.0000  |
| tastiness | 139 | 3.7122 | 1.0018 | 1.0000  | 5.0000  |

A paired-samples t-test was conducted to compare whether RMF portrays freshness and tastiness to a different extent. There was a significant difference in the scores for freshness ( $M = 4.04$ ,  $SD = .87$ ) and tastiness ( $M = 3.71$ ,  $SD = 1.00$ );  $t(138) = 3.84$ ,  $p < .05$ . These results suggest RMF signals fresh food more than tasty food.

**Test 2**

Paired Sample T-Test: Does the respondents associate the color green with freshness and tastiness to the same extent?

H0: The respondents associate the color green with freshness and tastiness to the same extent

H1: The respondents either associates the color green with freshness or tastiness more

Paired T Test for perc01 - perc02

Null Hypothesis: difference = 0

Alternative Hypothesis: difference  $\neq$  0

|              |         |
|--------------|---------|
| Mean         | -0.7319 |
| Std Error    | 0.0780  |
| Mean - H0    | -0.7319 |
| Lower 95% CI | -0.8862 |
| Upper 95% CI | -0.5776 |
| T            | -9.38   |
| DF           | 137     |
| P            | 0.0000  |

Cases Included 138 Missing Cases 1

**Descriptive Statistics**

| Variable | N   | Mean   | SD     | Minimum | Maximum |
|----------|-----|--------|--------|---------|---------|
| perc01   | 138 | 3.3913 | 0.9157 | 1.0000  | 5.0000  |
| perc02   | 139 | 4.1223 | 0.7466 | 2.0000  | 5.0000  |

A paired-samples t-test was conducted to compare whether customers at RMF associate the color green with freshness and tastiness to a different extent. There was a significant difference in the scores for freshness ( $M = 3.39$ ,  $SD = .92$ ) and tastiness ( $M = 4.12$ ,  $SD = .07466$ );  $t(139) = -9.38$ ,  $p < .05$ . These results suggest RMF customers associate the color green with tasty food more than fresh food.

**Test 3**

Comparing perceived freshness before they eat to perceived freshness after they eat.

- H1: Respondents perceived their meal as being more fresh after they ate their meal compared to before they ate their meal OR There is a significant difference between the means of the two variables
- H0: There is no difference between perceived freshness before and after the respondents ate their meals.

Paired T Test for attit\_04 - satis\_3

Null Hypothesis: difference = 0

Alternative Hyp: difference  $\neq$  0

Mean            -0.1691  
 Std Error        0.0764  
 Mean - H0       -0.1691  
 Lower 95% CI   -0.3202  
 Upper 95% CI   -0.0181  
 T                -2.21  
 DF                135  
 P                 0.0285

Cases Included 136    Missing Cases 3

### Descriptive Statistics

| Variable | N   | Mean   | SD     | Minimum | Maximum |
|----------|-----|--------|--------|---------|---------|
| attit_04 | 137 | 4.0365 | 0.7613 | 2.0000  | 5.0000  |
| satis_3  | 138 | 4.1884 | 0.8675 | 1.0000  | 5.0000  |

Reject Null... found the food fresher AFTER they ate it!

A paired-samples t-test was conducted comparing perceived freshness before they ate to perceived tastiness after they ate.. There was a SIGNIFICANT difference in the scores for before (attit\_04) (M = 4.04, SD = .76) and after (satis\_3) (M = 4.19, SD = .87);  $t(138) = -2.21$ .  $p < .05$ .  $.03 < .05$ . These results suggest there was a significant difference in how customers perceived freshness, the perceived it more AFTER they ate.

### Test 4

Does locally grown ingredients give the customers the impression that the food will be fresh?

### Descriptive Statistics

| Variable | N   | Mean   | SD     | Minimum | Maximum |
|----------|-----|--------|--------|---------|---------|
| perc03   | 139 | 3.8849 | 0.8083 | 2.0000  | 5.0000  |

### Test 5

Compare Locally Grown food and the effect on tastiness:

Does locally grown ingredients give the customers the impression that the food will be tasty?

**Descriptive Statistics**

| Variable | N   | Mean   | SD     | Minimum | Maximum |
|----------|-----|--------|--------|---------|---------|
| perc04   | 139 | 4.5108 | 0.6412 | 2.0000  | 5.0000  |

**Test 6****Loyalty: -Multiple Regression**

Does likelihood to return depend on perception of freshness and tastiness?

Least Squares Linear Regression of loyalty, how likely are you to come back to Roth  
Predictor

| Variables | Coefficient | Std Error | T    | P      | VIF |
|-----------|-------------|-----------|------|--------|-----|
| Constant  | 1.67839     | 0.36543   | 4.59 | 0.0000 | 0.0 |
| freshness | 0.45145     | 0.09205   | 4.90 | 0.0000 | 1.2 |
| tastiness | 0.21079     | 0.08011   | 2.63 | 0.0095 | 1.2 |

|                    |         |                          |         |
|--------------------|---------|--------------------------|---------|
| R-Squared          | 0.2813  | Resid. Mean Square (MSE) | 0.71328 |
| Adjusted R-Squared | 0.2706  | Standard Deviation       | 0.84456 |
| AICc               | -41.359 |                          |         |
| PRESS              | 100.66  |                          |         |

| Source     | DF  | SS      | MS      | F     | P      |
|------------|-----|---------|---------|-------|--------|
| Regression | 2   | 37.685  | 18.8425 | 26.42 | 0.0000 |
| Residual   | 135 | 96.293  | 0.7133  |       |        |
| Total      | 137 | 133.978 |         |       |        |

|             |     |         |         |      |        |
|-------------|-----|---------|---------|------|--------|
| Lack of Fit | 13  | 10.3079 | 0.79292 | 1.13 | 0.3447 |
| Pure Error  | 122 | 85.9853 | 0.70480 |      |        |

Cases Included 138 Missing Cases 1

**Test 7****Enjoyment of Meal: -Multiple Regression**

Did someone's enjoyment of their meal depend on perception of freshness and tastiness?

Least Squares Linear Regression of satis\_1, to what extent did you enjoy your meal?



| Predictor Variables | Coefficient | Std Error | T    | P      | VIF |
|---------------------|-------------|-----------|------|--------|-----|
| Constant            | 1.50518     | 0.31454   | 4.79 | 0.0000 | 0.0 |
| Freshness           | 0.43983     | 0.07923   | 5.55 | 0.0000 | 1.2 |
| Tastiness           | 0.22910     | 0.06895   | 3.32 | 0.0011 | 1.2 |

|                    |        |                          |         |
|--------------------|--------|--------------------------|---------|
| R-Squared          | 0.3494 | Resid. Mean Square (MSE) | 0.52843 |
| Adjusted R-Squared | 0.3398 | Standard Deviation       | 0.72694 |

AICc -82.754

PRESS 75.410

| Source     | DF  | SS      | MS      | F     | P      |
|------------|-----|---------|---------|-------|--------|
| Regression | 2   | 38.313  | 19.1567 | 36.25 | 0.0000 |
| Residual   | 135 | 71.339  | 0.5284  |       |        |
| Total      | 137 | 109.652 |         |       |        |

Lack of Fit 13 15.5006 1.19235 2.61 0.0032

Pure Error 122 55.8381 0.45769

Cases Included 138 Missing Cases 1

### Test 8

#### Tasty: Multiple Regressions

Did the extent to which someone found their food to be tasty depend on their initial impression of freshness and tastiness?

Least Squares Linear Regression of satis\_2, to what extent did you find the food to

| Predictor Variables | Coefficient | Std Error | T    | P      | VIF |
|---------------------|-------------|-----------|------|--------|-----|
| Constant            | 1.52530     | 0.29874   | 5.11 | 0.0000 | 0.0 |
| Freshness           | 0.42160     | 0.07525   | 5.60 | 0.0000 | 1.2 |
| Tastiness           | 0.24546     | 0.06549   | 3.75 | 0.0003 | 1.2 |

R-Squared 0.3715 Resid. Mean Square (MSE) 0.47667

Adjusted R-Squared 0.3622 Standard Deviation 0.69042

AICc -96.979

PRESS 67.952

| Source     | DF | SS     | MS      | F     | P      |
|------------|----|--------|---------|-------|--------|
| Regression | 2  | 38.033 | 19.0165 | 39.89 | 0.0000 |

|             |     |         |         |      |        |
|-------------|-----|---------|---------|------|--------|
| Residual    | 135 | 64.351  | 0.4767  |      |        |
| Total       | 137 | 102.384 |         |      |        |
| Lack of Fit | 13  | 13.7987 | 1.06144 | 2.56 | 0.0037 |
| Pure Error  | 122 | 50.5524 | 0.41436 |      |        |

Cases Included 138 Missing Cases 1