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ORGANIC VS CONVENTIONAL: WHICH IS BETTER?

by

Gavin Edwards

B.S., Southern Illinois University, 2020

A Research Paper
Submitted in Partial Fulfillment of the Requirements for the
Master of Science

Department of Agribusiness Economics
in the Graduate School
Southern Illinois University Carbondale
July 2021

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RESEARCH PAPER APPROVAL

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Approved by:

Dr. Wanki Moon, Chair

Graduate School
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July 21, 2021

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HEADING 1

INTRODUCTION

In the past few years Organic food has become more prevalent in our society. Many people claim that the health benefits are out of this world. The problem with this stance is that there are too many conflicting studies when it comes to the real answer. Many websites claim that they have pure science backing their opinion, but this is not true. The point of this paper is to figure out the answer to the question that has been proposed, is it more worth it? I want to know if Organic is worth the fuss and the price.

When buying products consumers have three options, either buying a brand they love, buying the cheapest brand, or buying the most ethical brand. Many organic brands claim they have the most ethical way of raising poultry. They may be different, but ethical is up to interpretation. Many websites have false claims on them. Some say that conventional is better. That the way that conventional poultry is raised makes the meat better. Some say that organic is better. That organic chicken is healthy for you. A lot of these allegations have no scientific proof behind them. They are just claims made by people trying to swing consumers to their side. People already have preconceived biases towards the side they want. This paper is meant to help consumers make a decision while only giving scientific fact.

The objective of this paper is to determine if organic poultry is better for you. I will be looking at other scholarly articles to look at the science behind the poultry. They will mostly be looking at how they are raised and health benefits. The data collected for this paper is on whole chicken premium prices. The two premiums that will be looked at are organic whole chicken and conventional whole chicken.

HEADING 2

LITERATURE REVIEWS

To determine which is better scientifically, I will be using other academic journals to justify the answer. Each journal can be related back to the question. All four journals involve organic poultry and conventional poultry in some way, shape, or form. They can each be related back to the question at hand.

Consumer Attitudes toward Organic Poultry Meat

This study looked at the perceptions of organic meats viewed by the consumer. The study group was 976 participants. Most of the participants only occasionally purchased organic chicken. In the study, the number of people that made up the non-buyers were 256, occasional buyers were made up of 571, the habitual buyers were made up of 149. The study had a majority of female participants, also participants were 25 to 34 years old, and mostly married people. After the study was done it was determined that older people and Caucasians purchased organic meat more frequently. The thing that the consumers looked for most in organic meat was meat quality. Another focus of the consumers who purchased organic meat frequently were the welfare of the poultry. Many of the consumers also chose organic chicken over conventional chicken because they felt as though it was safer since they were exposed to less residues and that it was healthier. Many of the consumers seemed misinformed about conventional farming methods. The study stated that consumers should be more well informed of the benefits that the techniques offer in conventional farming. Another major problem in the organic farming market is that the demand is increasing every year and the supply is having a hard time catching up. Until there is more supply than there is demand, the premiums for organic product's will be higher. This is very relevant because many consumers see conventional farming as almost evil

because of some of the methods they use. Most of the participants in the study group didn't realize the benefits that conventional farming gives. Both sides have a lot of positives and negatives backing them. If given the proper information consumers might change their buying habits and chalk it up more to preference.

Consumer Preferences and WTP for Value-added chicken product attributes

Consumers are what drive the market. Many producers try to incentivize the consumers to purchase their product. This study looked at 276 chicken consumers. The study focused on importance of consumer preferences when it came to chicken parts, production methods, processing methods, storage methods, the presence of added flavor, and cooking methods. When the study was all said and done it was found the participants had different varying preferences. To the participants the ideal chicken product was a refrigerated product that was free range, produced with no additives or preservatives, had no additional flavor, and could be easily heated in an oven or a pan. On average half the participants willingness to pay was 30% more for value added chicken products than conventional chicken products. The study found that young consumers, people who often shop at farmers markets, and those who prefer organic products were more likely to pay the premium for these value-added chicken products. The one thing I gathered from the study was that convenience was one of the most frequent factors that affected the outcome of the study. Many people have busy lives, and they want a product that is good tasting and is easily accessible. They're willing to pay the premium if it meets the preference that they have.

With this study it looked like organic isn't necessarily sought after because of the ethical standpoint. Many consumers wanted something easily accessible. They didn't care whether it was conventional or not. Many consumers might buy organic pre-made just because they think

that it is healthier, but when there is no option for organic the consumer will buy conventional. Whether organic or conventional, consumers like to aim for the easy path.

Organic poultry production in the United States- Broilers

Organic farming has become a huge fad in the last few years. With organic farming comes many rules that you have to follow to be able to label your product as organic. The USDA makes organic farmers follow the national organic program. The main focus of organic farming is to make it as natural as possible for the animal, this means not as many antibiotics and they have to have natural living conditions. The feed that is given to the birds is also supposed to be without pesticides and synthetic fertilizers. Many of the hatcheries can actually be conventional, the only stipulation is that the second day after hatching the chick, they need to be raised as organic. This study focused on the meat quality and quantity that you can get off of a broiler. The main difference in quality of the meat from organic to conventional wasn't due to outdoor access but was more chalked up to genotypes in the birds. The study also found that the breast meat of the slow growing birds was more tender than the fast-growing birds. The outdoor access for the birds led to leaner meat with these slow growing birds. The livability in the slow growing birds was higher than the fast-growing birds but, the slow growing birds were less efficient than the fast-growing birds. This study relates really well to the health of organic poultry. It showed that in organic farming the fast-growing birds compared to the slow growing birds wasn't much different and also gave some insight into organic farming practices.

This article showcases that the nutritional quality of poultry is more derived from the genotype of the bird. Whether they were organic or conventional the meat quality came from more on how they were raised. The fast-growing birds were the best option in my opinion. The longevity of life for livestock doesn't really matter when it comes to consumption. Even though

it is a bit morbid to think about, you want to get the best option for your money. The fast-growing chicken was the most efficient of the two. The amount of intake to the amount of meat on the broiler is astounding. When it came to the organic and conventional it didn't matter. The genotype is the key to nutritional quality.

Health and Welfare in Organic Poultry Production

There is an interesting article about health and welfare on organic poultry production. The study looked at the difference between free range conventional farming and organic farming. Many of the studies done we're in Sweden. The factors that were looked at were loose housing, antibiotics, feed consumption, slaughter age, and medical treatment in the case of disease. When looking at the organic farms, each farm follows the positive animal welfare. This means that the bird needs to be satisfied above all else. This could include behavior requirements, avoiding negativity and cruelty, and the study that was done for the journal had a study population of 115 producers with only 56 of these producers responding to the questionnaire. The difference between this questionnaire and other questionnaires were that it was open ended and not just multiple choice. Many of the farms varied by size and output of product. A majority of the farmers were egg producers. After filling out the questionnaire results were studied, and the journal came out with some results of that they found. The results stated that the health and welfare problems were equal on both conventional and organic farming. Also, many organic poultry farms needed to learn more information on biosecurity, disease detection, and disease prevention.

In this study the conventional poultry actually were raised better than the organic. The organic farmers needed improvement in several areas. The disease prevention on the organic farms were not up to par. There were procedures in place to help prevent an outbreak, but they

weren't as well established as the conventional farms. When it came to health of the poultry, they were the same on both farms. Even the welfare of the animal is the question, both farms still exceed. The organic side cared about the welfare of the animal above all else. Even though this was the case, conventional still exceeded in animal welfare even though they didn't try and do anything special. The conventional farms went on as business as usual. While this study was dealing more with egg production farms, it still works towards an answer to the problem.

HEADING 3

METHODS & DATA

The data collected for this paper is from the United States Department of Agriculture. The time period for this data is from March 2020 to March 2021. The data was from the weekly retail report of poultry premiums. It can be found on the United States Department of Agriculture's website. Each report is given weekly throughout the year. You can find reports spanning all the way back to 2017. Each report gives data on cuts of meat for conventional, special, and organic poultry. Each report has the current week prices, last week's prices, and last year's prices. This data is collected from retailers that sell the cuts and whole chicken commodities. The cuts are quite extensive. They range from chicken breasts to whole wings. For this thesis I will be focusing solely on whole chicken premium prices. Each report also includes the prices for Northeast, Southeast, Midwest, South Central, Southwest, Northwest, Alaska, and Hawaii. This is all the data used in this thesis. There can be more research done if given more time looking at each individual cut of poultry comparing conventional and organic.

As for my regression analysis, I will be using a sample regression function. Since I do not have all the values for individual farmers and I only have the values for retailers, I found this function would be the perfect match for the thesis. My dependent variable is the premium prices for both organic whole chicken and conventional whole chicken. My independent variables will be the premium prices for the eight different regions. For the conventional I am looking at the under two-pound whole chicken since it is the most common when it comes to retailers. When looking at the organic side, we are measuring it high price per pound. What I'm looking for is to determine how each region's premium prices affect the national premium price. When it comes to conventional premium prices each region usually has these prices listed, but when it came to

Alaska and Hawaii it was a little bit harder to get these premium prices. Every once in a while, I would stumble upon a week that did not have prices for either region. On the organic side it was even harder to find these organic prices most of the time they were listed as zero because retailers could not get these numbers in on time. The most common region to get their numbers in was the Northeast. Occasionally, though there would be prices that would be not listed for each region and so the prices for that week would be listed as zero. After collecting the data, I think that I can get a pretty good estimate on the relationship between each region and the national premium price for both organic and conventional.

As stated previously I will be using a sample regression analysis. This means that my Y variable will be the national premium prices for both organic and conventional. The Independent variable will be each region's interaction with the premium price and seeing how it affects the dependent variable.

Conventional Whole Chicken (Variables)

Y_1 = National Whole Chicken Premiums (Conventional)

X_1 = Midwest Premium Prices (Conventional)

X_2 = Northeast Premium Prices (Conventional)

X_3 = Northwest Premium Prices (Conventional)

X_4 = South Central Premium Prices (Conventional)

X_5 = Southeast Premium Prices (Conventional)

X_6 = Southwest Premium Prices (Conventional)

X_7 = Hawaii Premium Prices (Conventional)

X_8 = Alaska Premium Prices (Conventional)

Organic Whole Chicken (Variables)

Y_i = National Whole Chicken Premiums (Organic)

X_1 = Midwest Premium Prices (Organic)

X_2 = Northeast Premium Prices (Organic)

X_3 = Northwest Premium Prices (Organic)

X_4 = South Central Premium Prices (Organic)

X_5 = Southeast Premium Prices (Organic)

X_6 = Southwest Premium Prices (Organic)

X_7 = Hawaii Premium Prices (Organic)

X_8 = Alaska Premium Prices (Organic)

- | |
|---|
| <ul style="list-style-type: none"> • Conventional is measured by price/whole roaster. • Organic is measured by price/pound. |
|---|

To have a good comparative analysis, I wanted to run two regressions. Each model will look like this:

$$\text{National Premium Price} = B_0 + B_1 * \text{Midwest} + B_2 * \text{Northeast} + B_3 * \text{Northwest} + B_4 * \text{South Central} + B_5 * \text{Southeast} + B_6 * \text{Southwest} + B_7 * \text{Hawaii} + B_8 * \text{Alaska} + e_i$$

When looking at the actual aspect of the regression, they are both very similar in set up. Both use each region of the United states to determine the overall national premium. As I said before sometimes the regions would not post their prices for the whole chicken. This did cause some problems at first but after working around the problem I figured out how to get the regression analysis to run correctly. Before even running the analysis, I notice that the retailers that carry the organic chicken were already lower than the conventional. The organic premium

prices for each region were not listed very often and sometimes not at all, this led me to believe that the sale of whole chicken wasn't that common in a lot of these retailers. On the weekly retail report if the prices are not stated that means they are not reported which means that there weren't enough sales to report a price. This is the same with Alaska and Hawaii on the conventional side. Since chicken is not common to these two areas they must be imported. Since they have to be imported that means that if the import does not make it in time, then the sellers do not have price recorded for which they sold the whole chicken. As said before, the organic had a lot of challenges with this. When running the regression analysis that meant that since there weren't that many prices reported for each region but mostly each week there were prices on the national premium that means that some of the regions had a way more of an effect on the national price than the other ones. Since Alaska and Hawaii already had a problem with conventional it was very common in the organic not to have prices for weeks at a time. Even though the data showed like this I was still able to collect a regression analysis for both organic and conventional poultry.

Trend Analysis

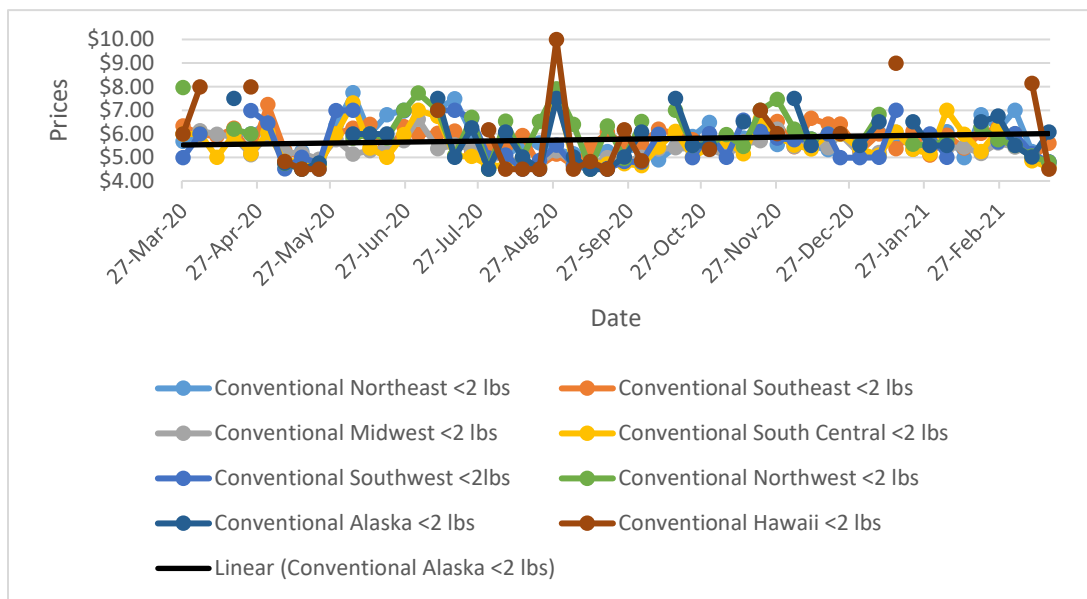


Figure 1: Conventional Price (Trend Analysis)

When looking at the trend analysis for the conventional prices, they are all over the place. The conventional prices are in a centralized area when it comes to prices. They do not dip under \$4.00 and most of them don't go over \$8.00. Hawaii is the only one that jumps over \$8.00 for monthly prices. Hawaii does have an outlier of \$10 in the month of August. There is also an outlier at \$9 in the month of January. Besides this most of prices were consistent across all regions. With Hawaiian and Alaska there are a few missing data points because they were not able to get their prices in on time or did not record any prices. The most consistent is southeast, they did not miss a single data entry when it came to prices. South Central is also like this, they did not miss a single week either during the year recorded. As you can see with the trendline the prices are increasing but a very small rate.

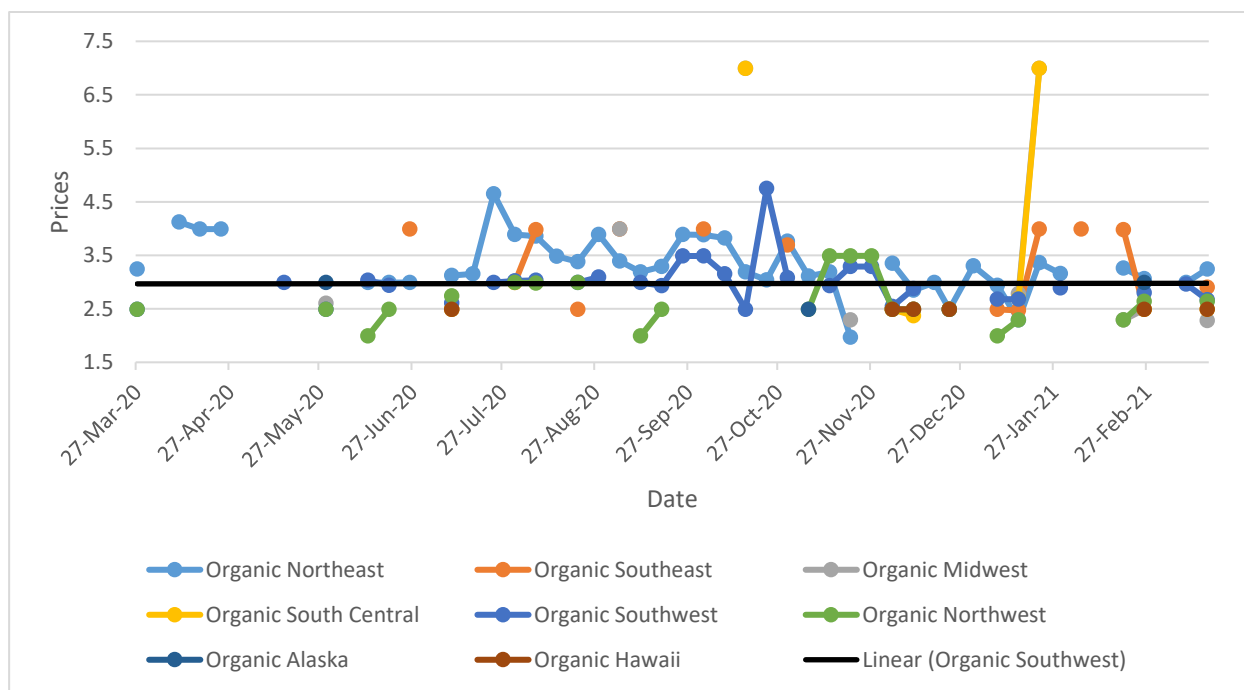


Figure 2: Organic Price (Trend Analysis)

The organic trend analysis is a lot different than the conventional. The data points are way more scattered than conventional was. There are many data entries missing in this trend analysis. The outlier for this one is south central where they had price is over \$5.50 for two months. The prices for the organic analysis do not go above \$4.50 except for four times and do not drop below \$1.50 at all. The trend line is increasing at a small rate just like the conventional, it is a little bit flatter than the conventional was. For this analysis southwest was the most frequent and this one also, even though they did miss quite a few weeks with input prices.

HEADING 4

MODELS

Table 1: Conventional Whole Chicken (Regression Analysis)

Dependent Variable: CONVENTIONAL_PREMIUMS__2_LBS
Method: Least Squares
Date: 05/14/21 Time: 14:30
Sample (adjusted): 5/04/2020 3/15/2021
Included observations: 17 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.794161	0.301781	2.631581	0.0301
MIDWEST__2_LBS	0.021115	0.071820	0.293997	0.7762
NORTHEAST__2_LBS	0.091448	0.045940	1.990589	0.0817
NORTHWEST__2_LBS	0.110960	0.016632	6.671410	0.0002
SOUTH_CENTRAL__2_LBS	0.131822	0.028218	4.671583	0.0016
SOUTHEAST__2_LBS	0.390998	0.030580	12.78603	0.0000
SOUTHWEST__2LBS	0.151185	0.053945	2.802584	0.0231
HAWAII__2_LBS	-0.009256	0.010929	-0.846862	0.4217
ALASKA__2_LBS	-0.040743	0.027495	-1.481809	0.1767
R-squared	0.993832	Mean dependent var	5.257059	
Adjusted R-squared	0.987663	S.D. dependent var	0.359944	
S.E. of regression	0.039979	Akaike info criterion	-3.295849	
Sum squared resid	0.012787	Schwarz criterion	-2.854736	
Log likelihood	37.01471	Hannan-Quinn criter.	-3.252001	
F-statistic	161.1157	Durbin-Watson stat	0.913823	
Prob(F-statistic)	0.000000			

Organic Whole Chicken

Table 2: Organic Mean Difference (Comparing National Mean to Region Mean)

	<i>Organic Premiums</i>	<i>Northeast</i>
Mean	\$ 3.28	\$ 3.32
Difference	\$ (0.04)	
	<i>Organic Premiums</i>	<i>Northwest</i>
Mean	\$ 3.28	\$ 2.63
Difference	\$ 0.65	
	<i>Organic Premiums</i>	<i>Southeast</i>
Mean	\$ 3.28	\$ 3.19
Difference	\$ 0.09	
	<i>Organic Premiums</i>	<i>Southwest</i>
Mean	\$ 3.28	\$ 2.97
Difference	\$ 0.31	
	<i>Organic Premiums</i>	<i>South Central</i>
Mean	\$ 3.28	\$ 3.41
Difference	\$ (0.13)	
	<i>Organic Premiums</i>	<i>Midwest</i>
Mean	\$ 3.28	\$ 3.28

Difference	\$ (0.00)	
	<i>Organic Premiums</i>	<i>Alaska</i>
Mean	\$ 3.28	\$ 2.82
Difference	\$ 0.46	
	<i>Organic Premiums</i>	<i>Hawaii</i>
Mean	\$ 3.28	\$ 2.49
Difference	\$ 0.79	

Table 3: Anova: Single factor of Organic National Price and Region Prices

Anova: Single Factor				
SUMMARY				
<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Organic Premiums <2 lbs	45	147.57	3.279333333	0.260397273
Northeast	40	132.73	3.31825	0.261584038
Southeast	18	57.39	3.188333333	0.515920588
Midwest	13	42.66	3.281538462	2.902114103
South Central	11	37.47	3.406363636	3.181745455
Southwest	31	92.14	2.972258065	0.184198065
Northwest	22	57.92	2.632727273	0.201401732
Alaska	3	8.47	2.823333333	0.083333333
Hawaii	6	14.94	2.49	0

Table 4: Anova Table: Organic and National Price and Region Prices

ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	12.5718089	8	1.57147611	2.64373375	0.00917231	1.99014679
	4		8	2	9	4
Within Groups	106.994776	180	0.59441542			
	2		4			
Total	119.566585	188				
	2					

Table 5: t-Test: Two-Sample Assuming Unequal Variances: National Price and Northeast

	<i>Organic Premiums</i>	<i>Northeast</i>
Mean	3.279333333	3.31825
Variance	0.260397273	0.261584038
Observations	45	40
df	82	
t Stat	-0.35052654	
t Critical two-tail	1.989318557	

Table 6: t-Test: Two-Sample Assuming Unequal Variances: National Price and Midwest

	<i>Organic Premiums</i>	<i>Midwest</i>
Mean	3.279333333	3.281538462
Variance	0.260397273	2.902114103
Observations	45	13
df	13	
t Stat	-0.004607775	
t Critical two-tail	2.160368656	

Table 7: t-Test: Two-Sample Assuming Unequal Variances: National Price and Southeast

	<i>Organic Premiums</i>	<i>Southeast</i>
Mean	3.279333333	3.188333333
Variance	0.260397273	0.515920588
Observations	45	18
df	24	
t Stat	0.490291043	
t Critical two-tail	2.063898562	

Table 8: t-Test: Two-Sample Assuming Unequal Variances: National Price and South

Central

	<i>Organic Premiums</i>	<i>South Central</i>
Mean	3.279333333	3.406363636
Variance	0.260397273	3.181745455
Observations	45	11
df	10	
t Stat	-0.233867399	
t Critical two-tail	2.228138852	

Table 9: t-Test: Two-Sample Assuming Unequal Variances: National Price and Southwest

	<i>Organic Premiums</i>	<i>Southwest</i>
Mean	3.279333333	2.972258065
Variance	0.260397273	0.184198065
Observations	45	31
df	71	
t Stat	2.835463045	
t Critical two-tail	1.993943368	

Table 10: t-Test: Two-Sample Assuming Unequal Variances: National Price and

Northwest

	<i>Organic Premiums</i>	<i>Northwest</i>
Mean	3.279333333	2.632727273
Variance	0.260397273	0.201401732
Observations	45	22
df	47	
t Stat	5.289889401	
t Critical two-tail	2.011740514	

Table 11: t-Test: Two-Sample Assuming Unequal Variances: National Price and Alaska

	<i>Organic Premiums</i>	<i>Alaska</i>
Mean	3.279333333	2.823333333
Variance	0.260397273	0.083333333
Observations	45	3
df	3	
t Stat	2.489003476	
t Critical two-tail	3.182446305	

Table 12: t-Test: Two-Sample Assuming Unequal Variances: National Price and Hawaii

	<i>Organic Premiums</i>	<i>Hawaii</i>
Mean	3.279333333	2.49
Variance	0.260397273	0
Observations	45	6
df	44	
t Stat	10.37644252	
t Critical two-tail	2.015367574	

Conventional

As you can see with the conventional side, the regression analysis shows us that each region has different effects on the cost of conventional whole chicken. Southeast has the largest effect on the national price, it's Beta is 0.390998. This means for every additional roaster sold in this region, the national price increases by \$0.39. The lowest effect is Hawaii with -0.009256. For every additional roaster sold, the national premium is decreased by \$0.009. This means that Hawaii has really no effect because they didn't put the prices in a whole lot during the year. Most weeks they didn't really have a price down for anything. There were two negative coefficients. The first was Hawaii with a beta coefficient of negative 0.009256. The second was Alaska with negative 0.040743. The best explanation for this is that there were very few amounts sold in both these regions. This meant that for every additional roaster sold in Alaska, the national price

decreased by \$0.04. With Hawaii for every additional roaster sold, the national price decreased by \$0.009. The R^2 was 0.993832, which means the regression fits 99%. That means this analysis fit the model well. When looking at both the conventional and organic analysis, these results for conventional are genuinely what I was looking for. I was not very surprised by the coefficients of each region and how they impacted the overall price. The results all show that each region does not have a huge effect on the overall price, which we can infer that the retail outlets were able to get their prices in on time each week for this retail weekly release. There were a lot more retailers responding to the prices overall than organic. I'm looking at the overall sales in conventional I was not surprised that there were way more conventional whole chickens than organic whole chickens being sold all around the world. Just like one of the past articles reviews previously said on the paper, it shows that the consumer preferences are more towards easily accessible chicken then consumer biased chicken.

Organic

When it came to the Organic analysis, it was a bit trickier. I try to run a regression analysis for the Organic, but there weren't enough observations to run the analysis. The program wouldn't run it, so we try to come up with solutions on what to do. When trying to compare the national prices to the regional prices, we determined that would be best shown by comparing the means of the Organic to the mean prices of each region and figuring the difference between the two.

When looking at the differences we are comparing the national price to each region's price, therefore we are subtracting the regions average price from the national average price. The national organic mean price was \$3.28. The first region we've been looking at is the Northeast region, its mean price was \$3.32. The difference between this is -\$0.04. This was one of the two

negative mean prices across the entire board. In the Northeast their prices were usually a bit larger than the national price, which means that it is bringing up the national price every time they sell a pound of organic meat. The second negative mean price difference was South Central, its mean price was \$3.41 with a difference of $-\$0.13$. This is the same as the Northeast meaning that each week the prices listed were usually larger than the national organic price. The next difference that surprised me was the Midwest, its mean price was also \$3.28. This means that most of the prices listed were the same as the national organic price for most weeks. Besides these three all the other regions prices were lower than the national organic mean price. The first is Northwest with \$2.63 and a difference of \$0.65. The next was the Southeast with the mean price of \$3.19 and a difference of \$0.09. Southwest had a regional mean price of \$2.97 and a difference of \$0.31. Alaska's regional mean price was \$2.32 with a difference of \$0.46. Lastly was Hawaii with \$2.49 and a difference of \$0.79.

We ran an Anova test to determine whether the means of each of the regions and National Organic Price have equal means, this is the null hypothesis. Our other hypothesis is that the means are not equal. When running the Anova Single Factor test, we can see that the F-value is 2.643733752. The F-critical value is 1.9910146794, this means that we would reject the null hypothesis. The mean of the National Organic Price and the means of each region are not equal.

These results kind of surprised me because only two regions had larger average prices than the national premium price. This means that most weeks their prices were larger than the organic price which means that it was bringing up the national organic price. The one that surprised me the most was the Midwest that had the same mean price as the national organic price. That means that most the time they recorded the same price. The last five regions didn't really surprise me at all, most of the time recording each week's price for those regions it was

usually lower than the national organic price. That means that most of the time with the two mean prices that were larger than the national price they were bringing up their price while the other ones were bringing it down. Mainly what I gathered from this is that in most regions organic meat sold by the pound is a little less than national prices. The other thing I gathered from this is that there weren't a lot of observations for organic prices, this means they weren't able to get any prices in for retailers for multiple weeks at a time. I couldn't even run a regression analysis because there weren't enough observations.

When looking at the T-value of each region compared to the National Price, we can see there are some differences. Most of the regions have a impact on the nation price. The T-value of Northeast, Midwest, Southeast, South Central, and Alaska are significant. Northwest, Hawaii, and Southwest are not. The first five regions have enough of an impact on the nation price. Their T-value is below the T-critical value. They have enough of an effect to shift the price of the national price up and down. They were in the appropriate range. The later three were not significant. They had a lower impact on the national price. Their prices just didn't shift the national price enough.

HEADING 5

RESULTS & IMPLICATIONS

These results were conclusively what I was looking for. I was not surprised at all by the difference between the regions whole chicken prices and their effect on the national premium price. The conventional had way more data to work with overall than the organic. When it came to the whole chicken premium prices, there were ranges for each region, but the prices that were used were the average between the range. Before even running the regression analysis, I could tell that the data was already giving me an answer. The fact that with conventional whole chicken the prices for each region were reported on a regular basis. There were very little times where the prices were not reported for the whole chicken, excluding Hawaii and Alaska. The other six regions had a very consistent price report when it came to conventional. On the other hand, the organic prices were not entered as consistently. Occasionally, when looking at the weekly report, there were no prices listed whatsoever for regions or national price. There were several instances where no price was recorded for the national premium due to each region not having a price in for that week. This never happened with the conventional side. Each week had a national premium price and at least four different regions reporting their price. At no time during this year time span, did all eight regions not report their prices. The data entry alone shows that the selling of conventional whole chickens is more common than the selling of organic whole chickens. As previously stated by an article review, Consumer preferences can be affected when it comes to organic versus conventional, but the most common consumer preference is availability. Consumers lead busy lives and want to be able to just pick up a whole chicken and eat it at their own convenience. This means, they do not distinguish between organic and conventional, they just want something readily available.

HEADING 6

CONCLUSION

When the question is asked which is better organic or conventional, the answer is not simple. Consumers have their own biases and preferences when it comes to any good or service. If somebody is seeking something that they truly desire, then they will try to fight for it. There are habitual buyers for any good that prefer one brand over another. Many people will chalk this up to research they've done on these companies to determine whether they are ethically sound or not. This paper is not to determine which is more ethically sound but to compare which is better between conventional and organic. During the study I have looked solely at numbers rather than ethos. The first article review looked more at why people buy organic poultry compared to conventional, many of the consumers did not have a full understanding of how conventional farming actually worked. They were going more off of word of mouth or own personal research that is not backed by science. The second article review talked about consumer preferences and that when it came to organic versus conventional, they didn't really care about the process put behind the chicken they were buying, but they were looking at the readiness and availability of the chicken in general. The third even talked about the difference between organically raised poultry and conventionally raised poultry. When it came to these differences, there is no nutritional added value from how they were raised, but the actual genotype of the bird. Depending on whether the chickens were fast growing or slow growing, showcased more of the efficiency of the bird rather than nutritional value. The faster you get poultry out to market the more availability the consumer has to actually purchasing these products. The final article review show that even though these farms were mostly egg producing, the disease prevention for the organic farms wasn't quite up to par with the conventional farms. When it comes to Disease

Control this is the number one key on any farm, because if you don't have a flock then you don't have a product.

Even the regression analysis gave me a definitive answer. Before I even ran the regression analysis, I still think I had a definitive answer on which is better. The data entry alone showed that conventional whole chicken was more readily available than organic chicken. I was able to see each region's effect on the national price, which helped formulate a conclusion and answer to the question. If given more time to look at more aspects of organic farming and conventional farming the answer might actually change. There are many factors to account for looking at the differences between these two farming methods but looking at the methods that I have I have determined that conventional is the better option. Organic farming is a fast-growing industry and has been growing ever since the early 2000s. People are leaning more into it than they used to, but as of right now conventional is just more readily available to consumers than organic is. When looking at those prices, the weekly reports, and other academic journals it is easy to see that conventional poultry is the King of the market right now and as of the time being it will stay that way.

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