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PRICE PREMIUMS AND WILLINGNESS-TO-PAY FOR MISLEADING FOOD LABELS

by

Alexa Jacobs

B.S., Southern Illinois University Carbondale, 2021

A Research Paper

Submitted in Partial Fulfillment of the Requirements for the
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in the Graduate School
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RESEARCH PAPER APPROVAL

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A Research Paper Submitted in Partial

Fulfilment of the Requirements

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in the field of Agribusiness Economics

Approved by:

Dr. Dwight R. Sanders, Chair

Graduate School
Southern Illinois University Carbondale
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There are many food products sold with labels on them that may be misleading to the consumer. Almost every one of these labels comes with a price premium that consumers must pay if they wish to purchase those specific items. Many consumers place a value on these specific food labels and determine that paying more for a product with these labels is worth it to them, despite many consumers not understanding the true meaning of the labels. This study looks at and compares what the price premiums are for different food products at different stores in both the Carbondale, Illinois area as well as in Naperville, Illinois. The results show that different labels result in different price premiums, as well as that on average consumers in Naperville, Illinois are willing to pay higher price premiums for the same labels than the consumers in the Carbondale, Illinois area.

TABLE OF CONTENTS

<u>CHAPTER</u>	<u>PAGE</u>
ABSTRACT	i
LIST OF TABLES.....	iii
LIST OF FIGURES.....	iv
CHAPTERS	
CHAPTER 1 – Introduction.....	1
CHAPTER 2 – Review of Literature.....	3
CHAPTER 3 – Food Label Meanings.....	11
CHAPTER 4 – Data and Methods.....	13
CHAPTER 5 – Results.....	14
CHAPTER 6 – Discussion.....	17
BIBLIOGRAPHY	19
APPENDIX	23
VITA.....	33

LIST OF TABLES

<u>TABLE</u>	<u>PAGE</u>
Table 1: Eggs: Carbondale – Dollars.....	23
Table 2: Eggs: Carbondale – Percentage.....	24
Table 3: Eggs: Naperville – Dollars.....	24
Table 4: Eggs: Naperville – Percentage.....	24
Table 5: Chicken Breasts: Carbondale – Dollars.....	24
Table 6: Chicken Breasts: Carbondale – Percentage.....	24
Table 7: Chicken Breasts: Naperville – Dollars.....	25
Table 8: Chicken Breasts: Naperville – Percentage.....	25
Table 9: Carrots: Carbondale – Dollars.....	25
Table 10: Carrots: Carbondale – Percentage.....	26
Table 11: Carrots: Naperville – Dollars.....	26
Table 12: Carrots: Naperville – Percentage.....	26
Table 13: Milk: Carbondale – Dollars.....	27
Table 14: Milk: Carbondale – Percentage.....	27
Table 15: Milk: Naperville – Dollars.....	27
Table 16: Milk: Naperville – Percentage.....	28

LIST OF FIGURES

<u>FIGURE</u>	<u>PAGE</u>
Figure 1: Average Egg Price – Carbondale.....	29
Figure 2: Average Eggs Price – Naperville.....	29
Figure 3: Average Chicken Breast Price – Carbondale.....	30
Figure 4: Average Chicken Breast Price – Naperville.....	30
Figure 5: Average Carrot Price – Carbondale.....	31
Figure 6: Average Carrot Price – Naperville.....	31
Figure 7: Average Milk Price – Carbondale.....	32
Figure 8: Average Milk Price – Naperville.....	32

CHAPTER 1

INTRODUCTION

Almost all consumers look at food labels when buying food products at a store. These food labels are a way for producers to inform consumers about their product and how it may be different from other similar products. These labels also allow producers to charge different amounts for their product versus others because it helps to differentiate them. This differentiation leads to premiums being charged for food products that contain certain labels. However, consumers don't always know what the labels producers are using actually mean and are often times confused by them. This confusion can be used to a producer's advantage to charge higher premiums but ultimately leads to a market where consumers are paying more for products that are not that different. At the end of the day, these misleading food labels affect the demands, tastes, and preferences of consumers, ultimately shaping the food market as a whole. Most food labels that consumers are looking at give insight as to how a product was produced or grown, not how nutritious it is for the consumer, however many people do not realize this which is why they are willing to pay price premiums for products such as "antibiotic-free" or "organic".

The main objective of this paper is to look at and compare price premiums of food products based on the labels they have and the location they are sold at. It looks at food labels on eggs, chicken breasts, carrots, and milk in both the Carbondale, Illinois area as well as the Naperville, Illinois area. The labels looked at included "cage-free", "free-range", "organic cage-free", "antibiotic-free", and "organic". This paper also looked at the USDA requirements that must be met in order to place one of these labels on a food product.

On average, from the foods and labels looked at in this study, eggs with the labels cage free, free-range, or organic cage free were most impacted by price premiums compared to

conventional eggs. It was also found that not only the label itself, but also the location the food product is being sold at both impact the price premiums paid. The majority of the time, food products in Naperville had a higher price premium than those in Carbondale within this study.

CHAPTER 2

REVIEW OF LITURATURE

Many studies have been conducted in the past focusing on food labels and how they are perceived by consumers. However, there are many problems that can arise when it comes to how food is labeled. Each time a label is placed on a product, it aids the consumer in deciding whether or not to purchase that product, in turn, affecting the supply and demand within the food market as a whole. While some labels are highly regulated and required, not all food labels are. Because of this, companies will consider many different trade-offs prior to deciding on whether to include a label on their food product and if it is worth their time and money to do so (Bowman et al., 2017). Whether they realize it or not, consumers also have a large say in what labels are placed on food products. Through the purchasing choices that consumers make, they are telling producers what labels they want to see on their food products and what labels they are willing to pay a premium for (Golan et al., 2001).

Golan, Krissoff, and Kuchler (2007) talk about how a company will only voluntarily put a label on a food product if they feel it will increase their profits, otherwise it is not worth it to the company (this is excluding labels that are required by the government to include on food products). Companies view these non-mandatory labels as a way to advertise despite many consumers viewing food labels as a way to gain information about a food product. Because consumers often view food labels this way, it leads them to “read between the lines” and make assumptions about food products that do not include the same food labels. This leads to a misperception of some food products and shows how voluntarily including unneeded food labels has an impact on the probability of a consumer buying all other food products in that same category.

An example of these assumptions commonly made around food labels that cause confusion and misunderstanding among consumers is when a company chooses to place a non-GMO label on a food product that does not have an equivalent genetically modified option (Ekanem and Mafuyai-Ekanem, 2004). While this label is 100% correct about the food product that it is placed on, it leads some consumers to believe that any version of that food without a non-GMO label is genetically modified even though that is not the case. This can sway consumers to buy one brand over another due to misinformed decisions and affect the food market as a whole in terms of how much money a consumer is willing to spend on a specific product.

Wilson and Lusk (2020) looked at 3 labels on food products that were unneeded in the context they were used to see if they affected the price consumers were willing to pay for that specific product. This is very similar to the research done for this paper and gives insight as to what may be expected for outcomes. The study looked at the willingness to pay for salt labeled non-GMO versus salt without the non-GMO label, orange juice with the label “Gluten Free” versus orange juice without that label, and chicken breasts that had a no hormones added label versus that which did not include this label. The study found that 40-58% of those that responded to their survey were willing to pay a premium of some sort for any of those three labels in the context they were used (Wilson and Lusk, 2020). They did note in the study that they found evidence that the willingness to pay for the premiums typically came from the consumer misunderstanding the labels and that often times, consumers with farm experience are not willing to pay as much for these labels as those without a farming background.

Loke, Xu, and Leung (2015) looked at fluid milk prices to determine premiums for different labels. These labels included organic, and local as well as labels for other attributes of

milk in Hawaii. It was found that many people believe that organic milk is healthier for them which has resulted in a higher demand for organic milk. They found that when everything else is equal, organic milk can have up to a 24.6% price premium in comparison to conventional milk. While this may seem like a large percentage, it is lower than they had expected the price premium to be. It is hypothesized that this lower percentage could be due to more producers switching to the production of organic milk, driving the prices down from what they have been in the past when there was a smaller supply.

Bushena, Kiesel, and Smith (2002) conducted a study looking at the consumer response to rBGH free labels on milk. This study was conducted using national level supermarket labeling data instead of sending a survey to consumers. The results showed that the rBGH free label on milk did in fact make a difference in what the consumers were buying and proved that many consumers do pay attention to labels as they make their purchasing decisions. This conclusion can be assumed as applicable to labels on all food products, not just rBGH free labels on milk. It was estimated that rBGH free labels on milk more than doubled the demand for rBGH free milk despite the supply remaining a fairly small portion of the milk producing market. This study also drew the conclusion that consumers looking specifically to buy foods without biotechnology will continue to look for labels making that sort of claim regardless of the level of understanding they have for these labels or their exposure to them.

According to Scott and Sesmero (2020), consumers often times do not understand the information about a food product that is being shared by the labels and make assumptions about the food based on the label, including consumers reporting non-organic food having a more enjoyable taste when an organic label was placed on it. This has led consumers to place a “false” value on food products based solely on the labels that are presented to them.

Bowman et al. (2017) also show it is very clear that labels do not always lead to a better understanding of the food product in question, specifically when the label is not one that is required or regulated by the government. Not only are consumers making assumptions about products that do not have certain labels on them, they are also often making assumptions about what different labels mean that has no real correlation to the actual meaning of that food label. It is important to consider that some labels are impossible to verify and even those that are regulated by the government don't always guarantee the quality or type of product that a consumer may assume it does. An example of this is how many people make assumptions about the nutritional value of organic foods, however, organic labels are solely a claim on the process of growing and making a food product and have nothing to do with product itself (Armah, 2002).

Heng, Peterson, and Li (2016) looked at how consumers respond to superfluous, or unnecessary, labels on eggs. They found that people on average were willing to pay more for eggs with labels on them making claims such as "certified humane", "cage-free", "vegetarian-fed", "no hormone", and "omega-3". The study also found that adding multiple labels on the same carton of eggs that are redundant may confuse the consumer, ultimately leading them to spending more. This still holds even when the consumer has been informed about the redundancy of the labels in many cases. This adds to the theory that producers will add labels to their products if they think it will lead to a higher revenue. Adding redundant labels is worth the producer's time and money when it is likely to cause confusion to the consumer and result in them paying a higher premium.

When comparing chicken that was raised without the use of antibiotics with chicken that did receive antibiotics, it was found that between the years of 2012-2017 the share of household expenditures for chicken products raised without antibiotics greatly increased. It was also found

that these products had higher prices than those poultry products that did not have an antibiotic free label during that same time frame. Households that were more likely to buy the antibiotic free chicken, on average, were larger, more likely to have children, had a higher gross income, and the person purchasing the food was more likely to have a college degree. All of this has an impact on a consumer's willingness-to-pay and the premiums that can be charged for chicken products that are labeled raised without antibiotics. However, even with all of this playing into it, there is still no denying that the demand for raised without antibiotic chicken has greatly increased from 2012-2017 (Page et al., 2021).

On average chicken products were \$2.23 more expensive per pound when they had a label claiming to be raised without antibiotics than products without this type of label during 2012-2017 (USDA, 2021). The USDA also found that chicken products with a label claiming to be organic typically cost even more than those labeled to be raised without antibiotics during that same time frame. This resulted in an average markup of 125% for organic chicken products over chicken products raised conventionally (USDA, 2021). This shows that these labels hold importance to many consumers and that some producers may find it worthwhile to raise their poultry in ways that align with the standards to fit organic or raised without antibiotic labels in order to capture the premium consumers are willing to pay.

Chang, Lusk, and Norwood (2010) found that there are high price premiums for organic and cage-free eggs in the egg market. However, there is also a significant price premium for brown eggs which needs to be taken into consideration when looking at a consumer's willingness to pay for cage free or organic eggs. Many of these eggs on the market are also brown eggs and have "stacked labels" making it slightly difficult to determine if the consumer is willing to pay more because of the cage free and organic labels, or if they are placing their willingness to pay

more on the color of the eggs. It was also found that there is a higher price premium on average in Dallas for organic and cage-free eggs than in San Francisco. This may be due to higher egg prices for conventional eggs in San Francisco, but they are unsure if that is the true reason. This shows that consumers in different areas are not always willing to pay the same premiums for food labels and will likely be demonstrated in the label premiums in southern Illinois vs those of the Chicago Suburbs.

Genetically engineered (GE) crops first appeared in the US in 1996 and ever since then, there has been pushback against GE foods. This has led to the expansion of the organic food market as well as a market for conventional foods coming from seeds that were not genetically engineered. In 2011 there were 5.4 million acres of cropland and pasture in the US that were certified organic to try and match the expansion of this market. However, in 2014, approximately 6-7% of organic farmers in Illinois, Nebraska, and Oklahoma faced economic losses that were tied to the production of GE foods (Greene et al., 2016). This likely has played into premiums for organic products to help combat the losses these producers are facing.

When it comes to the world of organic foods, it is important to note that consumers have a higher demand for organic now than in the past. The USDA set national organic standards in 2000 and from that time through 2016 the annual sales of organic foods consistently showed double digit growth (Greene and Vilorio, 2016). This significant change in consumer demand did not stop in 2016 either. “Organic sales in the U.S. totaled approximately 49 billion US dollars in 2017, reflecting new sales of almost 3.5 billion US dollars from the previous year” (Willer and Lenoud, 2019, p. 31). This large of a number change in just one year has a major impact on the supply side of organic food products. Consumers that are buying foods that are labeled organic are impacting that supply, causing more producers to consider adjusting their practices to meet

the requirements for an organic label instead of using solely conventional methods.

While organic food is still a small portion of all food sales in the US despite seeing double digit growth, demand for organic food products is still rapidly growing and most people will consume organic foods at least on occasion. It was found that age, income, and location do play a part in people's likeliness to actively seek out organic foods with the highest share of organic consumers being in the West. Processors and manufacturers of organic products also tend to be more concentrated around metropolitan areas versus rural areas (Greene et al., 2017).

According to Smith (2010) while consumers are often willing to pay a premium for organic food labels, the farms do not see as much of that price increase as one may think. The majority of the profit margin of organic foods typically goes to the venue selling it. While this does not necessarily provide much incentive to producers to convert from conventional to organic methods, it does provide incentives to stores to sell more organic products. This provides an outlet for the producers of organic products with potential for slightly increased profits than conventional methods. This also plays into the availability of organic products being much higher than it was 20 years ago. Having more organic products readily available to consumers has helped to increase the demand overtime as consumers rarely have to go out of their way to find organic options for many things.

It is important to note that consumers are also placing their own value on the meaning of an organic label based on the retail outlet it is being sold at. Ellison et al. (2015) determined that consumers placed a higher value on organic grape tomatoes with the USDA Organic seal sold at fresh format stores and farmers markets than those sold at supermarkets or supercenters. This included the assumption that the organic grape tomatoes from these sources were safer to consume than other retail outlets despite having the same exact USDA Organic seal on them in

each retail outlet. This once again demonstrates that consumers create their own meaning and value to place on food products and food labels. Producers need to acknowledge that consumers do place their own assumptions and values on different food labels when deciding if the economic value of these labels is worth using them on their products.

CHAPTER 3

FOOD LABEL MEANINGS

Because there is so much confusion and controversy over different food labels, it is important to note exactly what the labels on food products that were looked at in this study mean. There are set meanings and standards for these specific labels by the USDA, even if not all labels that are placed on food products have USDA regulations. According to USDA, in order to label a product “Free Range”, the producer has to be able to prove that the poultry was able to move freely both horizontally and vertically when indoors, had access to water and food, and had access to being outside during its life. However, in order for eggs to have the label “cage free” on them, the eggs must come from hens that were raised in an enclosed area with the freedom to roam, both horizontally and vertically, and had access to food and water (Questions and answers, 2015). The label “no antibiotics” on poultry or other meat can only be used “if sufficient documentation is provided by the producer to the Agency demonstrating that the animals were raised without antibiotics” (Food Safety, 2015).

When it comes to organic labels, there are different labels that may be placed on a food product according to USDA standards. The first of these labels is “100 Percent Organic” and to have this label, 100% of the product’s ingredients must be organic, with the exception of water and salt as they are considered to be natural ingredients. The ingredient list must also note which ingredients are organic for any of the possible organic claiming labels. “Most raw, unprocessed or minimally processed farm crops can be labeled ‘100 percent organic’”. The next label is “Organic” and as long as 95% or more of the ingredients in a product are organic ingredients, that product can hold this organic label. It is important to note that for the other 5% of the ingredients, many of them can only be used if they do not have an organic option. The “Made

with Organic _____” label can only be used if a minimum of 70% of the ingredients are organic. These products, however, cannot include the actual USDA organic seal on the label anywhere. The final way to make a claim related to “organic” on a product is to list specific ingredients in the ingredient list as organic. However, no claims as to the product as a whole being organic is permitted when less than 70% of the ingredients are organic (Labeling Organic, n.d.).

It is also important to note that California has their own organic program. The California State Organic Program helps to enforce the USDA guidelines for organic labeling and has their own seal they may put on products. However, the requirements to be classified in one of the organic categories and have the California Certified Organic Farmers seal, are the same as those enforced by the USDA. Products that are certified by this program may have just one of the seals, or both (State Organic Programs, n.d.).

CHAPTER 4

DATA AND METHODS

The research for this paper looked at the prices of food products with specific labels at a variety of stores in both Carbondale, Illinois (and surrounding areas) and Naperville, Illinois. This allowed for the comparison of food product prices based on their labels, the store they were sold at, and the location of the store. The data was collected bimonthly by checking each store's website for each specific location. The data collection lasted from September 10, 2021 through January 10, 2022.

The food products looked at were eggs (1 dozen, grade A, large), chicken breasts (fresh, boneless, skinless, per pound price), carrots (16oz peeled, baby), and milk (1/2 gallon, whole). The labels looked at for eggs were conventional (no special label included), "cage-free", "free-range", and "organic cage-free". The labels for chicken breasts were conventional and "antibiotic free". The labels for carrots and milk were conventional and "organic". For Carbondale, data was collected at Walmart, Kroger, Aldi, Schnucks, and Target (located in Marion, Illinois). However, data for Naperville, was only collected at Walmart, Aldi, and Target as there is not a Kroger or Schnucks nearby.

Once all data was collected, the average price for each product at each store in each location was taken. The averages were used to compare prices across stores, locations, and products differentiated by labels. This was to see the price premiums paid for different labels and determine preferences based on willingness-to-pay of the consumers.

CHAPTER 5

RESULTS

Data was collected for 4 months and then averaged to formulate the figures used in all the comparisons. When looking at each individual food category, this data showed that in almost all situations looked at, consumers were willing to pay a premium for these “misleading” food labels. However, in the Carbondale area, Schnucks actually charged less for antibiotic free chicken breasts than for the chicken breasts that did not have any claiming labels.

In every store and location, organic cage free eggs cost more than cage-free eggs which may also suggest that stacking labels leads to higher price premiums. However, some stores charged more for the free-range eggs than the organic cage free. Ten products had higher price premiums for the misleading labels at the Naperville locations than in the Carbondale locations while 6 products had higher premiums for labels at Carbondale locations. Walmart and Target had the same price premiums for organic carrots in both locations.

The largest price premium for any of the products looked at was at the Carbondale Schnucks for organic cage free eggs at 268% price mark-up. Looking specifically at each of the food products, the results were found to be as presented below.

Eggs:

On average, cage free eggs had cost \$1.43 more than conventional eggs in the Carbondale area while only \$1.31 more per dozen in the Naperville area. Free-range eggs cost \$2.26 more and organic cage free cost \$2.76 more than conventional in Carbondale. However, free-range cost \$2.95 more and organic cage free cost \$2.50 more than conventional in Naperville. This demonstrates a higher price premium on average for free range eggs in the Naperville area compared to Carbondale but higher premiums for cage free and organic cage free eggs for the

Carbondale areas. Figures 1 and 2 show the average prices of eggs with each of the labels looked at. In Carbondale, cage free eggs had a 68% price increase at Walmart, 61% price increase at Kroger, 64% price increase at Aldi, 120% price increase at Target, and a 158% price increase at Schnucks. Free-range eggs had a 218% price increase at Walmart, 109% price increase at Kroger, 83% price increase at Aldi, 254% price increase at Target, and 90% price increase at Schnucks. The organic cage free eggs had a 126% price increase at Walmart, 181% price increase at Kroger, 121% price increase at Aldi, 191% price increase at Target, and 268% price increase at Schnucks. However, in Naperville, cage free eggs had a 113% price increase at Walmart, 87% price increase at Aldi, and 118% price increase at Target. Free-range eggs had a 328% price increase at Walmart, 143% price increase at Aldi, and 251% price increase at Target. The organic cage free eggs in Naperville had a 217% price increase at Walmart, 203% price increase at Aldi, and 189% price increase at Target. The price premiums for Carbondale eggs are shown in tables 1 and 2. Tables 3 and 4 show the price premiums for Naperville eggs.

Chicken Breast:

On average chicken breasts labeled antibiotic free had a \$1.28 price premium compared to conventional chicken breasts in Carbondale and a \$1.64 price premium in Naperville. It is important to note however, that Schnucks having their antibiotic free chicken breasts cost less than the conventional chicken breasts in Carbondale would have impacted these numbers. Figures 3 and 4 show the average prices for both conventional and antibiotic free chicken breasts. In Naperville, Walmart had a 61% price mark-up, Aldi had a 79% price mark-up, and Target had a 67% price mark-up for the antibiotic free label. In Carbondale, Walmart had a 56% mark-up, while Aldi and Target both had an 85% price mark-up. Kroger had the largest mark-up at 93% while Schnucks had a 23% price reduction for the antibiotic free label. The price

premiums for Carbondale chicken breasts are shown in tables 5 and 6 while tables 7 and 8 show the price premiums for Naperville chicken breasts.

Carrots:

Organic carrots had a price premium of \$0.73 in Carbondale and \$0.59 in Naperville on average. The average prices for both conventional and organic carrots can be seen in figures 5 and 6. In Naperville, Walmart had a 49% price mark-up, Aldi had a 79% price mark-up, and Target had a 61% price mark-up for the organic label. In Carbondale, Walmart had a 49% price mark-up, Aldi had a 64% price increase, Target had a 61% price mark-up, Kroger had a 56% price mark-up, and Schnucks had a 141% price mark-up for the organic label on carrots. Tables 9 and 10 show the price premiums for Carbondale carrots while tables 11 and 12 show the price premiums for Naperville carrots.

Milk:

Organic milk had an average price premium of \$1.59 compared to conventional milk in Carbondale and a premium of \$1.95 in Naperville. The average prices for conventional and organic milk are shown in figures 7 and 8. In Naperville, Walmart had a 113% price mark-up for the organic label, Aldi had a 127% price mark-up, and Target had a 100% price mark-up. In Carbondale, Walmart had a 119% price mark-up, Aldi had a 105% price mark-up, Target had a 58% price mark-up, Kroger had a 47% price mark-up, and Schnucks had a 113% price mark-up for the organic label compared to conventional milk. The price premiums for Carbondale milk can be found in tables 13 and 14. Tables 15 and 16 show the price premiums for Naperville milk.

CHAPTER 6

DISCUSSION

The results of this study imply that labels on a food product, as well as location, do impact the price premiums paid for that specific product. On average, the food labels looked at had a higher price premium in Naperville compared to the Carbondale area. Eggs with the labels, cage free, free-range, or organic cage free on them are likely to be the most impacted by price premiums out of all the food and labels looked at in this study. Many consumers don't fully understand these labels, but they are still willing to pay more for them. While this study only looked at four different types of food, the concept of paying higher premiums for specific labels can be carried over to other foods as well. It can also be assumed that the price premiums will continue to, on average, be higher in the Naperville area despite the food product being looked at.

Carbondale had equal or higher prices than Naperville on average for almost all of the conventional products. Naperville on the other hand had equal or higher prices than Carbondale for the majority of the non-conventional products looked at. This is important to note when realizing that Naperville had higher premiums the majority of the time for the food labels. The prices themselves were not always extremely different for these food products based on the labels, but when compared to the conventional prices, the gap was larger due to Naperville tending to have lower conventional prices to start with.

One major limitation to this study was the time span it was done for. A longer time period for collecting data would have shown a better idea of the averages of prices as well as allowed for the analyzing of label prices over a time span to see if there were any patterns or changes. Data collected may also have shown different results if different stores or locations had been

used. For example, using stores in New York to compare with the Carbondale locations may have shown more of a difference due to being in different states.

This study looked at what the price differences are for food products based on their labels however, future studies may want to look more into why certain consumers prefer food products with these labels. Future studies may also want to look into how much of a cost difference there is in producing these products to conform to the labels in order to see if the economic return is worth it for more producers to change their practices.

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APPENDIX

Table 1:

Eggs: Carbondale - Dollars (compared to conventional price)					
	Conventional	Cage Free	Free-Range	Organic Cage Free	Averages
Walmart	0.00	1.06	3.37	1.94	2.12
Kroger	0.00	1.15	2.06	3.42	2.21
Aldi	0.00	0.96	1.23	1.81	1.33
Target	0.00	1.52	3.22	2.42	2.39
Shnucks	0.00	2.48	1.42	4.22	2.71
Averages		1.43	2.26	2.76	

Table 2:

Eggs: Carbondale - Percentage (compared to conventional price)					
	Conventional	Cage Free	Free-Range	Organic Cage Free	Averages
Walmart	0.00	0.68	2.18	1.26	1.37
Kroger	0.00	0.61	1.09	1.81	1.17
Aldi	0.00	0.64	0.83	1.21	0.89
Target	0.00	1.20	2.54	1.91	1.88
Shnucks	0.00	1.58	0.90	2.68	1.72
Averages		0.94	1.51	1.77	

Table 3:

Eggs: Naperville - Dollars (compared to conventional price)					
	Conventional	Cage-Free	Free-Range	Organic Cage-Free	Averages
Walmart	0.00	1.32	3.82	2.52	2.55
Aldi	0.00	1.11	1.82	2.58	1.84
Target	0.00	1.51	3.21	2.41	2.38
Averages		1.31	2.95	2.50	

Table 4:

Eggs: Naperville - Percentage (compared to conventional price)					
	Conventional	Cage-Free	Free-Range	Organic Cage-Free	Averages
Walmart	0.00	1.13	3.28	2.17	2.20
Aldi	0.00	0.87	1.43	2.03	1.45
Target	0.00	1.18	2.51	1.89	1.86
Averages		1.06	2.41	2.03	

Table 5:

Chicken Breasts: Carbondale - Dollars (compared to conventional price)		
	Conventional	Antibiotic Free
Walmart	0.00	1.17
Kroger	0.00	1.88
Aldi	0.00	1.77
Target	0.00	2.35
Shnucks	0.00	-0.76
Averages		1.28

Table 6:

Chicken Breasts: Carbondale - Percentage (compared to conventional price)		
	Conventional	Antibiotic Free
Walmart	0.00	0.56
Kroger	0.00	0.93
Aldi	0.00	0.85
Target	0.00	0.85
Schnucks	0.00	-0.23
Averages		0.59

Table 7:

Chicken Breasts: Naperville - Dollars (compared to conventional price)		
	Conventional	Antibiotic Free
Walmart	0.00	1.26
Aldi	0.00	1.66
Target	0.00	2.00
Averages		1.64

Table 8:

Chicken Breasts: Naperville - Percentage (compared to conventional price)		
	Conventional	Antibiotic Free
Walmart	0.00	0.61
Aldi	0.00	0.79
Target	0.00	0.67
Averages		0.69

Table 9:

Carrots: Carbondale - Dollars (compared to conventional price)		
	Conventional	Organic
Walmart	0.00	0.48
Kroger	0.00	0.56
Aldi	0.00	0.61
Target	0.00	0.60
Shnucks	0.00	1.40
Averages		0.73

Table 10:

Carrots: Carbondale - Percentage (compared to conventional price)		
	Conventional	Organic
Walmart	0.00	0.49
Kroger	0.00	0.56
Aldi	0.00	0.64
Target	0.00	0.61
Shnucks	0.00	1.41
Averages		0.74

Table 11:

Carrots: Naperville - Dollars (compared to conventional price)		
	Conventional	Organic
Walmart	0.00	0.48
Aldi	0.00	0.68
Target	0.00	0.60
Averages		0.59

Table 12:

Carrots: Naperville - Percentage (compared to conventional price)		
	Conventional	Organic
Walmart	0.00	0.49
Aldi	0.00	0.79
Target	0.00	0.61
Averages		0.63

Table 13:

Milk: Carbondale - Dollars (compared to conventional price)		
	Conventional	Organic
Walmart	0.00	1.91
Kroger	0.00	1.12
Aldi	0.00	1.82
Target	0.00	1.26
Shnucks	0.00	1.85
Averages		1.59

Table 14:

Milk: Carbondale - Percentage (compared to conventional price)		
	Conventional	Organic
Walmart	0.00	1.19
Kroger	0.00	0.47
Aldi	0.00	1.05
Target	0.00	0.58
Shnucks	0.00	1.13
Averages		0.88

Table 15:

Milk: Naperville - Dollars (compared to conventional price)		
	Conventional	Organic
Walmart	0.00	1.79
Aldi	0.00	2.18
Target	0.00	1.88
Averages		1.95

Table 16:

Milk: Naperville - Percentage (compared to conventional price)		
	Conventional	Organic
Walmart	0.00	1.13
Aldi	0.00	1.27
Target	0.00	1.00
Averages		1.13

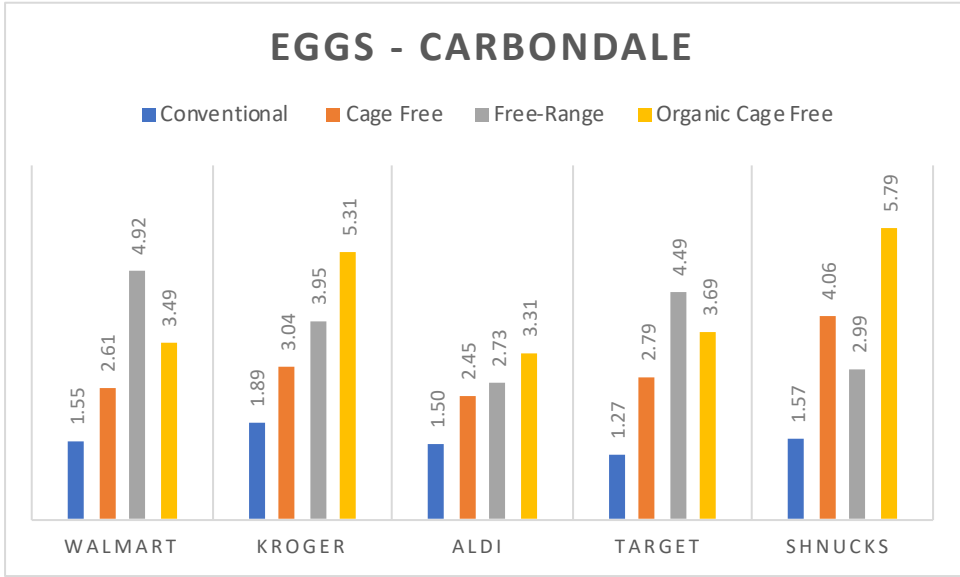


Figure 1: Average Egg Price – Carbondale

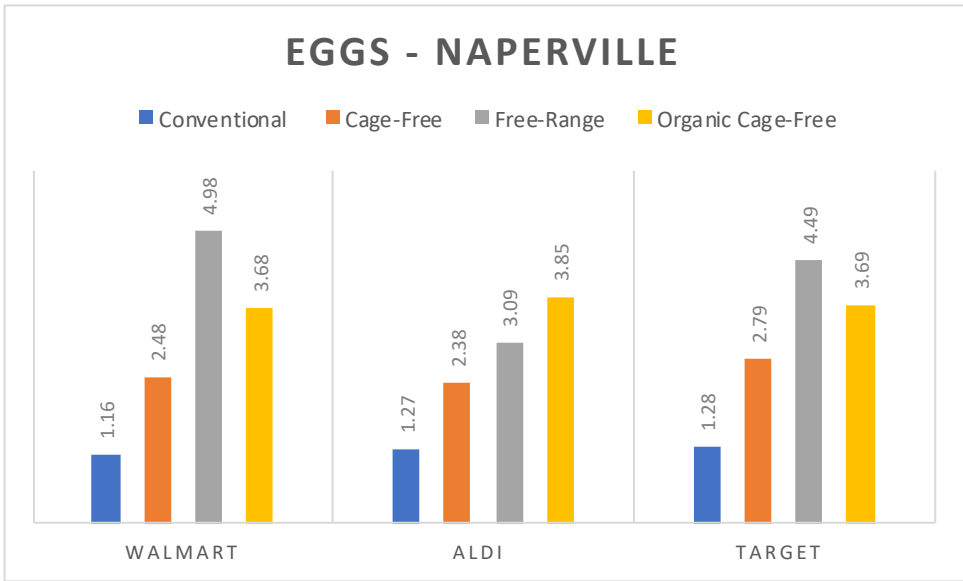


Figure 2: Average Egg Price – Naperville

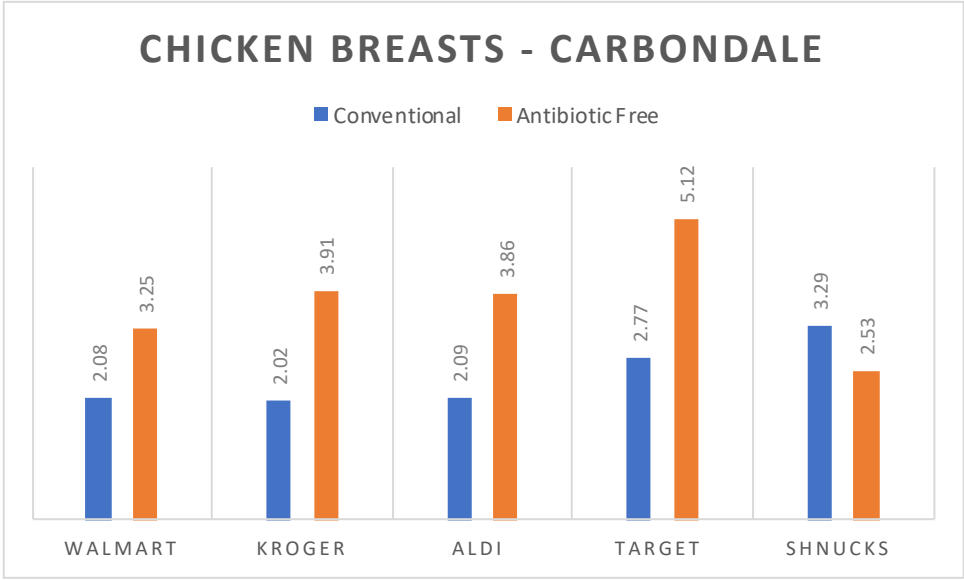


Figure 3: Average Chicken Breast Price – Carbondale

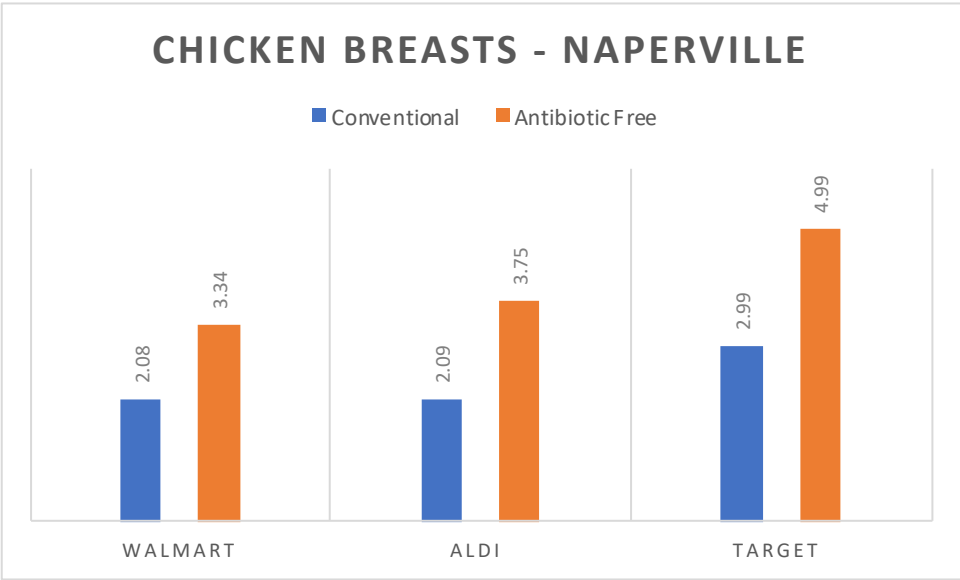


Figure 4: Average Chicken Breast Price – Naperville

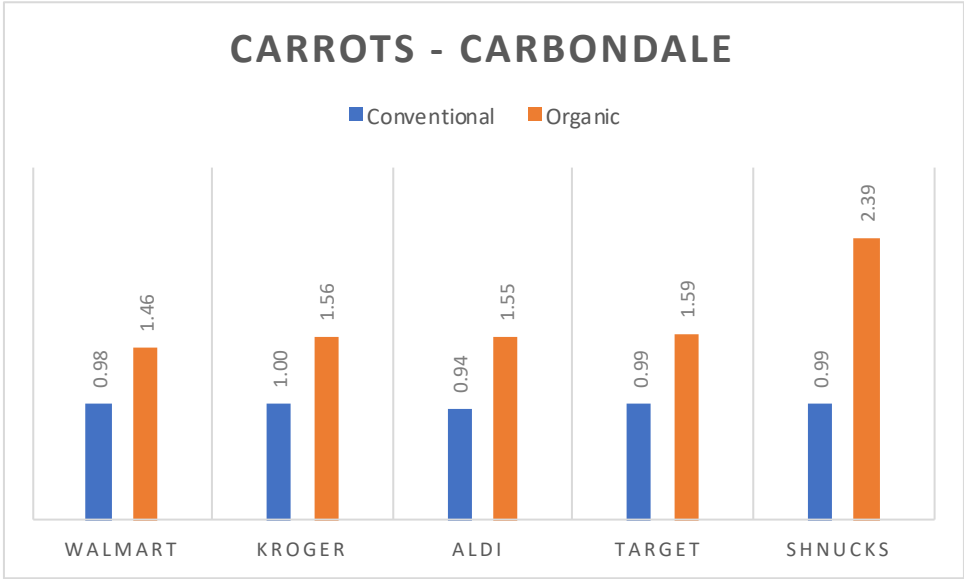


Figure 5: Average Carrot Price – Carbondale

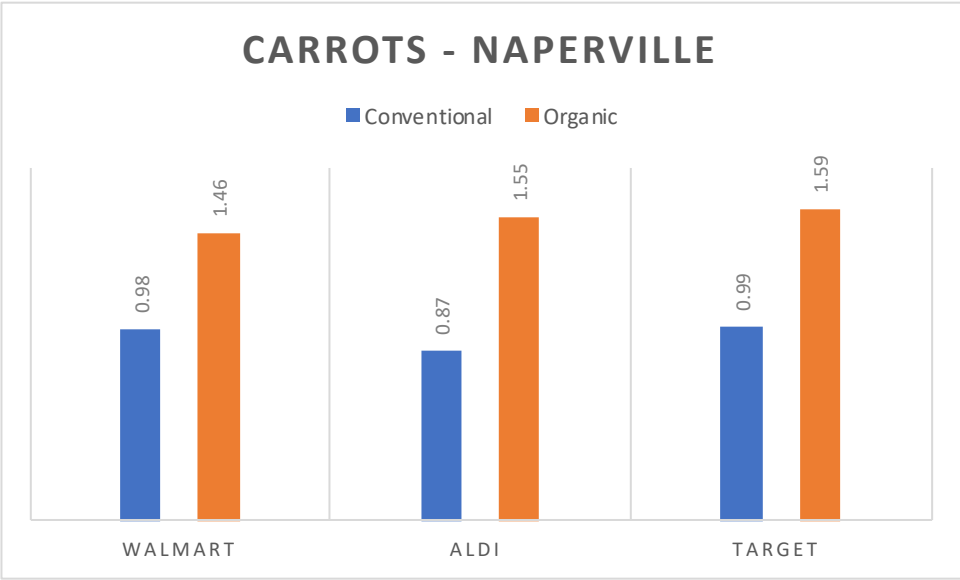


Figure 6: Average Carrot Price – Naperville

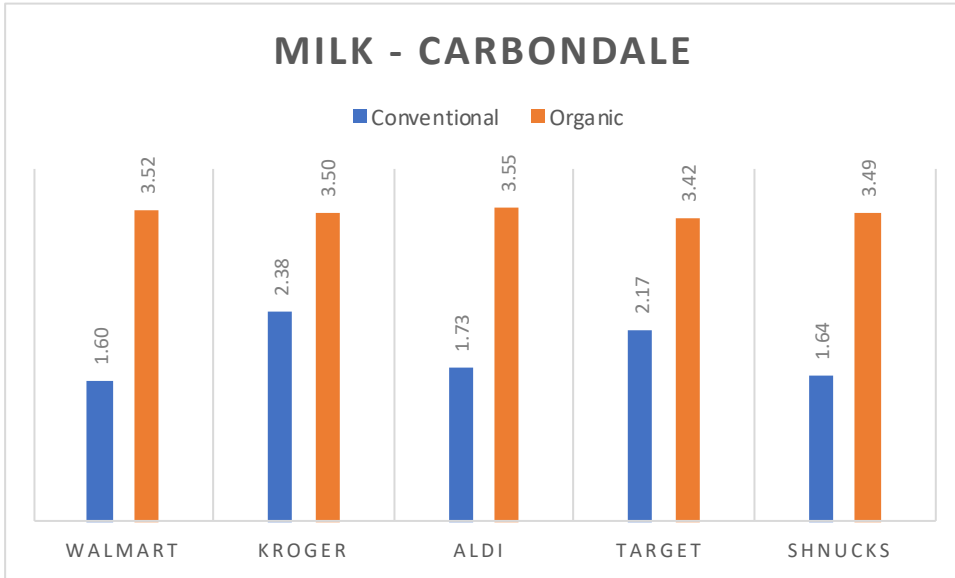


Figure 7: Average Milk Price – Carbondale

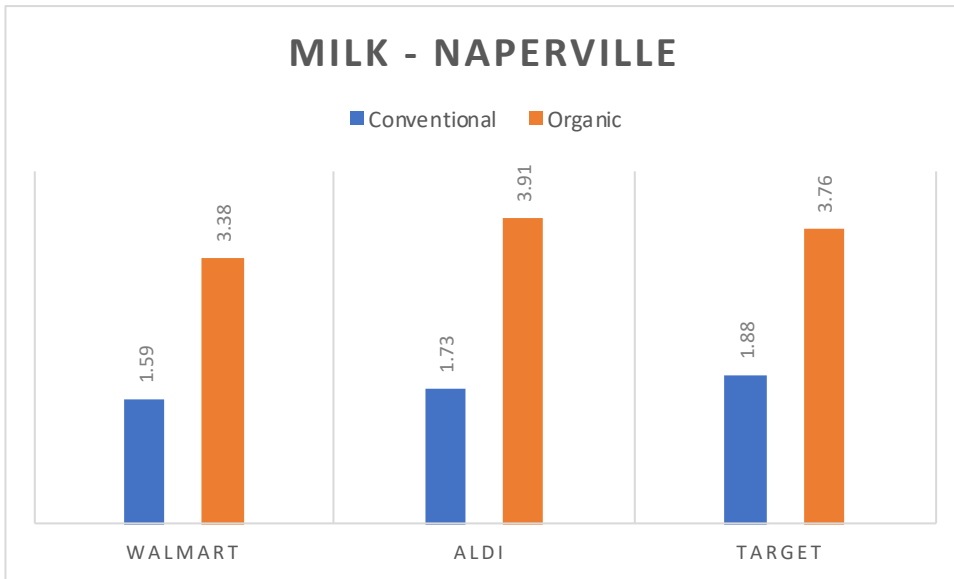


Figure 8: Average Milk Price – Naperville

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Major Professor: Dr. Dwight R. Sanders