



Changes in consumer attitudes towards organic and inorganic foods

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INTRODUCTION

A walk in a supermarket reveals proudly advertised organic foods. However, are consumers truly aware of what this means? This research project aims to reveal how much Palo Altans know about organic and inorganic foods, their attitudes towards the two groups, and whether such attitudes shift after learning about the components that are involved in the process of producing organic and inorganic foods.

BACKGROUND & SIGNIFICANCE

This work aims to gather the perspectives of Palo Alto residents, and perhaps some residents of neighboring cities. In addition to determining what Palo Altans’ initial attitudes are towards organic and inorganic foods, the research emphasizes how attitudes change when people are presented with new information. This project shines light on how educated Palo Altans specifically are on this topic, and how and if they change at all.

A Stanford University researched claimed that there is little difference between organic and inorganic foods in their “healthfulness” and “safety” in terms of nutrient content and viral and bacterial infections. However, another researcher claimed to have determined a 94% “reduction in health risk” when eating organic foods. (Holzman, 2012).

Demand for organic foods has increased throughout the 1990s. One research paper describes that areas with higher incomes tend to purchase more organic foods. However, when there was a large difference between the prices of organic and inorganic foods, even people with high incomes tended to purchase the cheaper, and typically inorganic, foods. People in the age brackets of 18-29 years and 40-49 years and older tended to be the ones who purchased the most organic food (Thompson, 1998). This project similarly analyzes consumer trends, though specifically for Palo Altans.

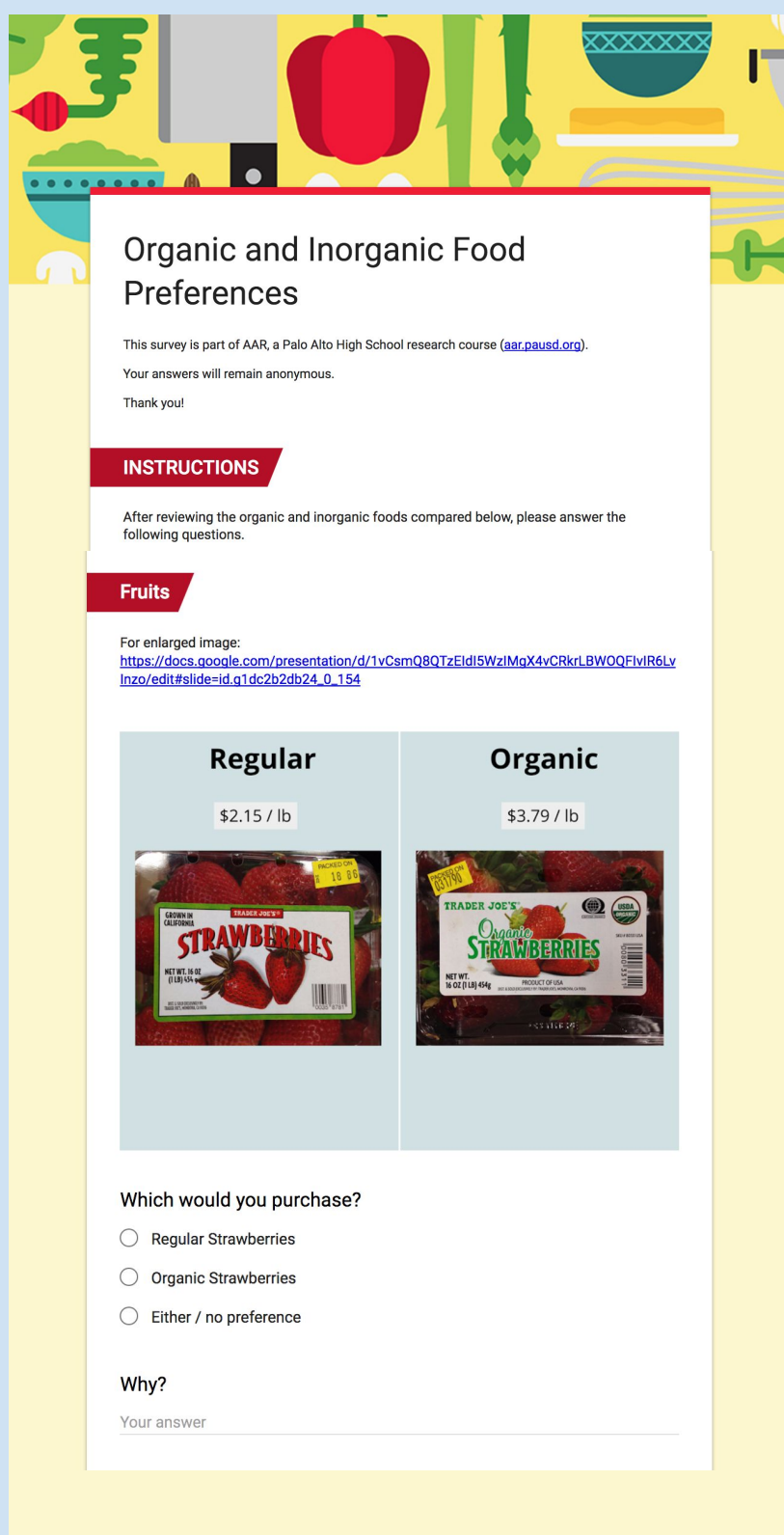
RESEARCH METHODOLOGIES

Information was gathered through surveys. The first survey asked general questions on people’s views towards multiple food groups. A second survey asked survey-takers to ‘purchase’ either organic or inorganic food, which determined their original purchasing preferences. Then, information on several examples of pesticides and hormones was provided before a second set of questions (identical to the first set) were asked. General questions followed. The survey results determined whether people’s attitudes changed towards organic and inorganic foods when provided with information on what they are eating.

RESEARCH METHODOLOGIES (continued)

Survey Questions

The survey aimed to see if there were changes in people’s responses when they were provided with information. General information on pesticides and hormones in popular foods were included in a brief summary. Then, questions were asked a second time.



(Above). A screenshot of the second survey. Survey-takers decided between purchasing regular or organic strawberries.



(Above). In addition to strawberries, survey-takers decided between organic or inorganic beef and milk.

Information on Foods and Pesticides/Hormones

Information on several pesticides/hormones are provided below. Please read through the information. Then, answer the following survey questions.

DEFINE: ORGANIC FOODS

Per the USDA, organic foods are defined as follows:

- Organic meat, poultry, eggs, and dairy products [that] come from animals that are given no antibiotics or growth hormones.
- Organic food that is produced without using most conventional pesticides; fertilizers made with synthetic ingredients or sewage sludge; bioengineering; or ionizing radiation.
- Before a product can be labeled 'organic,' a government-approved certifier inspects the farm where the food is grown to make sure the farmer is following all the rules necessary to meet USDA organic standards. Companies that handle or process organic food before it gets to your local supermarket or restaurant must be certified, too.

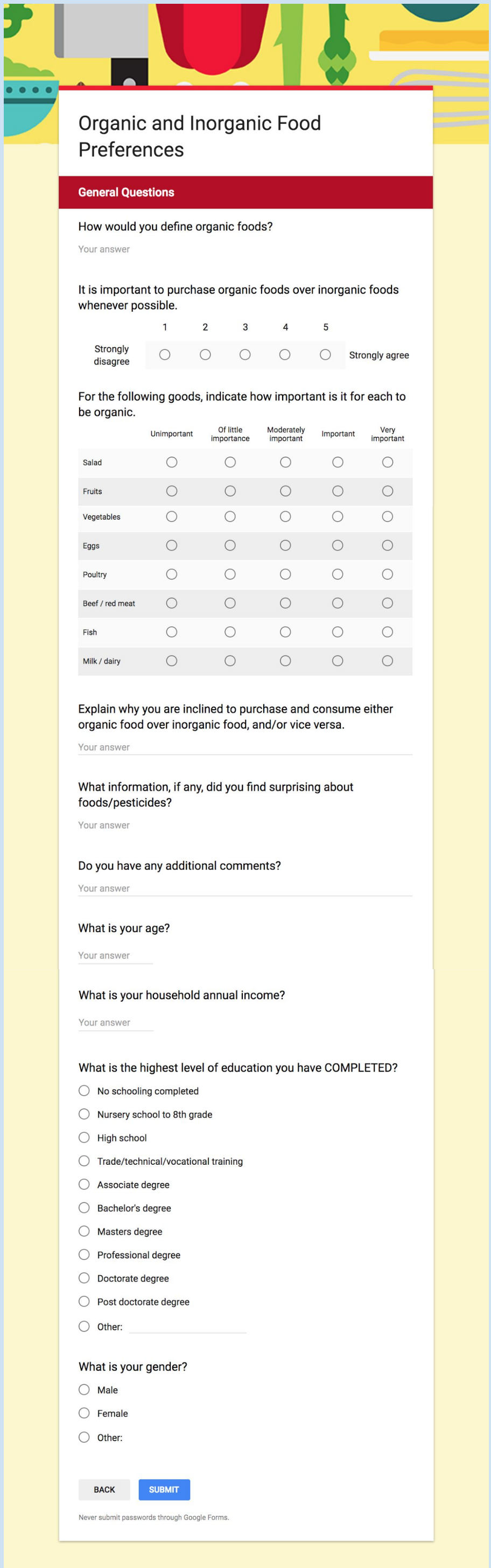
FRUIT – STRAWBERRIES

1,3-Dichloropropene is a fungicide applied to strawberry crops.

Strawberries are the top on the list of fruits and vegetables that have the most pesticide residues.

Name	1,3-Dichloropropene
Type	Soil fungicide used on strawberries.
General Information	It is used to kill weeds, bacteria, and fungi in soil. It is the third most heavily used pesticide in California.
Human health issues	When inhaled, it can cause irritation of the mucous membrane, chest pain, and breathing difficulties. It is listed as a "probable human carcinogen" by the Environmental Protection Agency. There is "sufficient evidence of carcinogenicity" and it is a "chemical known to be able to cause cancer" according to the Department of Pesticide Regulation.
Residue present on consumer food?	As 1,3-Dichloropropene is a fungicide, it does not leave residue on food and does not pose a risk to consumers.
Environmental issues	
Animal issues	Tests on mice, rabbits, and rats have shown that there is acute toxicity from inhalation of 1,3-Dichloropropene, moderate to high acute toxicity from oral exposure, and high acute toxicity from dermal exposure.
Workers' / Workers' issues	Workers are exposed to 1,3-Dichloropropene while cleaning up spills, mixing other pesticides regarding the safety of their working conditions.
Regulations	1990 – 1,3-Dichloropropene was pulled from the market due to the realization that its residues were found lingering in the air surrounding farmsteads. 1995 – It was returned to the market, with new restrictions.

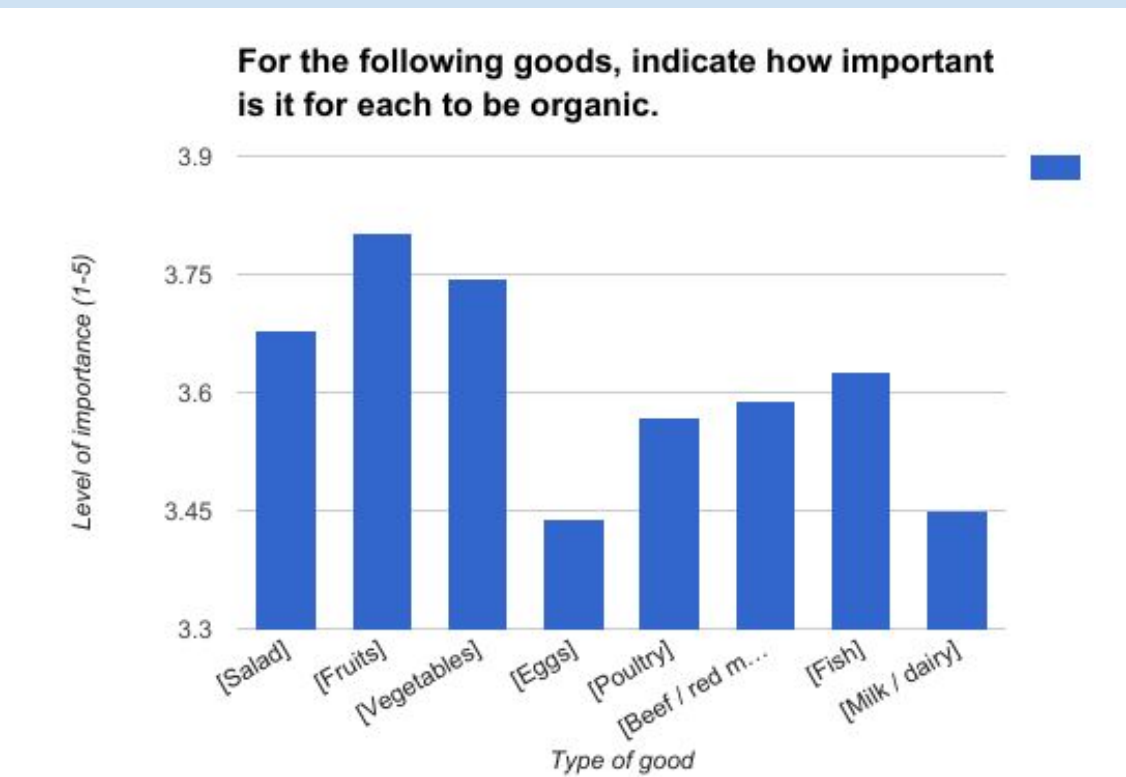
(Above). After asking survey-takers their purchasing preferences for strawberries, beef, and dairy, a document with information on certain pesticides and hormones that are used in strawberries (1,3-dichloropropene), beef (zeranol), and dairy (rBST) was provided. Then, survey-takers were asked again to choose between organic and inorganic strawberries, beef, and milk.



(Above). At the very end of the survey, general questions were asked. These questions were identical to the first survey’s questions and intended to see if people’s general preferences would change.

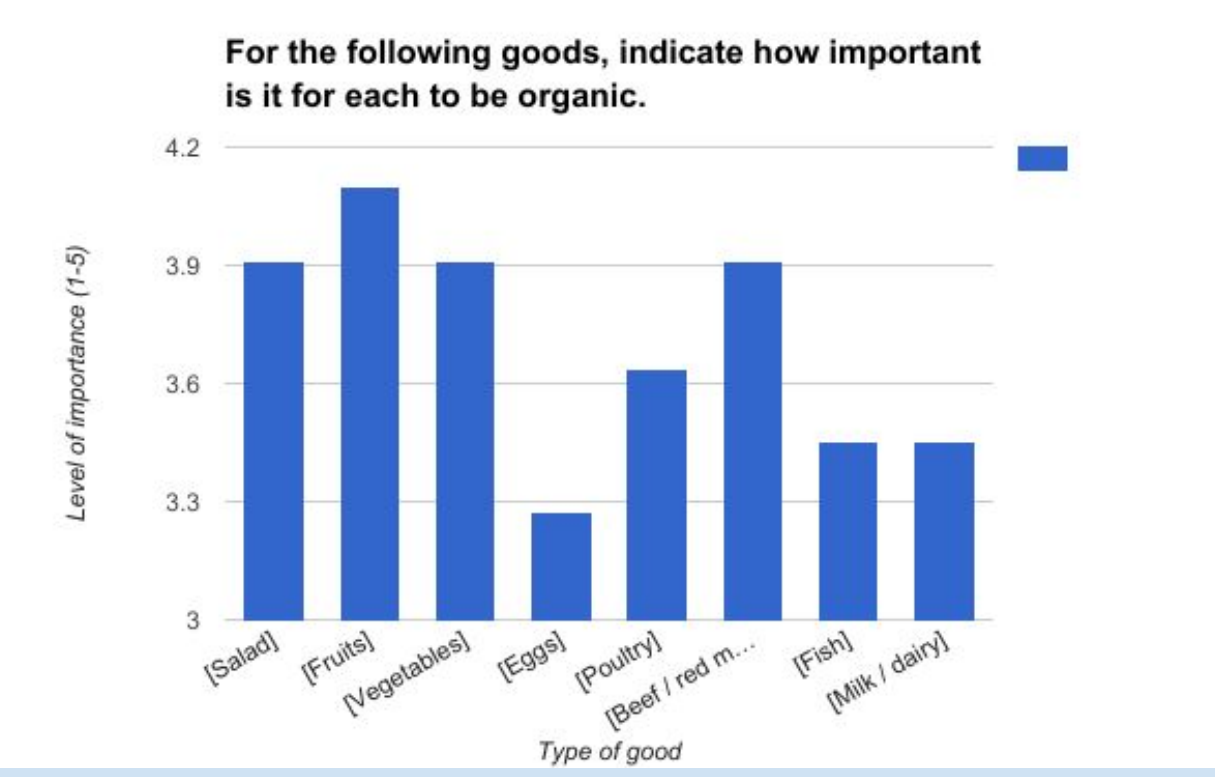
DATA ANALYSIS & RESULTS

Before reading information



(Above). In the first survey, people were asked to indicate how important it was for certain goods to be organic on a scale of 1 (unimportant) to 5 (very important).

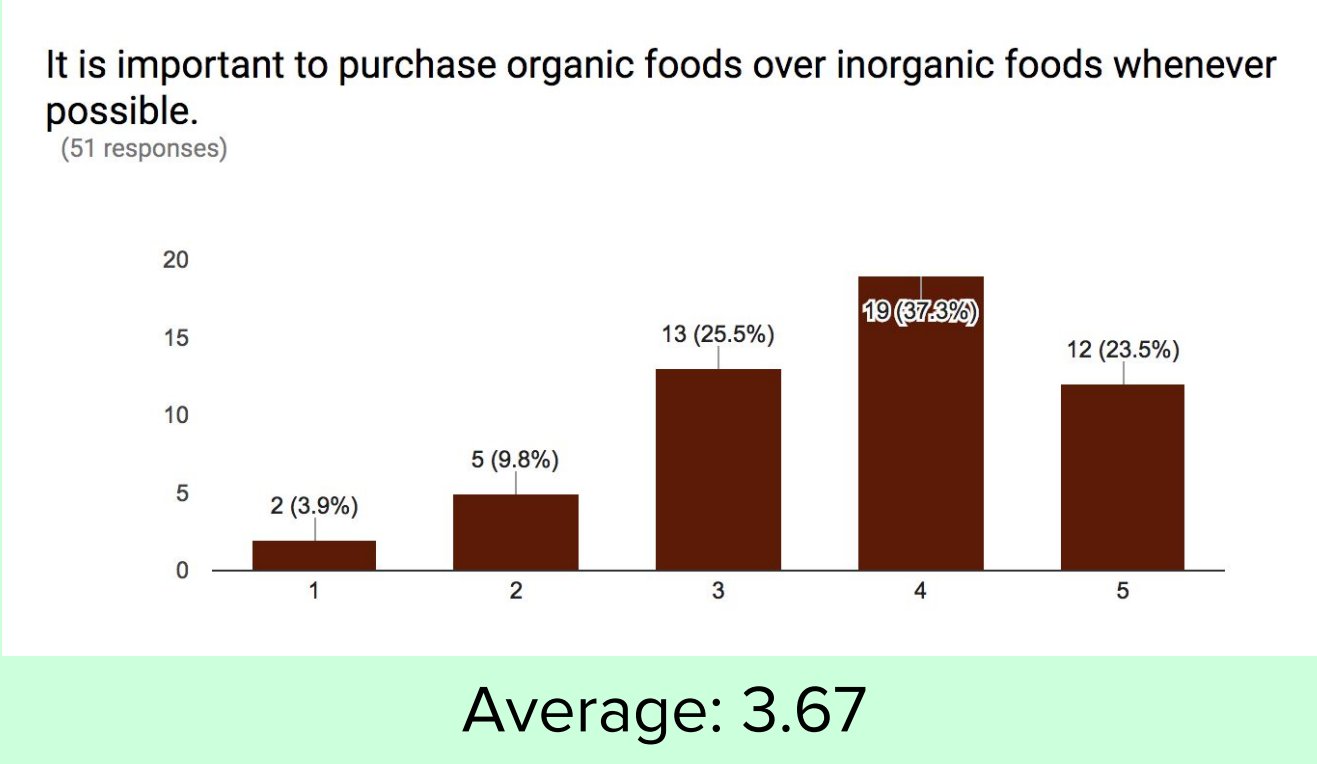
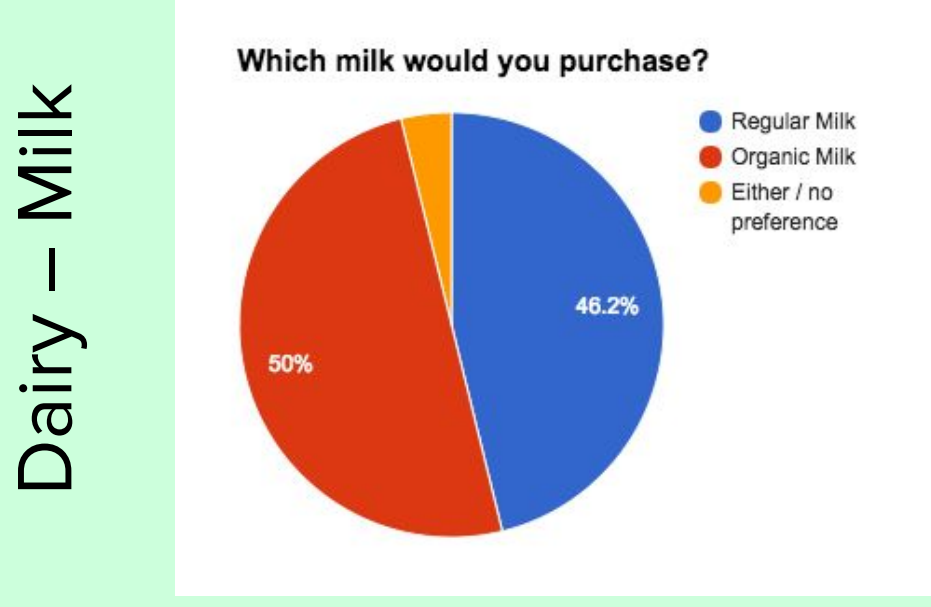
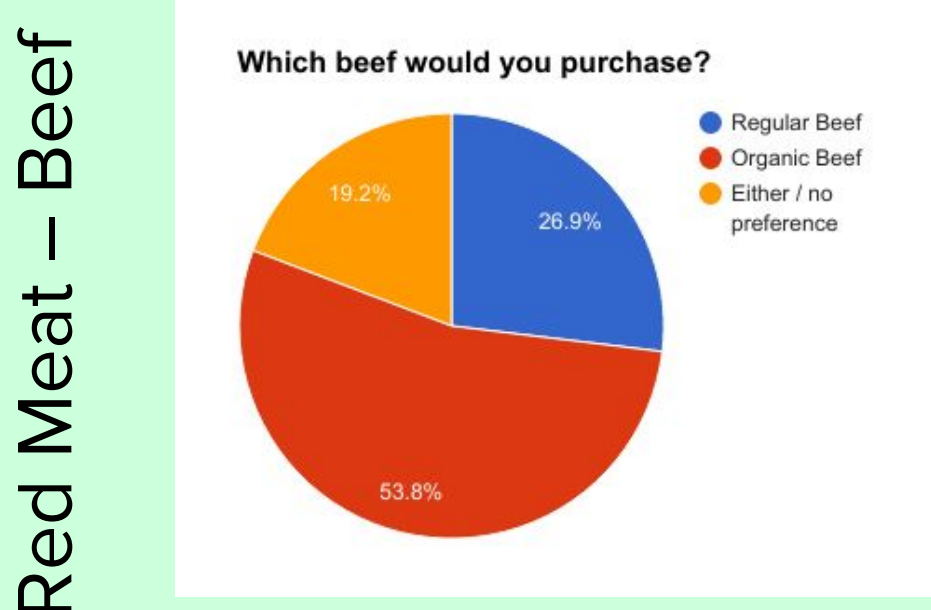
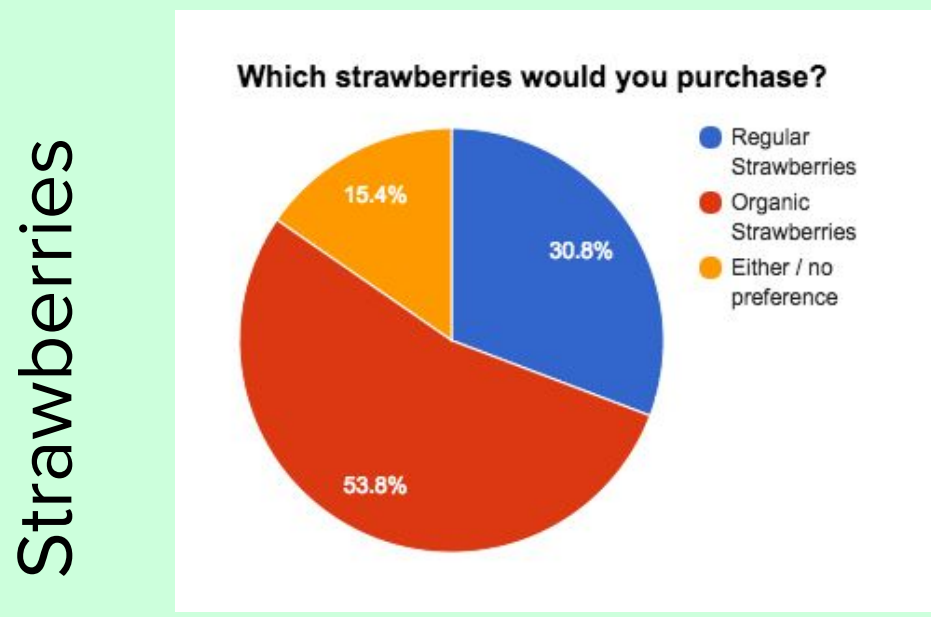
After reading information



(Above). After reading the information in the second survey, people on average indicated that it was more important for food to be organic. Dairy increased, and beef increased even more.

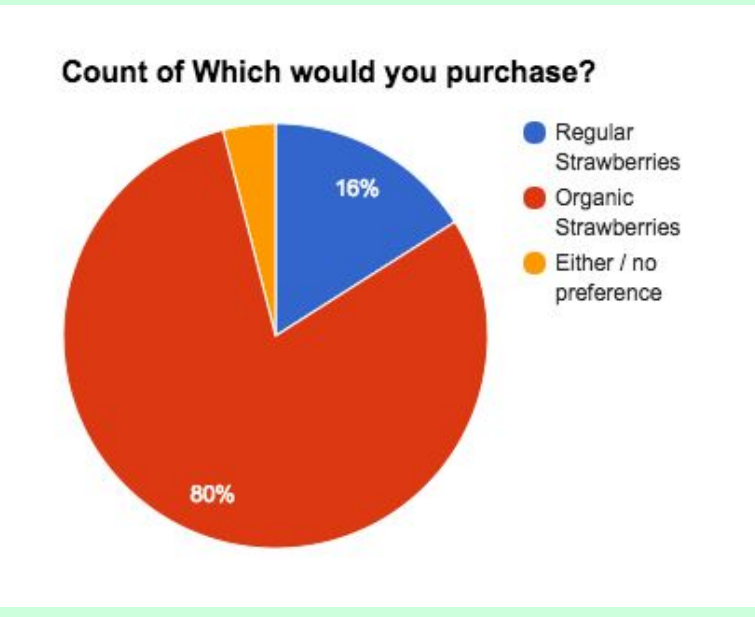
DATA ANALYSIS & RESULTS (continued)

Before reading information

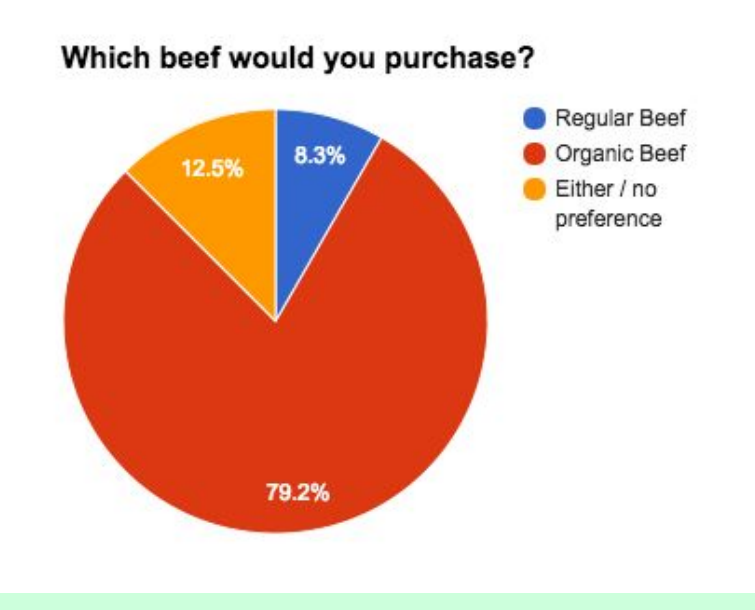


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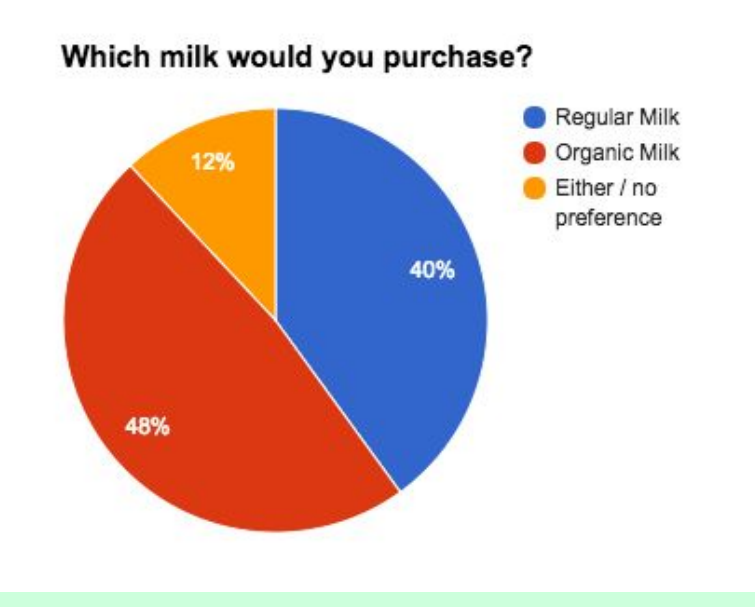
(Left graphs). The graphs show people’s purchasing habits for organic and inorganic foods before being provided with the information.



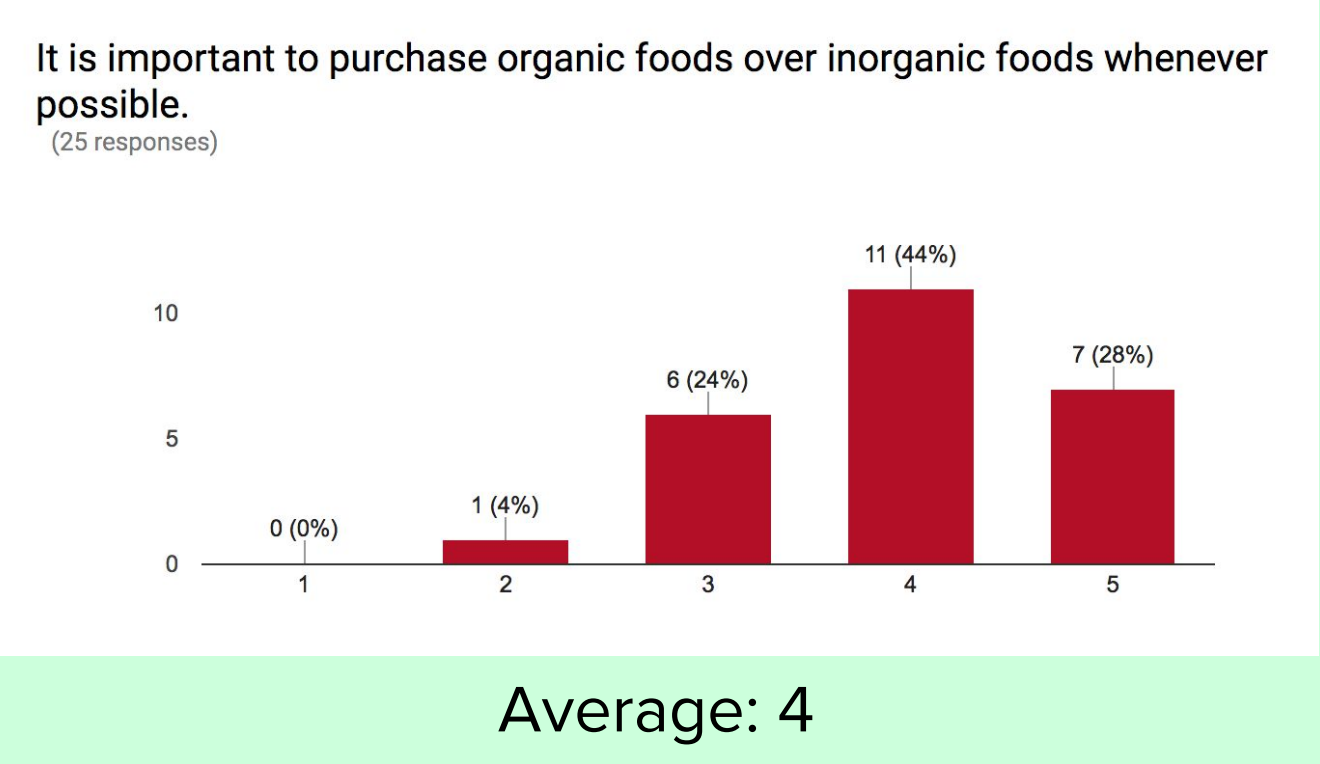
(Right graphs). The 'after' graphs showed that survey-takers chose to purchase organic goods at a higher rate than initially for the three goods.



The exception is milk, for which the document portrayed some positive aspects of rBST.



(Below). After reading the information, survey-takers on average thought it was more important to purchase organic food over inorganic food whenever possible.



SUMMARY

When people were provided with information on certain examples of pesticides and hormones used in foods such as strawberries and beef, they were more willing to purchase organically despite the higher price tag. People on average also reported that it was more important to purchase organically, a departure from their original stances. The exception to this trend was dairy, for which the document detailed several positive aspects of the hormone rBST.

It appears that people are willing to change their preferences for foods when they are educated about the components that make up their food. Providing readily available information on pesticides and hormones could perhaps help consumers make well-informed decisions when purchasing food.

ACKNOWLEDGEMENTS & REFERENCES

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Works Cited:

Holzman, D. (2012). PESTICIDES. Organic Food Conclusions Don't Tell the Whole Story. Environmental Health Perspectives, 120(12), A458-A458. Retrieved from <http://www.jstor.org/stable/23323080>
Thompson, G. (1998). Consumer Demand for Organic Foods: What We Know and What We Need to Know. American Journal of Agricultural Economics, 80(5), 1113-1118. Retrieved from <http://www.jstor.org/stable/1244214>