Prevalence of Natural Dyes in South Asian Markets Found Near the Cal Poly Pomona Campus

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Introduction

As the food industry continues to move towards healthy, natural products, there is an increasing trend of moving towards natural colors in products to replace artificial colors. Market growth is driven by the "rising concerns regarding the health hazards posed by consumption of synthetic colors" (Grand View Research, 2017). "Natural food colors are expensive as compared to synthetic colors on account of which the adoption of these colors is higher in high income regions than the regions with developing economies. As a result, the penetration of these colors is high in Europe and North America than Asia, Central & South America, and the Middle East & Africa" (Grand View Research, 2017). Although the trends in the American market is clear, there has been very few studies looking at ethnic markets found within the US. Do the same trends transfer over or are consumers more willing to sacrifice their health in order to obtain ethnic goods simply because those living in North America can afford to pay for natural colors? The purpose of this project was to understand the current trends in the use of natural dyes within the food industry.

Hypothesis

Considering that many large chain grocery stores have a greater customer base and budget with more access to products, it was hypothesized that the large chain grocery stores will have more items containing natural colors than the ethnic grocery stores.

Locations

The selected locations for this investigation consisted of three local large chain grocery stores and three local ethnic grocery stores. Locations were determined based off of the driving distance from the California State Polytechnic University Pomona campus. All six locations were within 10 miles from Cal Poly. Additionally, the large grocery store locations were chosen based on proximity to the ethnic stores.

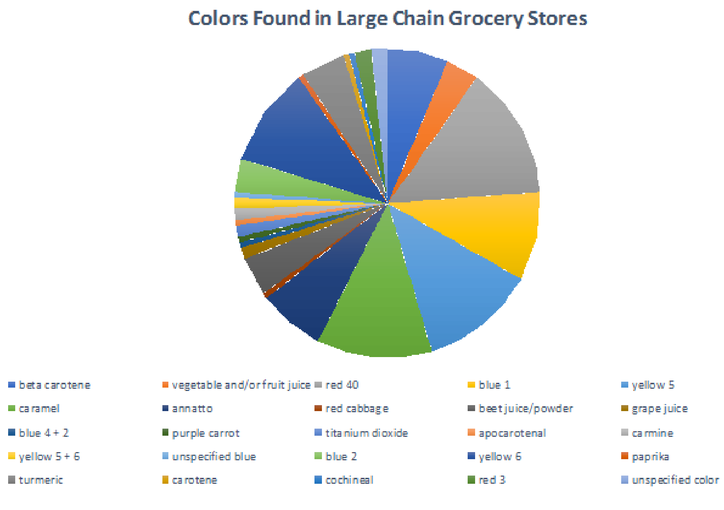
Location (e denotes ethnic)
A_e: New India Sweets and Spices
B_e: Sangam Music Center
C_e: Sadhna's Indian Groceries
A: Albertson's
B: WinCo Foods
C: Walmart

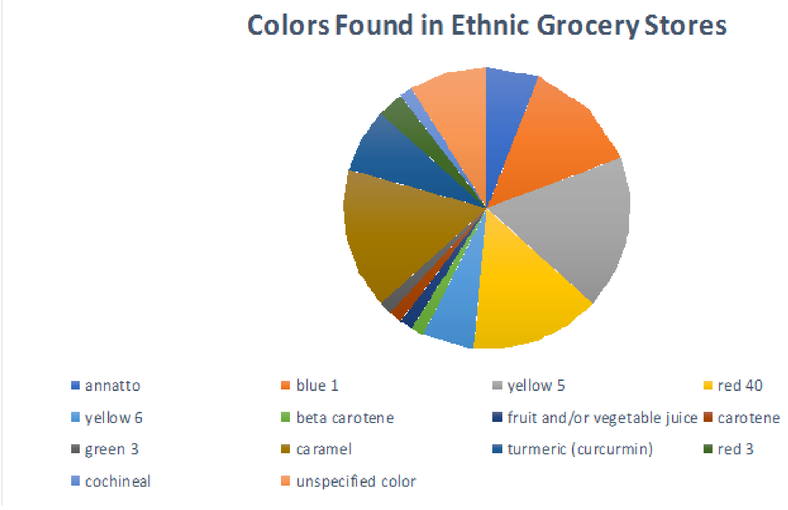
Method

Categories of products evaluated
- Beverages
- Frozen treats/desserts
- Canned foods
- Sauces/dips/spreads
- Dairy
- Frozen foods
- Candy
- Savory snacks
- Sweet snacks
- Dry packaged grains/cereals

During this investigation, five food items per category were selected. Once an item was chosen, the food label was examined closely for presence of any added food colors. If found to contain coloring, a distinction was made between natural and artificial colors. For the purpose of this study, caramel color was classified as a natural color (Sethness, 2017). Prior to determining the products being evaluated, the locations were visited to evaluate the available products. Based off of the prior research conducted in food colors, as well as product availability, the categories of products being evaluated were selected.

Results





Large Chain Market	Natural	Artificial	Unknown
Items w/colors (59% of total items had colors)	60	31	3
Percentage	68%	35%	3%

Ethnic Market	Natural	Artificial	Unknown
Items w/colors (37% of total items had colors)	24	28	6
Percentage	44%	51%	11%

Conclusion

In conclusion, the results of the investigation supported the hypothesis by showing the disparity between ethnic and chain grocery stores in terms of food coloring. Although consumers in the US are moving towards products with natural colors, consumers of the South Asian population in the US are more concerned with obtaining ethnic goods than the colorants used.

Conclusion

This investigation contained no conflict of interest. However, study was limited based off of the limited selection of ethnic products found in the smaller local grocery stores. Further investigation into large South Asian grocery stores, such as in Artesia, California, may lead to different results in the number of items with colors as well as the ratio of natural colors to artificial colors. Many of the smaller ethnic stores make fresh sweets and snacks for consumers which could not be represented in the study. Additionally, the items chosen for each category were selected based off of a biased perspective. To improve on the validity of the study, the investigation should have a randomized selection of items rather than having the investigator choose items. Finally, there was no statistical determination of the number of samples required within each category. This is a concern because the large chain grocery stores contained more items in each category. Therefore, a greater percentage of available ethnic items were evaluated than available items from large chain stores.

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