

**AMS Nest Food Signage**

**Corbin Girard, Daniel Alleyn, Edwin Zou, Jillian Vieira, Sarah Petznick, Sean Choi**

**University of British Columbia**

**LFS 450**

**April 06, 2016**

Disclaimer: "UBC SEEDS Program provides students with the opportunity to share the findings of their studies, as well as their opinions, conclusions and recommendations with the UBC community. The reader should bear in mind that this is a student project/report and is not an official document of UBC. Furthermore readers should bear in mind that these reports may not reflect the current status of activities at UBC. We urge you to contact the research persons mentioned in a report or a SEEDS team representative about the current status of the subject matter of a project/report".

UBC Social Ecological Economic Development Studies (SEEDS) Sustainability Program  
Student Research Report

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**LFS 450: Land, Food & Community III**

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## **Executive Summary**

We conducted a review of literature and of industry standards and, a survey of AMS Nest customers regarding current food signage. The literature review determined that while signage is important, too much signage may become a problem for customers and that colours and online access to information may complement existing signage. Since the AMS Sustainability Office and SEEDS are interested in improving signage to include nutritional, sustainability and allergen information, surveys of AMS food outlets' customers were conducted for a total of 233 respondents. Two-thirds of respondents were interested in enhanced food signage in the AMS Nest. The most popular food characteristics for improving signage were identified as locally sourced, low-salt and low-sugar content. We recommend expanding signage with respect to these characteristics and offer suggestions of icons and color coding used in the industry for Uppercase, one of the AMS Nest's food outlets. We suggest that online food information as provided by Starbucks and Tim Hortons could be used as a model for the AMS Nest food vendors. QR codes are another option that the AMS may like to utilize in future updates to food signage. This technology will allow customers to easily access additional online information using their smartphones and learn about the allergens, ingredients, dietary considerations, and nutritional information regarding the products offered without unnecessary hassle.

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## Introduction

UBC and the AMS have made it a priority to improve the accessibility of their menus to those who have allergies or other dietary restrictions, as well as to support the purchasing of more sustainable, healthy options. As work continues to bring food at the AMS to the highest possible standard of sustainability, through the AMS' *Lighter Footprint Strategy*, it has become apparent that there are gaps in student knowledge as to what products are the most sustainable and nutritious, and which are allergen-free. Increasing the availability of this type of information can be a useful means of helping customers make informed and healthy purchasing decisions. This would stand to benefit both student health and environmental sustainability efforts of the UBC campus food system.

Every year, diseases associated with nutrition such as heart disease, stroke, diabetes and cancer are debilitating and killing Canadians at an unprecedented rate. This problem is estimated to be costing the Canadian economy at least \$7 billion each year (Jeffery and Capello 2012). Dietary factors attributed to impacting poor health, disability and premature death include excess calories and too much salt (Jeffery and Capello 2012). Estimating the amounts of nutrients in processed foods is a challenge for consumers as well as dietitians (Jeffery and Capello 2012). This is an indication that Canadian restaurants and food outlets need to improve their food labels so that health-conscious consumers can make better purchasing decisions. Consumption is reduced when labels identify high calorie foods (Nikolaou 2014).

Canadian consumers rely on food labels to compare products and make informed decisions when purchasing food; however, many consumers perceive gaps in food labeling (Health Canada 2015). A Canadian survey found that consumers would like food labels to be easier to find, easier to read, and written in plain language. Respondents also suggested that the list of ingredients be clear and standardized to exclude vague terms such as "natural" and "artificial" and identify added ingredients such as "added vegetable oils" or "added sugar". Respondents also showed interest in being able to determine the proportion of a recommended daily value of specific items or detect some they want to avoid. These items included allergens or gluten, calories, fibre,

protein, carbohydrates, vitamin content, preservatives and additives and, the quantity and type of fat, sugar and sodium. Using “may-contain” to identify potential allergens or “gluten-free” to identify appropriate foods for individuals with celiac disease were suggested improvements (Health Canada, 2015). Food labeling is currently the only method available to reliably protect consumers with allergies (Cornelisse-Vermaat et al. 2008). Individuals with food sensitivities and allergies report that finding food outlets with products safe for consumption is overly time-consuming (Cornelisse-Vermaat et al. 2008). People favour signage with few words and visual appeal (Jones and Park 2012).

The goal of this project was to help improve food signage available to AMS Nest customers by reviewing the signage of AMS Nest food providers and industry standards, gauging the interest of students for improved labeling, and providing suggestions for the Uppercase outlet to improve the visibility of environmentally sustainable choices, allergens and some nutritional information. The specific objectives of this project included:

1. Surveying AMS customers to assess perceived gaps in food signage;
2. Studying current signage utilized at AMS outlets and identifying strengths;
3. Researching signage strategies employed by industry leaders;
4. Providing suggestions for Uppercase based on survey results, industry analysis and signage currently in place.

As students of LFS, we are in tune with our food system, and wish to see improvements in the information we can access when purchasing food. Our group members had a range of motivations for choosing this project. These included a desire to see an improvement on labelling of allergens, a keen interest in knowing more about the nutritional value of food and making a positive impact on the sustainability of our campus food system.

## **Methodology**

### *Literature Review on Impacts and Types of Food Signage*

A literature review was conducted using the UBC Library online database and Google Scholar. We used specific search terms such as “industry best practices for food signage”, “effects of labels on consumers”, and “effective marketing and labeling”. We also explored research on the use of modern technology in signage with the search phrase “QR code nutrition information”.

### *Industry Standards Review*

This review of industry standards was limited to campus-based restaurants and cafes and included food vendors in the AMS Nest, Koerner’s Pub (a popular, non-AMS eatery), franchised corporate chains such as Starbucks and Tim Hortons. Each location was evaluated for the current availability of nutritional information either on signage, the internet or paper. We examined the signage practices of industry leaders outside of the UBC community to offer suggestions for one specific case, Uppercase, a popular AMS Nest cafe that offers beverages, baked goods, sandwiches and other prepared food items. We obtained a digital file containing allergen information for food items at Uppercase through the help of Akshiv Bansal, AMS Sustainability Projects Coordinator.

### *Survey*

A preliminary survey to investigate interest in food signage was conducted on February 26 at 11 a.m. in the AMS Nest (Appendix A). The preliminary survey was administered to 56 randomly selected participants who were eating a meal purchased at an AMS vendor. Responses to the survey were assigned different weights: not interested = 0, somewhat interested = 3, interested = 5. Based on the results of our pre-survey showing a large amount of ‘somewhat interested’ students, and a review of the survey design with our course instructor, Marie-Claude Fortin and our survey consultant, Sean Holowaychuck, we decided to rewrite the questionnaire (Appendix B). The final survey was restructured to get clear answers and shorten the procedure. Briefly, instead of having participants indicate their interest for signage for a long list of ingredients or

allergens, the second survey had participants pick their top three choices for additional food signage.

We conducted two surveys using the new questionnaire. Survey 2 was administered to 89 respondents and survey 3 to 88 respondents on March 10, 2016 from 3:00 to 4:00 pm and March 15, 2016 from 5:00 to 6:00 pm and, March 17 and 18, 2016 between 9:00 and 10:30 am, respectively.

## **Results and Discussion**

### *Impacts and Types of Food Signage*

The literature review focused on aspects of food signage most important for consumer's safety, effects of signage on consumer purchasing, and signage effectiveness. In the United States, labeling is suggested for items considered to be the cause of most food allergies. These items include milk, egg, fish, crustacean shellfish, tree nuts, wheat, peanuts and soybeans. Tree nuts require the declaration of the specific type of nut i.e. almonds or walnuts. Fish and crustacean shellfish require the species of fish to be identified i.e. salmon, cod, shrimp or lobster (US Food and Drug Administration, 2006). These eight allergens have been identified as the allergens that cause greater than 90% of all food reactions (Porter and Donna 2016). As such, their identification is considered a priority when protecting the health of consumers.

Based on this information, it is important that allergen information be available as it is a concern for consumer safety. Customers with severe allergies can take the necessary steps to mitigate a potential reaction if food outlet employees have allergen information on hand and if it is published online. Widely available information should reduce the likelihood of a vendor providing an allergen-contaminated product to uninformed customers. Employees should be aware of the possible allergens that are contained in the products being served and if necessary, additional training should be provided to ensure that this information is easily recognized. Nowadays, most vendors are able to provide ingredient lists on demand.

Signage typically focuses on influencing consumer purchasing. Thus, the way signage is designed and displayed is a very important consideration. Golan et al. (2001),



suggest that when a Companies generally consider information about food important to the consumer since it has the ability to influence their purchasing decisions (Golan et al., 2001). This is however, a complicated dynamic, as what is important varies from one consumer to another. Alternatively, what is safe for one individual may be a health risk to another. Overall, it is not surprising that packaging and food advertising accounts for 12% of US food expenditures (Golan et al. 2001).

Food signage can also effectively communicate hidden attributes of a product such as “low-sodium” and warnings for consumers that may want to avoid certain ingredients (Golan et al. 2001). However, it is also important to limit the number of messages displayed. Consumers can be overwhelmed and confused if they encounter too much signage. Additionally, confusing signage may have the opposite effect and negatively impact the consumer (Haslop and Norman, 1994) .

Colours used in signage are important and can often play a significant role in influencing consumer choice. A study conducted at the University of Massachusetts’ hospital cafeteria tested the impact of three-coloured traffic light food labeling. Food with red labels were an indication that the food was unhealthy while yellow-labelled items were deemed ‘less healthy’ and green-labeled items were ‘healthy’. The labeling system prompted individuals to choose the healthy options and the three-coloured traffic-light labeling increased the likelihood of the consumer to make healthy choices (Sonnenberg et al. 2013).

These labels and colours allow customers to make decisions quickly and effortlessly at the point of purchase. This labeling may benefit existing health-conscious consumers, while simultaneously influencing all consumers to make healthier choices, and give them the information required for these decisions. However, before this labeling system is incorporated it is important to establish standards and definitions for what may fit into the “healthy” and “unhealthy” categories. While these traffic-light labelling projects allow consumers to harness the power of automatic associations between red, “stop” and the green “go”, it can be challenging to determine what is considered “healthy” and “unhealthy” (Roberta and Khandpur, 2014). This sorting process involves standardizing and categorizing levels of nutrients that are considered

to be health-promoting or health-suppressing and could be considered subjective as each individual's need for certain levels of nutrients can be different. At this time, vendors could easily incorporate the traffic light coloured labeling on products that have been researched by the University of Massachusetts.

Information about food can be provided to consumers above and beyond what can be displayed on a label. QR codes are one way in which consumers can access information on an online platform. A 2-D barcode design delivers information both quickly and efficiently. It allows customers to access detailed information about a particular product with a smart-phone used to scan the code (Restaurant QR Codes n.d.). This allows food outlets to make more information accessible to consumers than would be available on a standard food-packaging label or menu. For example, allergen lists, nutritional and sustainability information may be easily accessed online if a customer requires it. QR codes can provide customers with information similar to that found on packaged products. The QR code eliminates the need to use a search engine and navigate a website as it directs the consumer directly to the food information. The QR code also allows vendors to eliminate the need for incorporating excess signage on overhead and cooler menus. Enhanced signage either directly in the food outlet or using QR codes, should be beneficial to consumers and food vendors. Enhanced signage improves consumers' control over what they choose to eat by providing detailed information. It also eliminates the need for employees to search for, and explain ingredient lists.

#### *Food Signage on Campus: the AMS Nest, Koerner's Pub, Starbucks and Tim Horton's*

We found a few characteristics common to all eight food vendors in the AMS Nest. Firstly, we noticed that the aesthetic quality of the menus and food signage was of high importance: all signage was fit in with the interior design and colour palettes of each outlet. Emphasis was placed upon clean and minimal signage designs that conveyed only the most essential information such as item name and price, enhancing the overall contemporary image of the AMS Nest. For example, Uppercase's overhead menu has simple food signage which displays food item names and prices where only the main ingredients are identified. Presence of allergens or nutritional information is not

indicated. However, two items, the *gluten-free* quinoa brownie and *vegan* banana bread, were explicitly identified. Both their drip coffee and steeped teas were identified as being *organic and Fair Trade*.

Koerner's Pub, a full-service restaurant and bar, had the advantage of being able to provide patrons with a proper menu<sup>1</sup> displaying ingredients and preparation methods in detail. Their commitment to sustainable practices, is clearly evident in the menu. Many of the dishes served are gluten-free and vegan, and others accommodate substitutions for gluten-free buns. In the footer of every page of their menu, a legend displays icons for gluten-free (GF), vegan (V) and Ocean Wise options. The footnotes also inform customers that all seafood options are "recommended by Vancouver Aquarium's Ocean Wise program as being ocean-friendly" and that all of their meat products are "hormone free and naturally raised".

Upon visiting the corporate franchises of Starbucks and Tim Hortons on campus, it became apparent that the food signage in these chains is rigorously standardized. Starbucks' menu is informative and minimal in nature, listing only the beverages offered. Food items are displayed with their names and prices in a refrigerated unit, where a footnote states that nutritional information is available upon request. Tim Hortons' food signage is marginally more informative, with menus displayed on TV screens that showcase pictures of the food items, along with advertisements for specific products. A small selection of low-calorie choices is highlighted in the corner of the menu display while baked goods are displayed in a glass case.

Both Starbucks<sup>2</sup> and Tim Hortons<sup>3</sup> staff directed us upon inquiry to their easily accessible, online nutritional information catalogues. The nutritional information presented in these catalogues covers both beverages and food items. Starbucks' online catalogue did not offer much information regarding allergens or ingredients in their beverages and food items, but had downloadable PDFs and quick reference lists displaying the complete nutritional information per serving of every item offered on their menus and low calorie beverages and food. Tim Hortons' nutritional catalogue was

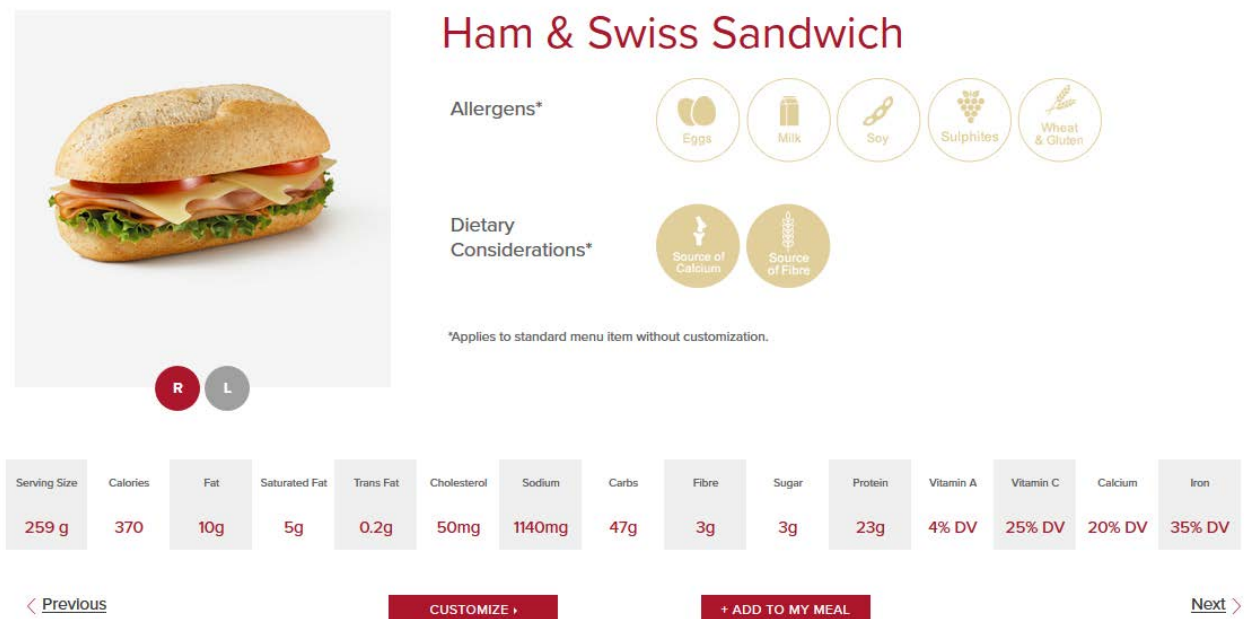
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<sup>1</sup> Found at: [http://koerners.ca/wp-content/uploads/2015/04/KP\\_Menu\\_Food.pdf](http://koerners.ca/wp-content/uploads/2015/04/KP_Menu_Food.pdf)

<sup>2</sup> Found at: <http://www.starbucks.ca/menu/nutrition-info>

<sup>3</sup> Found at: <http://www.timhortons.com/ca/en/menu/nutrition-and-wellness-search.php>

much more user friendly than Starbuck’s, with each item having a dedicated page displaying dietary considerations and allergen information using easily identifiable icons along with the item’s nutritional information per serving below (Fig.1). Another very helpful feature of Tim Hortons’ catalogue was the ability to add items to a “My Meal” feature that would collect and display the items selected in a comprehensive report for those interested in planning meals for dietary considerations.



**Fig. 1.** Screenshot of Tim Horton’s allergen, dietary considerations and nutritional information per serving for a regular size Ham & Swiss Sandwich.

In summary, when comparing the current state of food signage practices present in the AMS Nest to those found at Koerner’s Pub and other franchise corporations, it is clear that there is room for improvement. While the designs of the current menus and signage of the AMS Nest food vendors are aesthetically pleasing, they lack substantial content regarding allergens, ingredients, nutritional information or sustainability information. To obtain a list of the allergens present in the menu items offered at Uppercase, our team had to ask AMS Sustainability Office to place a formal request to the manager of the cafe to release internal documents to our team. Ultimately we were unable to access a full list of ingredients or nutritional information for the entire selection

of items available for purchase at Uppercase. Furthermore, no special method is used to identify appropriate menu items for customers with special dietary considerations such as: vegetarian, vegan, lactose-free, gluten-free, low sodium or low sugar. One has to read the menu descriptions carefully in order to identify ingredients that may be of concern, or inquire with staff regarding the ingredients and whether they could be removed from the item. Such level of availability and accessibility of food information is not sufficient for consumers to make informed food purchasing decisions.

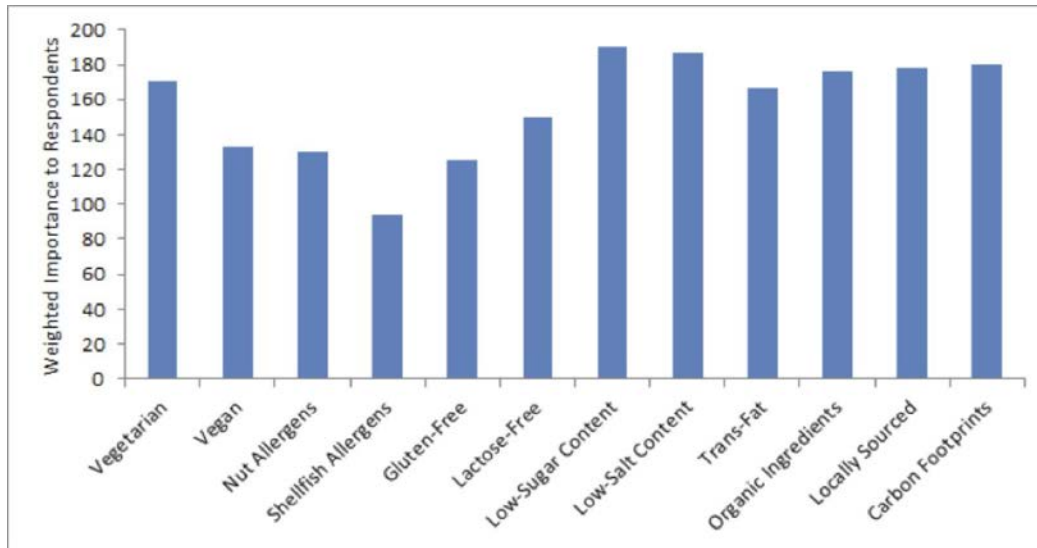
Considering the results of our survey showed almost two-thirds of customers of AMS food vendors were interested in seeing additional information being provided on food signage, this is an area of improvement that should be addressed in future additions and changes to the food signage. Utilizing a set of food signage icons which delineate certain allergens or nutritional characteristics will allow customers to easily identify menu items that have desired qualities, increasing accessibility and promoting more informed purchasing decisions.

### *Survey*

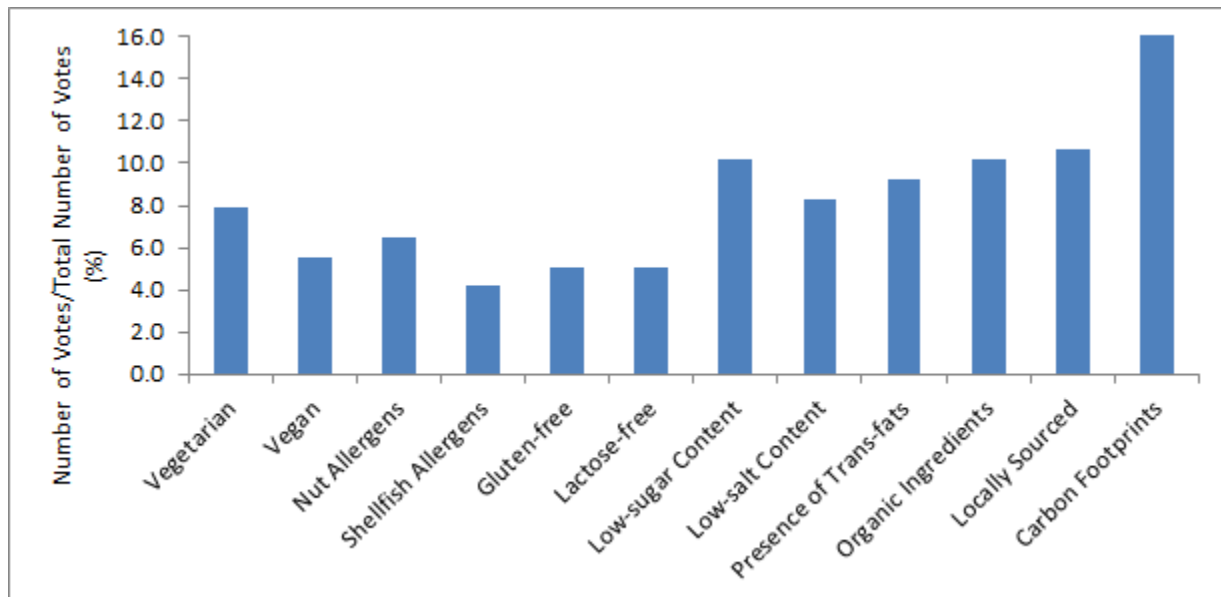
Customers of AMS food vendors were surveyed for interest about additional food signage and food characteristics of interest during three . According to all three surveys, about one-third of the customers in AMS outlets in the Nest are content with the signage that is already provided. However, two-thirds of respondents were interested by more signage.

A preliminary survey for customer's interest in signage concerning various food characteristics was conducted (n=56). The top five characteristics rated as most important by respondents included: low-salt content, low-sugar content, locally sourced, carbon footprints and vegetarian ingredients. Respondents were least interested in additional signage for vegan foods, gluten-free ingredients as well as for foods containing nut and shellfish allergens (Fig. 2). The top five characteristics rated as most important by respondents in a second survey (n=89) were: carbon footprint, locally sourced, low-sugar content, organic ingredients and vegetarian. Respondents were the least interested in additional signage for vegan foods, gluten-free ingredients as well as containing lactose and shellfish allergens (Fig. 3). Finally, in a third survey (n=88), the

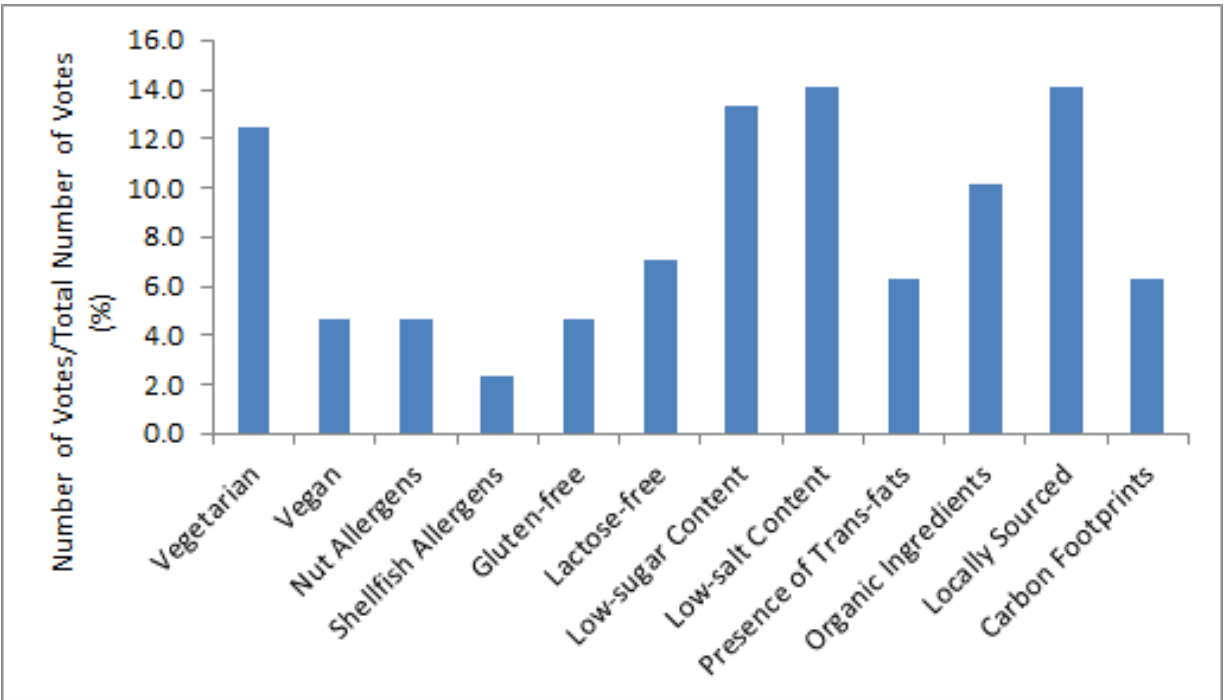
top five characteristics were: locally sourced, low-sugar content, low-salt content, vegetarian and organic ingredients. Participants were the least interested in additional signage for shellfish allergens, nut allergens, gluten-free ingredients and vegan ingredients (Fig. 4).



**Fig. 2.** Interest in signage for various food characteristics with answers ‘interested’, ‘somewhat interested’ and ‘not interested’ weighted as 5, 3 and 0, respectively (n=56).

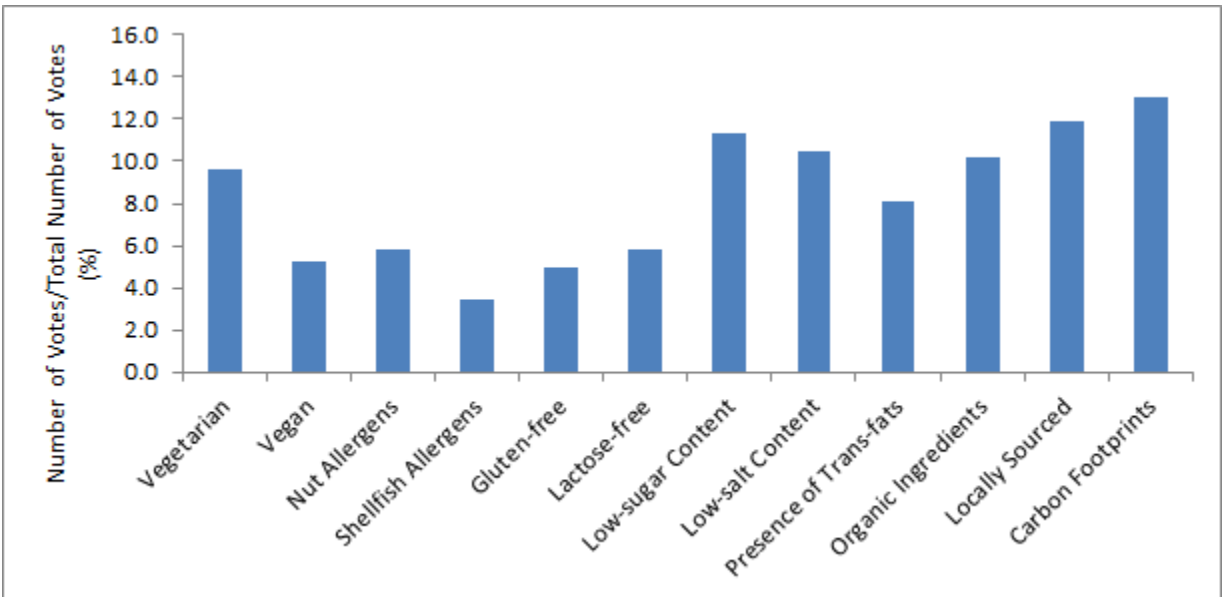


**Fig. 3.** Top three choices for additional food signage in a survey of 89 people (n=216).



**Fig. 4.** Top three choices for additional food signage in a survey of 88 people (n=128).

Combined results of surveys 2 and 3 match those of the preliminary survey with low-sugar, low-salt content, locally sourced, carbon footprints and vegetarian ingredients as the top five characteristics of interest for enhanced signage (Fig. 2 and 5).



**Fig. 5.** Combined results of Surveys 2 and 3 showing the top three choices for additional food signage in a survey of 177 people (n=344).

### *Practical Applications for Uppercase*

Uppercase currently has two overhead menus with food name and price as well as a cooler display with various tags. Only two food items provide additional information as they are identified as gluten-free or vegan. We suggest the use of informative icons in the form of stickers on the current display tags to increase signage to a variety of other products sold at Uppercase (Fig. 6). Icons on stickers would allow customers to access extra information currently unavailable at a low-cost since stickers eliminate the need to add to or modify the overhead signage. Additional icons are shown in Appendix C. We also see an opportunity to expand the Excel file which contains allergens present in the food at Uppercase (Fig. 7) to be inclusive of health items such as low-sugar, low-salt, presence of trans-fats; and sustainability factors such as vegetarian, vegan and local. This file could also be made available at the counter or could be available on the Uppercase website. This may be an opportunity to incorporate the use of a QR code at Uppercase.

### **Recommendations**

#### *Action*

We suggest the use or development of graphic designs for signage in-store and online. The recommendation is for SEEDS to work with graphics designers to obtain stickers that could be used immediately at all AMS food vendors provided that a complete list of ingredients is available to identify gluten-free, vegetarian or vegan options.

#### *Research*

We see a need to research how to identify the top choices of survey respondents, low-sugar, low-salt, locally sourced and carbon footprint, before accurate signage can be provided. Information for locality, carbon footprints and for the definition of 'low salt' or 'low sugar' needs to be gathered. The term 'low-sugar' probably needs to be redefined as 'low-added sugar'. This research would require access to complete ingredient lists, procurement information, and contact with suppliers and collaboration with a dietitian. It is likely that the carbon footprint of even simple foods, would be beyond the ability of



undergraduate students since a life cycle analysis would be in order. However, it is likely that some broad generalizations can be made using the literature.



**Fig. 6.** Example of food labels for allergens and ingredients that can affect human health.










Uppercase	Peanut	Eggs	Fish	Shellfish	Gluten	MILK	Nut/seed	Soy	Sulphites
<b>Allergy List</b>									
Contains:		Manufacture indicated							
May contain:		Processed in Manufacture that also uses this ingredient							
Clear:									
List is based on Manufactures information									
Muffins		X			X	X	X		
Bagels					X				
VEG Banana Bread		X			X			X	
Cookies		X			X	X	X		
Vegan cookie					X		X		
Parfait						X	X		
Scones					X	X			
Croissant					X	X			
Cinnamon bun		X			X	X			
Mixed Berry Square		X			X	X			
Fruit/Apple bun		X			X	X			
VeganGF Banana								X	
GF lemon shortbrd		X				X			
Tomato Foccacia					X				

Fig. 7. Uppercase allergen list for select food items.

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## Appendix A. Preliminary Survey

Hello, my name \_\_\_\_\_, I am in the Land and Food Systems programme and am working on a project with the AMS Sustainability group to identify the importance of signage to consumers in the NEST. Would you be interested in taking part in a brief survey in order to help us determine what is most important to AMS consumers?

How interested are you in seeing food signage displaying information regarding the following nutritional or ingredient information?

	Not Interested	Somewhat Interested	Very Interested
Vegetarian			
Vegan			
Nut Allergens			
Shellfish Allergens			
Gluten-free			
Lactose-free			
Low-sugar Content			
Low-salt Content			
Presence of Trans-fats			
Organic Ingredients			
Locally Sourced			
Carbon Footprints			

Are there any other aspects that would impact your food purchasing decisions that you would like to see made available?

## Appendix B. Main Survey

Hello, my name is \_\_\_\_\_, I am in the Land and Food Systems program and am working on a project with the AMS Sustainability group to identify the importance of signage to consumers in the NEST.

Are you interested in seeing food signage improved in the Nest? (If answer is no here, thank them for their time and let them know that is all the information you need)

Answered no	
Answered yes	

If answer is yes, ask: would you be interested in taking part in a brief survey in order to help us determine what is most important to AMS consumers when it comes to food signage?

Which of the 3 items listed would you like most to be identified on food items in the Nest?

Vegetarian	
Vegan	
Nut Allergens	
Shellfish Allergens	
Gluten-free	
Lactose-free	
Low-sugar Content	
Low-salt Content	
Presence of Trans-fats	
Organic Ingredients	
Locally Sourced	
Carbon Footprints	

Are there any other aspects that would impact your food purchasing decisions that you would like to see identified by signage?

Appendix C. Additional icons for food signage <sup>4</sup>.



<sup>4</sup>Found at: <https://www.nuggetmarket.com/lifestyle/>