Connecting the Dots between Commodity Ingredients and Descriptive Sensory Research

Anita Sisopha[1] & Arlene Cameron[1]
[1]ACCE International

Introduction

Although cereal science has been the subject of intense study for a number of years, commodity ingredients such as sugar, all-purpose flour, baking powder or soda, are seldom the primary focus of sensory or consumer research. Functional information of any of these is essential for clients to understand the performance of their product(s) and the criteria that impact consumers' purchase decisions. Very often, it is difficult for consumers to differentiate between brands of a commodity product. Manufacturers struggle to stand out in the marketplace unless their product is distinctive for other reasons such as brand recognition or price. Descriptive sensory research can provide the needed insights to manufacturers to help them understand why consumers purchase their products. This type of research must then be conducted in a setting that is as close to 'real life' as possible and relevant to the end user while maintaining the integrity of reliable, valid research.

Objective:

- assist a major manufacturer of two well-known brands of a commodity baking ingredient understand its place among six other brands in the Canadian consumer marketplace and adjust accordingly based on results of the research

Methodology

ACCE's approach was multi-faceted:

1. Trained Sensory Panel: Are there detectable differences among Canadian ingredient brands?
The trained panel (n=10) adhering to the Sensory Spectrum method, developed 3 testing protocols to evaluate the 8 brands of this ingredient based on: 'neat', muffins (batter and baked) and biscuits (dough and baked).

Based on the results of the Trained Sensory Panel, 4 brands of this ingredient were selected to move forward into consumer testing.

2. Central Location Testing (CLT): What do Canadian consumers like about this ingredient?
The protocol developed for panel was used in the CLT (2 provinces in Canada, n=150, 75 per site, focusing on consumers who bake 2-3 times/month or more often). 4 brands of this ingredient were evaluated.

3. Home Use Test (HUT): How do Canadian consumers use this ingredient at home?
CLT respondents were each given one of four different varieties of this ingredient to use at home. They were asked to prepare a recipe given with the ingredient then prepare any other recipe they wished ('free-style'). Both products were evaluated using standardized on-line questionnaires. Each respondent was asked to submit pictures of their finished products and of the recipe used for their 'free-style' creation.

Results and Discussion

The trained panel found small but significant differences among the 8 ingredient brands tested (Figures 1, 2 & 3). Two brands (B1 and B2) performed significantly different from each other and were different from key competitors. Based on these results along with PCA maps, two key competitive products (C1, C2) were selected to pair up with the key brands and move forward into the CLT and HUT tests.

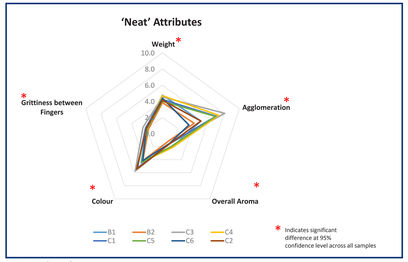

Figure 1. 'Neat'

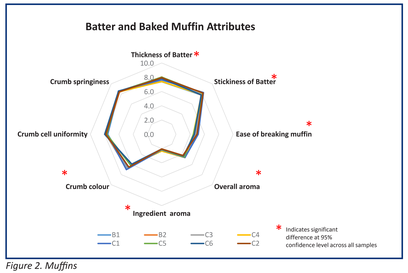

Figure 2. Muffins

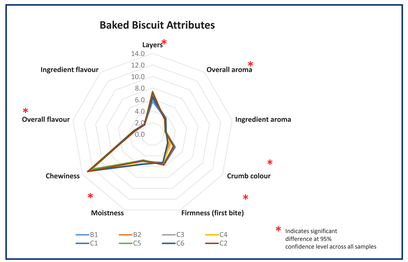

Figure 3. Biscuits

CLT results in Province 1 found no significant differences between B1 and C1 that would suggest B1 is a superior product; most attributes were very similarly rated between the two. Some significant differences were in favour of C1 in the CLT: appearance of the product 'neat', as well as overall liking, texture and aftertaste of baked muffin.

In Province 2, no significant differences were found between B2 and C2 that would suggest B2 is a superior product; most attributes were very similarly rated between B2 and C2. Consumers liked the flavour of muffins prepared with C2 however, it was unclear whether this was linked directly to the quality of the commodity ingredient being tested or to small variations in the preparation of the finished muffin product.

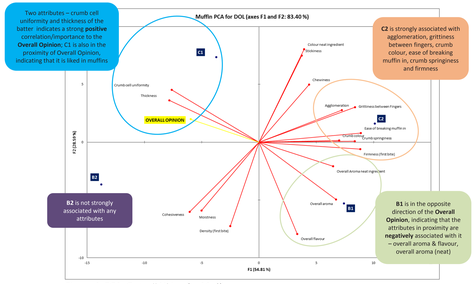

Figure 4. PCA: Overall Liking for Muffin

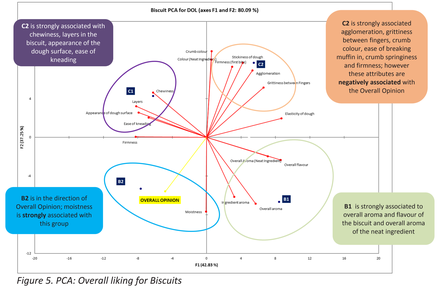

Figure 5. PCA: Overall liking for Biscuits

Important Attributes
Overall liking of muffins and biscuits was overlaid onto the PCA plots generated by the trained panel to understand how any differences found by the panel translated into consumer liking (Figures 4, 5). Two drivers of liking (derived importance) were found for muffins (crumb cell uniformity and thickness of batter) and one for biscuits (moistness of baked biscuit).

Consumers in both provinces said these attributes overall were most important to them (stated importance) when deciding which products to purchase:

- overall flavour
- overall texture of baked product
- appearance of the baked product
- chewiness of the baked product
- moistness/dryness of the baked product

HUT results indicated significant differences in purchase intent and liking of appearance and texture of the cookie batter, with B1 scoring higher in purchase interest and liked more than C1.

No significant differences were found between B2 and C2.

HUT respondents found no difference between the ingredient they usually used and the ingredient used in the HUT test.

HUT respondents were all asked what they blamed most often if a baked product does not meet expectations; respondents blamed themselves, their oven or other ingredients but seldom blamed the commodity ingredient being tested.

Although the trained panel found some differences across the brands of this commodity ingredient, consumers in the CLT and HUT in both provinces noticed few, if any, differences. The few significant differences would not suggest that the brands of commodity ingredients tested are superior to competitive brands.

The drivers of liking were not particularly strong for these products. The drivers of liking and the stated importance attributes called out were mainly about the baked goods. HUT respondents indicated that if their baked product did not come out as expected, they would most often blame themselves, the oven or other dry ingredients, and NOT this ingredient.

From this research, we can confidently conclude that the quality of B1 and B2 could be adjusted to mimic C1 and C2 respectively, and consumers will likely use the product with minimal notice and will yield similar results overall. We can also conclude that factors such as brand loyalty or price may play strong roles in the purchase of this commodity ingredient.

Consumer input concerning the future of commodity ingredients is essential however it was input from the trained sensory panel that helped guide the consumer research. Without it, attribute generation and subsequent drivers of liking would have been more difficult to generate. Narrowing the choice of competitive products from 6 to 2 would have been difficult, making the research expensive and time-consuming. Trained sensory panel has an effective and important role in consumer testing, particularly with commodity products.

Abstract ID# 1274
Assigned # 78



CLT - Preparation of Biscuits



CLT - Preparation of Muffins



HUT - Free-style Recipes

Reliable, Actionable Consumer Insights by Design™

www.acceintl.com