

Comparison of cheese flavor attributes from consumer and trained panels

Katherine Gallo[1], Delores Chambers[1], and Phillip Moore[2]

1. Sensory Analysis Center, Kansas State University, USA 66506

2. McPherson College, KS, USA 67460

Introduction

- Cheese lexicons provide useful information for descriptive profiling, but may not translate to consumers
- Consumer-generated lexicons can improve communication by providing meaning for marketing professionals and consumers
- Minimally trained and highly trained panels can provide similar information about basic product relationships, but do the similarities extend beyond a basic understanding?

Objectives

- To understand the relationship between cheese lexicons for a minimally-trained consumer panel and a highly-trained descriptive panel
- To assess the differences in understanding of product space and discriminability between panels

Materials and Methods

- 10 cheeses selected to be representative of different categories of cheese available in the U.S. cheese marketplace[1]
- 5 highly trained panelists evaluated .5” cubes of room temperature cheese on a 15-point scale (.5 increments)
- 6 consumer panelists developed a cheese lexicon during orientation through consensus, then individually evaluated cheeses on the same scale

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Results

Table 1. Attributes expected to be related between a highly trained descriptive panel and a minimally trained consumer panel.

Highly trained	Minimally trained
Strength	
Fermented, **Fullness**, Blendedness	**Strong**, **Potent**, **Flavorful**, **Overwhelming**, **Raunchy**, **Unique**, Smooth, Consistent, Soft, Subtle, Dull, Bland
Pungent	Pungent
Dairy	
Dairy Overall, Dairy Sweet, Dairy Fat	Milky, Creamy
Other Flavors	
Sharp/Bite	Sharp
Aged	Aged
Sour, Dairy Sour, Butyric	Sour
Astringent	Dry
Cheddar, Nutty	Cheddary
Musty, Fermented, Moldy	Musky, Muggy, Rotten, Curdled
Flavor Experience	
Longevity	Delayed, **Lingering**, **Instant**
Unmatched Attributes	
Cheese ID, Buttery, Diacetyl, Cooked Milk, Dairy Processed, Animalic, Goaty, Oil, Brown, Caramelized, Fruity, Floral, Pineapple, Grain, Green, Starchy, Smoke, Sweet, Salty, Bitter, Umami	Plastic, Artificial, Minty

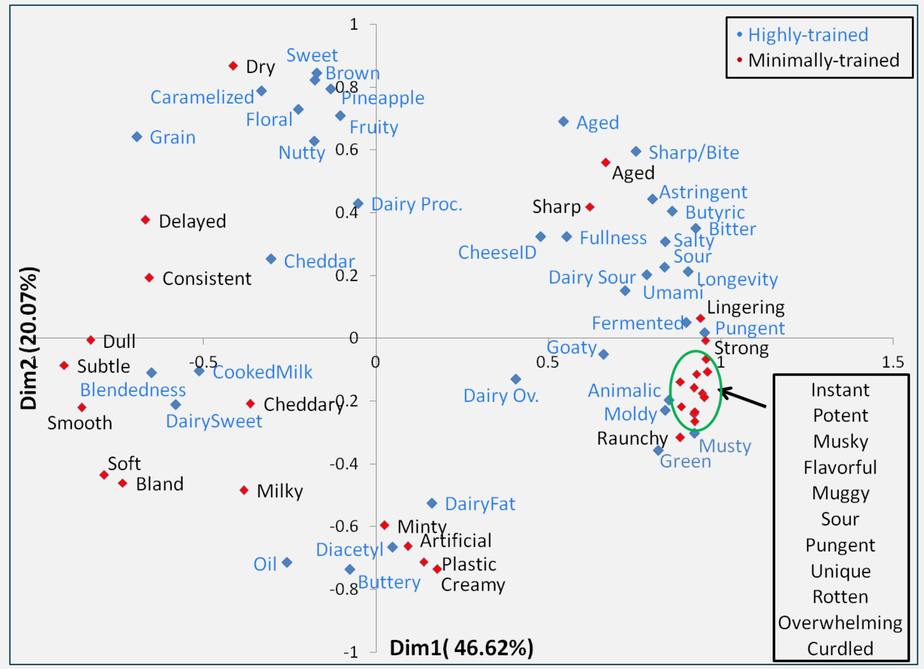

Figure 1. Multiple factor analysis for highly-trained and minimally trained lexicons.

Discussion and Conclusions

- Attributes related to strength, flavor experience, sharp, aged, and mold related, as expected
- There were differences between **highly trained** and *minimally trained* panels in usage of terms such as **Astringent** vs. *Dry* and **Dairy Overall, Dairy Sweet, Dairy Fat** vs. *Milky, Creamy*
- Panels clustered similarly and discriminated for flavor strength, but the highly-trained panel was better at discriminating between products and produced a broader lexicon

Reference

[1]Chambers DH, Chambers E IV, and Johnson D. 2005. Flavor description and classification of selected natural cheeses. Culinary Arts & Sciences V: Global & Nutritional Perspectives. Pp 641-654.

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