Crafting More Flexible and Efficient Panel Training Techniques

M. Tassos*, A. Warnock, N. McElwee
Givaudan Flavors Corp., Cincinnati, Ohio 45216, USA michael.tassos@givaudan.com

Introduction

Panel training and alignment are critical to a successful descriptive panel.

Descriptive analysis requires vigorous training to achieve successful panel performance, and to do so, panelists must be able to reliably differentiate attributes. Training must also incorporate scaling alignment by using attributes at varying intensities, along with applying these attributes into finished flavors or products. Traditional descriptive training methods are labor intensive, time consuming and can sometimes be very inflexible. Another limitation is on products that deliver heat; panelists are limited to tasting a low number of samples before being fatigued.

Utilization of the MiniVAS (Givaudan's Virtual Aroma Synthesizer (Figure 1)) along with reference standards from Givaudan's Global Sense It® language allows for more flexible and efficient panel training.



Figure 1. Givaudan mini-VAS (Virtual Aroma Synthesizer)

Materials & Method

Each of the aromatic physical Sense It® references can be expressed on the MiniVAS and used for panel alignment, just as physical references are used in traditional descriptive training.

One benefit of the MiniVAS is the flexibility of varying intensities of each attribute in real time. Panelists experience the aroma of a flavor and characterize perceptions through smell. Utilization of the MiniVAS also allows for each singular attribute to be expressed over a complete flavor on the MiniVAS, demonstrating a profile in the direction of that attribute (example: adding a woody/spicy aroma to a vanilla yogurt).

	Traditional Descriptive Training	Descriptive Training using Givaudan's Mini-VAS
Samples	Can Taste Only a Few	Can Smell Many
Sample Prep & Serving	Manual, Labor Intensive	Computerized, Automated, Flexible

In this study, panelists were trained on the MiniVAS to facilitate mapping and understanding of vanilla yogurt and chili pepper market products:

- Profiling done via Check-All-That-Apply (CATA) Method
- Profiling included:
  - Top selling and iconic spoonable and drinkable Vanilla Yogurts procured from the U.S. and Canada
  - Chili Pepper market products and chili pepper varietals

Results & Insights

Training and evaluating utilizing the MiniVAS, allowed for faster evaluation of products, without the fatigue associated with tasting. Panelists responded to about 60+ aromas per session before getting fatigued – imagine how long it would take to taste those 60 products!

This approach successfully aided in the development of multiple sensorial market mappings and understandings:

- Chili pepper mapping and understanding – map was developed from more than 80 market products and 16 fresh chili pepper varietals.
- Vanilla yogurt mapping and understanding – included over 110 vanilla yogurt products (Figure 2).
  - Over 40 descriptors described the sensory perception of aroma, taste, and flavor characteristics of vanilla yogurt

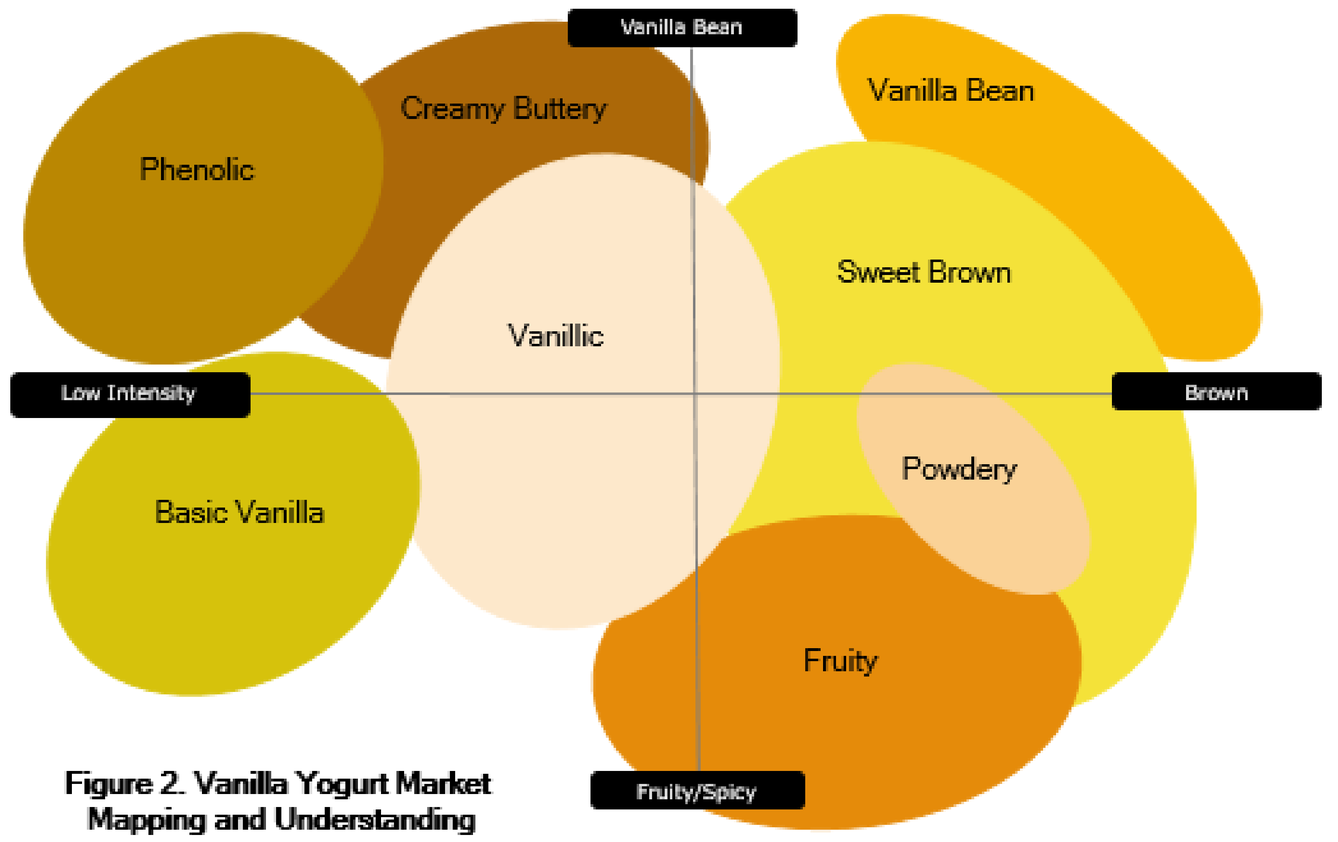

Figure 2. Vanilla Yogurt Market Mapping and Understanding

Conclusion

Training and evaluating utilizing the MiniVAS, allowed for faster evaluation of products, without the fatigue associated with tasting.

This method was extremely useful for understanding and mapping complex flavors and with flavors that are fatiguing.