



# Case Study: Using Descriptive Analysis for Gelatin Supplier Qualification

## Background

Our client would like to qualify gelatin from new suppliers but needs to be sure they can do so without changing the sensory profile of their bars.

Additionally, the current gelatin source imparts a perceptible flavor in the finished product, which makes identifying a replacement source difficult.

The team is currently exploring several sources and blends in hopes of achieving a sensory profile as close to current as possible.

The qualification will be made for a 50% replacement (Variant 1) and 100% replacement (Variant 2).

## Methodology

This study was conducted with our trained sensory panel.

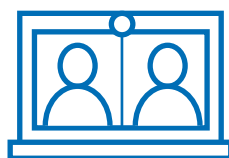
Samples were ranked in intensity for each attribute and scores were given on a numerical scale.

**Mahalanobis Analysis** was used to calculate the overall differences between the samples for the ranking test followed by an Analysis of Variance with LSD's mean separation among attributes at 95% confidence level.



### Day 1

Training and lexicon creation at the ISR facility.



### Days 2 -3

Virtual evaluation sessions with panel leader and technician leading the group.

### Attributes Evaluated

- Aroma
- Texture in mouth
- Taste
- Flavor
- Aftertaste

# What We Learned

## Control Samples

Were similar in sensory profile but some differences were noted:



Nutty flavor



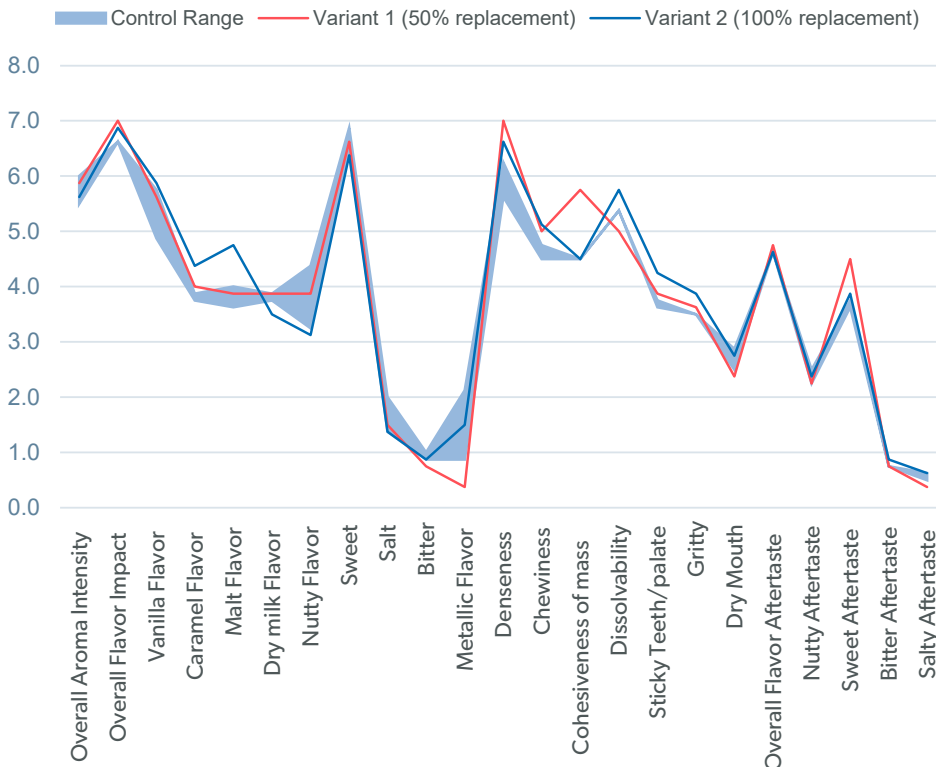
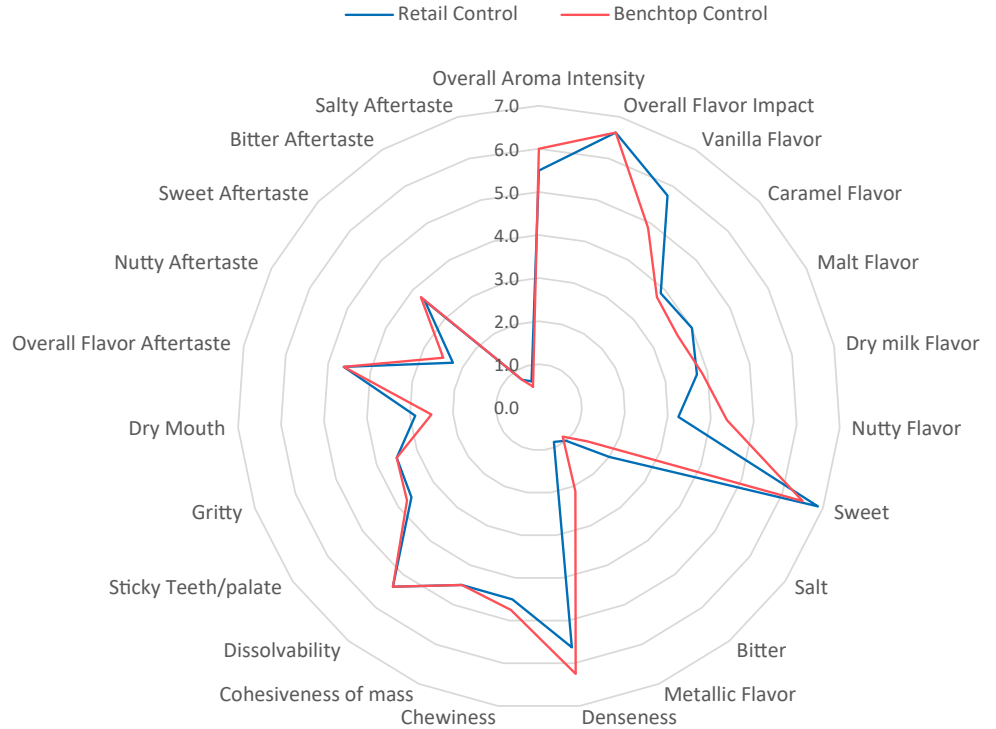
Metallic taste



Denseness



Dry Mouth



## Variants Compared to Control Range

Both Variants were very close to the two Control ranges in flavor and texture attributes.

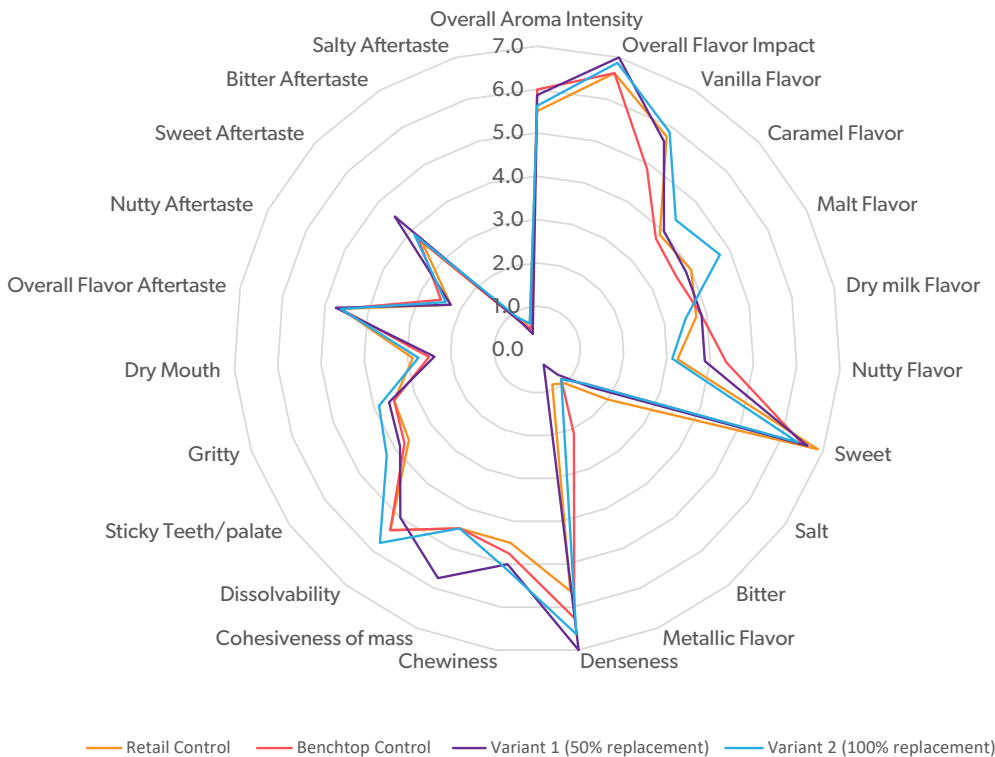
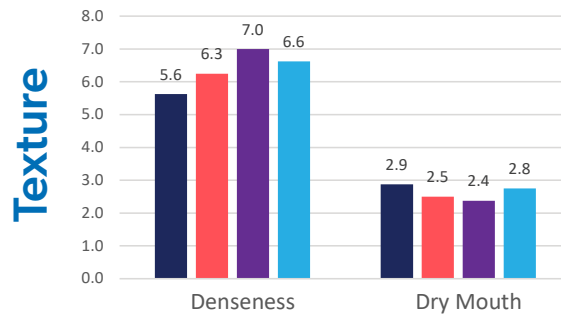
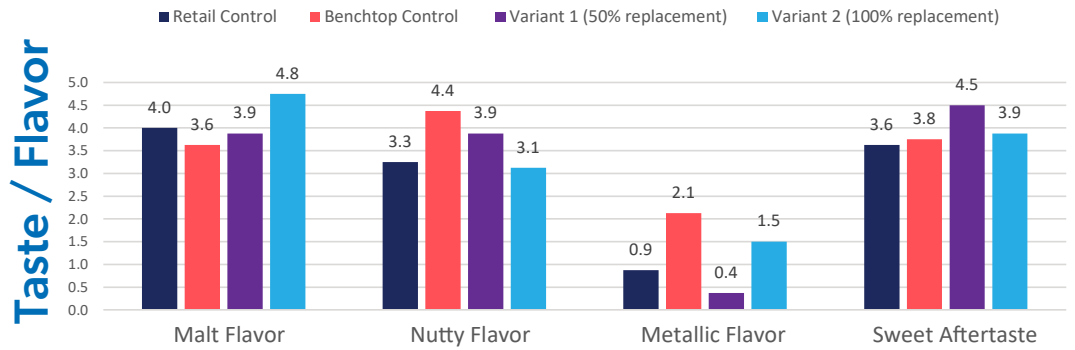
The main differences were found in malt flavor, nutty flavor, metallic taste, denseness, dry mouth and sweet aftertaste.

# What We Learned

## Sensory Profile Comparison

Both 50% and 100% replacements had minimal impact on the overall sensory profile and fell within the tested Control sensory variability.

Additionally, the gelatin replacements did not change any key flavor notes or impart new flavor or off-notes. The noted differences are likely not noticeable to the consumer.



## Overall Sensory Profiles

- Benchtop Control had a stronger nutty flavor and metallic flavor. Additionally, it was more dense with less dryness in the mouth.
- Both Variant 1 and 2 fall within the variability of the Control samples.
- Variant 1 was similar to Benchtop Control in flavor attributes without the metallic taste, slightly more dense with a sweeter aftertaste.
- Variant 2 is higher in malt flavor and higher metallic taste and more dense when compared to the Retail Control.