



# Consumer Assessment of Baked Breads made with StarchLite®

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Results Summary  
Tragon Corporation



# Research Objectives for Three Research Projects on Bread

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**Kanak Udani contacted Tragon on behalf of Pharmachem Laboratories who have developed an ingredient (StarchLite) that would reduce carbohydrate absorption when incorporated into a variety of baked goods.**

**Over the course of three research projects, testing was conducted to assess consumer acceptance of breads made with the Test product compared to breads made with the StarchLite ingredient relative to a Control bread.**

**This research was conducted for:**

- **Wheat Bread**
- **Multigrain Bread**
- **Rye Bread**

# Conclusions from Three Research Projects

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**Across, all three consumer acceptance evaluations of the bread types, results consistently indicated that the Test product made with StarchLite could be used as a replacement for the Control.**

- **The Control and Test Wheat and Rye Breads were liked equally.**
- **Test Multigrain was numerically better liked than Control.**



# Consumer Assessment of Wheat Bread

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Results Summary

# Project Objectives

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Kanak Udani has contacted Tragon on behalf Pharmachem Laboratories who have developed an ingredient (StarchLite) that would reduce carbohydrate absorption when incorporated in a variety of baked goods.

The current research is designed to assess consumer acceptance of a prototype Test Wheat Bread product made with this ingredient relative to a Control Wheat Bread.

# Consumer Recruiting Methodology

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Thirty-four consumers were recruited from the San Francisco, CA metropolitan area and qualified according to the following criteria:

- Head of Household,
- 50% female and 50% male,
- Ages 25-65,
- Whole Wheat Bread category users,
- No conflict of interest,
- No food allergies, diet restrictions, or food sensitivities, and
- Have not participated in any food product test in the past six months.

Testing was conducted at Tragon's Redwood City, CA facility on  
October 1, 2004.



# Consumer Testing Methodology

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Consumers were read an orientation after arriving to Tragon's test facility.

Consumers evaluated two bread products.

- A product questionnaire was completed with each product.
- Product order was rotated across all consumers to avoid order bias.
- Products were served using a sequential monadic, balanced block design
- One 1.5 ounce slice of bread was served for each product.

# Product Evaluation Process

Consumers evaluated two Whole Wheat Bread products – **Control** and **Test**.

Consumers completed a product questionnaire with each product to evaluate:

- Overall Appearance (9-point Liking)
- Overall Texture (9-point Liking)
- Overall Taste (9-point Liking)
- Overall Opinion (9-point Liking)

## WHEAT BREAD

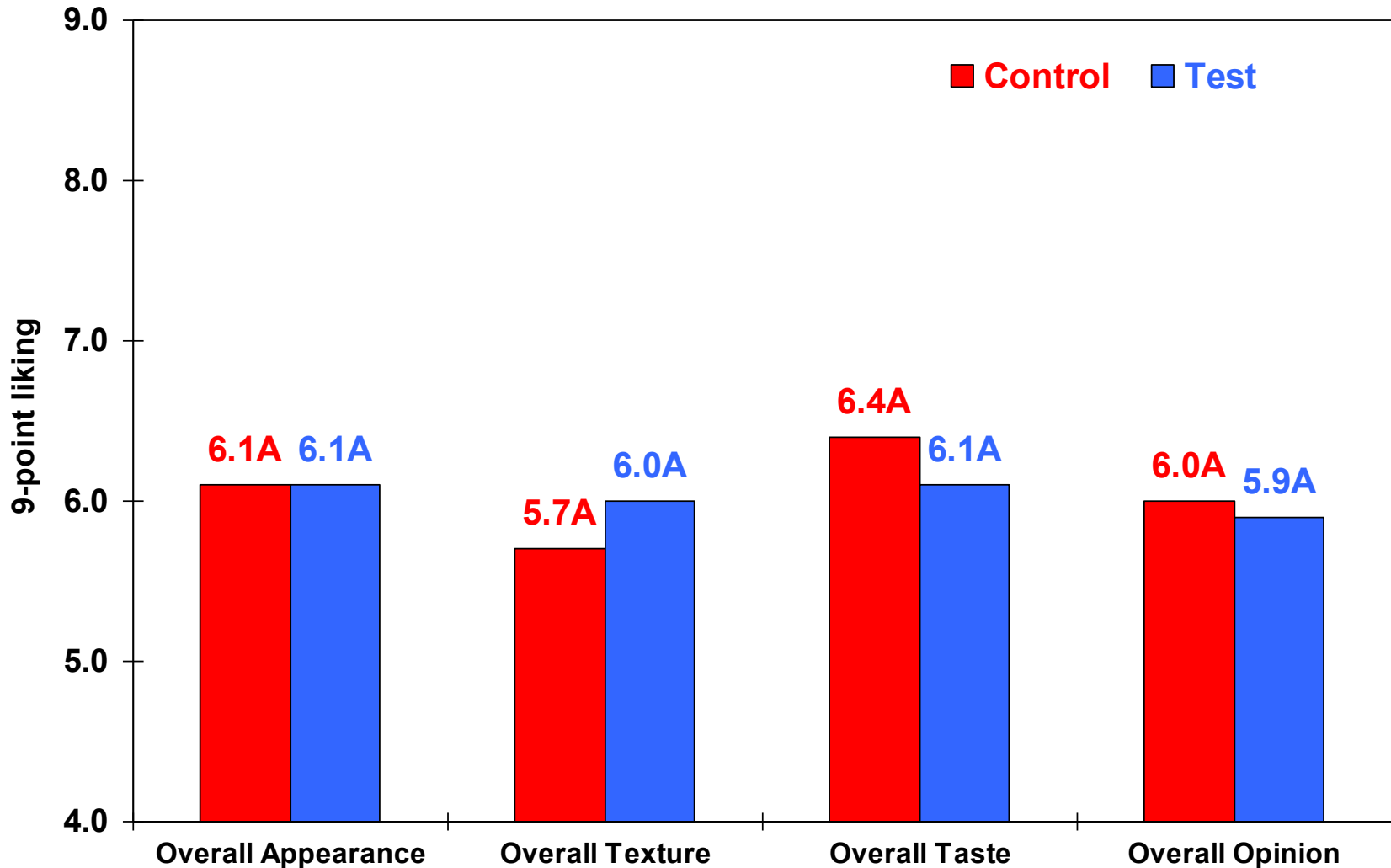
Please place an “X” in the box next to the phrase below which best describes your overall opinion of the product you just tasted.

	Dislike Extremely	Dislike Very Much	Dislike Moderately	Dislike Slightly	Neither Like nor Dislike	Like Slightly	Like Moderately	Like Very Much	Like Extremely
1. OVERALL APPEARANCE	@	@	@	@	@	@	@	@	@
2. OVERALL TEXTURE	@	@	@	@	@	@	@	@	@
3. OVERALL TASTE	@	@	@	@	@	@	@	@	@
4. OVERALL OPINION	@	@	@	@	@	@	@	@	@



# Hedonic (9-point Liking) Results

Control and Test scored at statistical parity across all hedonic means.



# Conclusions

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**Control and Test were liked similarly by consumers.**

- The two products scored at statistical parity at the 95% and 90% confidence levels for all hedonic means.

**Control and Test scored the same (6.1) for Overall Appearance.**

**Test was numerically better liked for Overall Texture.**

**Control was numerically better liked for Overall Taste (6.4 vs. 6.1).**

**Control (6.0) received a slightly better Overall Opinion score than Test (5.9).**

**Results suggest the Control and Test products were liked equally and the Test product could be introduced without losing consumer acceptance.**



# Consumer Assessment of Multigrain Bread

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Results Summary

# Project Objectives

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Kanak Udani has contacted Tragon on behalf of Pharmachem Laboratories who have developed an ingredient (StarchLite) that would reduce carbohydrate absorption when incorporated into a variety of baked goods.

The current research is designed to assess consumer acceptance of a prototype Test Multigrain Bread product made with this ingredient relative to a Control Multigrain Bread.

# Consumer Recruiting Methodology

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Thirty-five consumers were recruited from the San Francisco, CA metropolitan area and qualified according to the following criteria:

- Head of Household,
- 50% female and 50% male,
- Ages 25-65,
- Multigrain Bread category users,
- No conflict of interest,
- No food allergies, diet restrictions, or food sensitivities, and
- Have not participated in any food product test in the past six months.

Testing was conducted at Tragon's Redwood City, CA facility on

October 8, 2004.

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# Consumer Testing Methodology

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**Consumers were read an orientation after arriving to Tragon's test facility.**

**Consumers evaluated two Multigrain Bread products.**

- A product questionnaire was completed with each product.
- Product order was rotated across all consumers to avoid order bias.
- Products were served using a sequential monadic, balanced block design
- One 1.5 ounce slice of bread was served for each product.

# Product Evaluation Process

Consumers evaluated two Multigrain Bread products – **Control** and **Test**.

Consumers completed a product questionnaire with each product to evaluate:

- Overall Appearance (9-point Liking)
- Overall Texture (9-point Liking)
- Overall Taste (9-point Liking)
- Overall Opinion (9-point Liking)

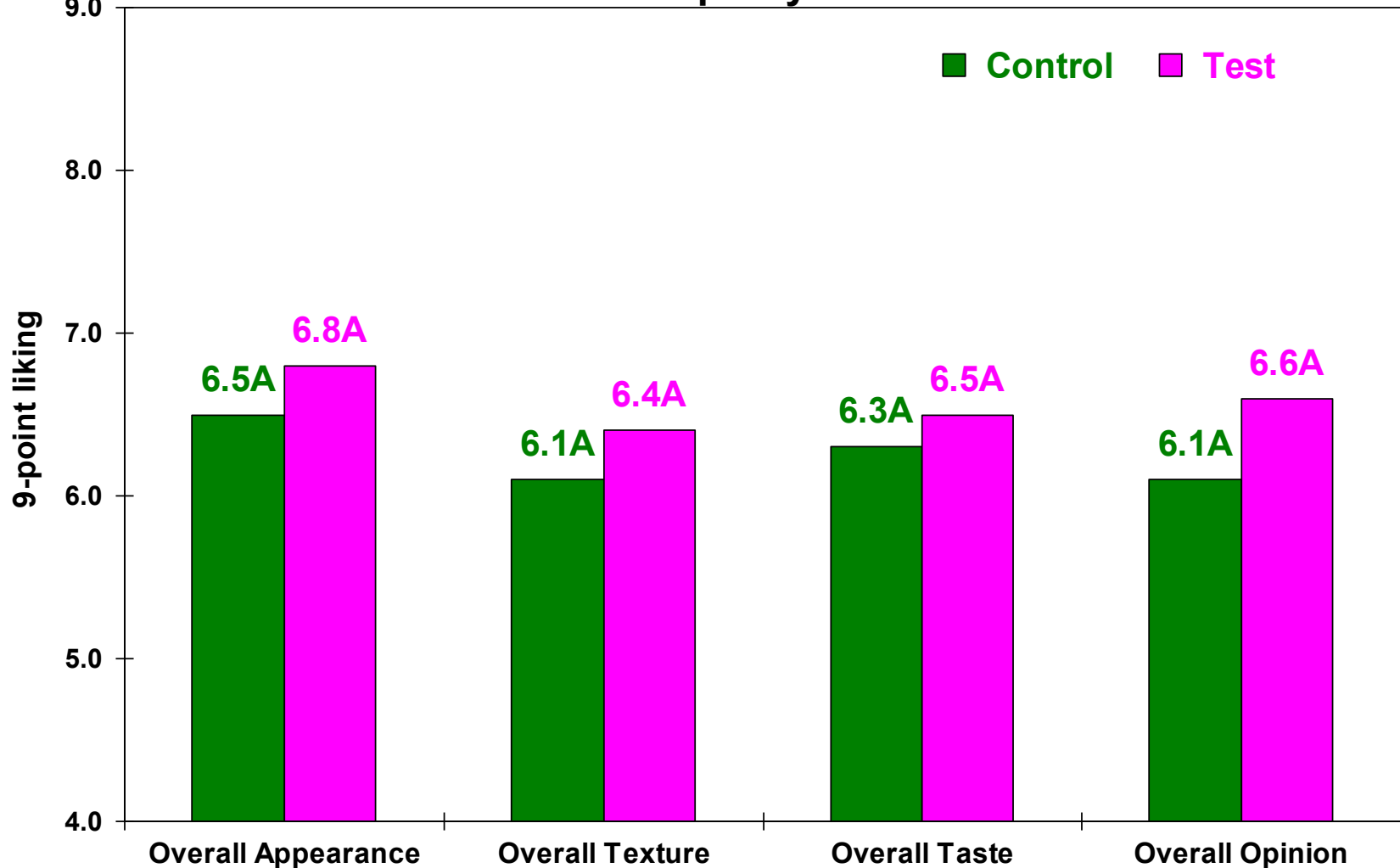
## MULTIGRAIN BREAD

Please place an “X” in the box next to the phrase below which best describes your overall opinion of the product you just tasted.

1. OVERALL APPEARANCE	Dislike Extremely @	Dislike Very Much @	Dislike Moderately @	Dislike Slightly @	Neither Like nor Dislike @	Like Slightly @	Like Moderately @	Like Very Much @	Like Extremely @
2. OVERALL TEXTURE	Dislike Extremely @	Dislike Very Much @	Dislike Moderately @	Dislike Slightly @	Neither Like nor Dislike @	Like Slightly @	Like Moderately @	Like Very Much @	Like Extremely @
3. OVERALL TASTE	Dislike Extremely @	Dislike Very Much @	Dislike Moderately @	Dislike Slightly @	Neither Like nor Dislike @	Like Slightly @	Like Moderately @	Like Very Much @	Like Extremely @
4. OVERALL OPINION	Dislike Extremely @	Dislike Very Much @	Dislike Moderately @	Dislike Slightly @	Neither Like nor Dislike @	Like Slightly @	Like Moderately @	Like Very Much @	Like Extremely @

# Hedonic (9-point Liking) Results

Control and Test scored at statistical parity across all hedonic means.





# Conclusions

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**Control and Test were liked similarly by consumers.**

- The two products scored at statistical parity at both the 95% and 90% confidence levels for all hedonic means.

**Test was liked numerically higher than Control across all hedonic means.**

**Test could be introduced with opportunities to slightly increase consumer acceptance.**



# Consumer Assessment of Rye Bread



Results Summary

# Project Objectives

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Kanak Udani has contacted Tragon on behalf of Pharmachem Laboratories who have developed an ingredient (StarchLite) that would reduce carbohydrate absorption when incorporated into a variety of baked goods.

The current research is designed to assess consumer acceptance of a prototype Test Rye Bread product made with this ingredient relative to a Control Rye Bread.

# Consumer Recruiting Methodology

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Thirty-four consumers were recruited from the San Francisco, CA metropolitan area and qualified according to the following criteria:

- Head of Household,
- 50% female and 50% male,
- Ages 25-65,
- Rye Bread category users,
- No conflict of interest,
- No food allergies, diet restrictions, or food sensitivities, and
- Have not participated in any food product test in the past six months.

Testing was conducted at Tragon's Redwood City, CA facility on

November 19, 2004.

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Three Research Projects

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# Consumer Testing Methodology

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**Consumers were read an orientation after arriving to Tragon's test facility.**

**Consumers evaluated two Rye Bread products.**

- A product questionnaire was completed with each product.
- Product order was rotated across all consumers to avoid order bias.
- Products were served using a sequential monadic, balanced block design
- One 1.5 ounce slice of bread was served for each product.

# Product Evaluation Process

Consumers evaluated two Rye Bread products – **Control** and **Test**.

Consumers completed a product questionnaire with each product to evaluate:

- Overall Appearance (9-point Liking)
- Overall Texture (9-point Liking)
- Overall Taste (9-point Liking)
- Overall Opinion (9-point Liking)

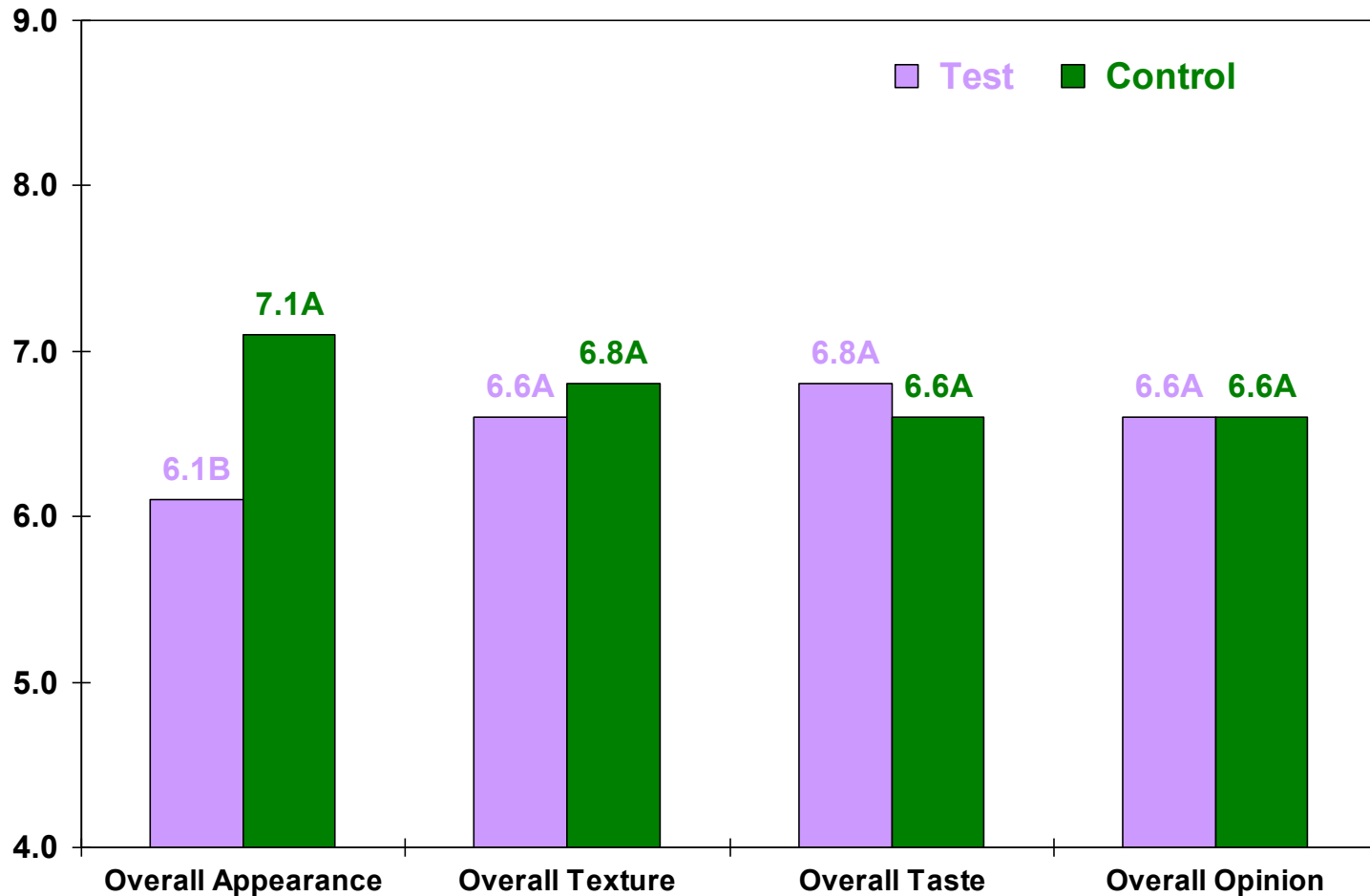
## RYE BREAD

Please place an “X” in the box next to the phrase below which best describes your overall opinion of the product you just tasted.

1. OVERALL APPEARANCE	Dislike Extremely @	Dislike Very Much @	Dislike Moderately @	Dislike Slightly @	Neither Like nor Dislike @	Like Slightly @	Like Moderately @	Like Very Much @	Like Extremely @
2. OVERALL TEXTURE	Dislike Extremely @	Dislike Very Much @	Dislike Moderately @	Dislike Slightly @	Neither Like nor Dislike @	Like Slightly @	Like Moderately @	Like Very Much @	Like Extremely @
3. OVERALL TASTE	Dislike Extremely @	Dislike Very Much @	Dislike Moderately @	Dislike Slightly @	Neither Like nor Dislike @	Like Slightly @	Like Moderately @	Like Very Much @	Like Extremely @
4. OVERALL OPINION	Dislike Extremely @	Dislike Very Much @	Dislike Moderately @	Dislike Slightly @	Neither Like nor Dislike @	Like Slightly @	Like Moderately @	Like Very Much @	Like Extremely @

# Hedonic (9-point Liking) Results

Control was significantly better liked for Overall Appearance. Control and Test were at statistical parity for all other measures.



# Conclusions

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**Consumers liked Control significantly more than Test for Overall Appearance.**

**Consumers scored Control and Test similarly for Overall Texture, Taste, and Overall Opinion.**

- The two products scored at statistical parity at both the 95% and 90% confidence levels.

**Test was liked numerically higher than Control for Overall Taste.**

**Overall Opinion results suggest Test could be introduced, as the two products were liked equally.**