The Impact of Gluten and Inulin on Sensory Attributes, Breath Hydrogen, Gastrointestinal Symptoms, and Satiety in Healthy Adults

Codi Zwack  
*College of Saint Benedict/Saint John's University, czwack001@csbsju.edu*

Katie Brewer  
*College of Saint Benedict/Saint John's University, kbrewer001@csbsju.edu*

Lydia Anderson  
*College of Saint Benedict/Saint John's University, landerson001@csbsju.edu*

Follow this and additional works at: [https://digitalcommons.csbsju.edu/ur_cscday](https://digitalcommons.csbsju.edu/ur_cscday)

**Recommended Citation**  
Zwack, Codi; Brewer, Katie; and Anderson, Lydia, "The Impact of Gluten and Inulin on Sensory Attributes, Breath Hydrogen, Gastrointestinal Symptoms, and Satiety in Healthy Adults" (2022). *Celebrating Scholarship and Creativity Day*. 194.  
[https://digitalcommons.csbsju.edu/ur_cscday/194](https://digitalcommons.csbsju.edu/ur_cscday/194)

This Poster is brought to you for free and open access by DigitalCommons@CSB/SJU. It has been accepted for inclusion in Celebrating Scholarship and Creativity Day by an authorized administrator of DigitalCommons@CSB/SJU. For more information, please contact digitalcommons@csbsju.edu.
The Impact of Gluten and Inulin on Sensory Attributes, Breath Hydrogen, Gastrointestinal Symptoms, and Satiety in Healthy Adults

C.R. Zwack, K.E. Brewer, L.J. Anderson, A.L. Evenson, PhD, RDN, CFS
Nutrition Department, College of Saint Benedict/Saint John’s University, Saint Joseph, MN

Introduction

- Gluten and inulin type fibers have been shown to impact satiety, breath hydrogen, GI symptoms, and properties of different food products.

Objective

- To investigate the effects of gluten and inulin on sensory attributes, breath hydrogen, GI symptoms, and satiety in healthy individuals.

Methods

- Breath hydrogen, GI symptoms, and VAS scales were assessed by area under the curve using the trapezoidal rule.
- Repeated Measures ANOVA was used to evaluate differences between treatments with significance set at p<0.05.

Results

- No significant differences (p>0.05) in breath hydrogen between treatments at any time point or total AUC.
- GI total symptoms between the low FODMAP control and gluten treatment were significantly different, with gluten producing less total GI symptoms (MD=2.84; p=0.015).
- No differences between treatments for any sensory attributes or overall liking.
- There was a significant difference in AUC for hunger between control and inulin treatments (MD=6.18; p=0.024).
- There were significant differences in AUC for fullness between control vs inulin (MD=5.96; p=0.026) and gluten vs inulin treatments (MD=6.74; p=0.016).
- There were no differences between treatments for satisfaction and volume of food to eat (p>0.05).

Conclusion

- Gluten and inulin at levels of 5 grams had no impact on sensory attributes.
- Consumption of inulin resulted in a decrease in hunger and an increase in fullness.
- These results support not limiting gluten or inulin consumption in healthy individuals, as they did not lead to increased breath hydrogen or GI symptoms.