

College-aged Students Compared Preferences of Prepared Sorghum to Rice in a Ready-Made Dish

Walker, K. ¹, Hicks-Roof, K. ¹, Osorio, D. ¹, Schwam, M. ¹ ¹Department of Nutrition and Dietetics, University of North Florida, Jacksonville, FL 32277



Abstract

Background: Sorghum is a versatile, gluten-free, whole grain, yet overall human consumption of sorghum is minimal. Whole grains, such as sorghum, substituted for refined grains can enhance the nutrition content of a dish.

Objective: This research study was to determine the sensory perception and overall food preference of college-aged students when comparing sorghum to rice in a ready-made dish.

Study Design, Setting, Participants: A quasi-experimental study was conducted in a campus foodservice setting at the University of North Florida. The participants (n=596) were randomly recruited, using convenience sampling, to blindly taste test two food samples then complete an associated sensory and perception survey. The food samples consisted of recipes identically prepared, with the substitution of sorghum for rice.

Measurable Outcome/Analysis: Paper and electronic sensory analysis (using hybrid hedonic scales) and food preference surveys were available after sampling.

Results: A majority of the participants (71.9%) were ages 18-20 years old, with 42.3% selecting their educational classification as a freshman. Participants rated their overall feeling about each dish as to how often they would consume it, the response yielded a significant difference in overall mean (3.66 vs. 3.42, p=0.000), with preference given to rice over sorghum. In comparing the two grain based dishes, participants indicated they would eat this every now and then to every opportunity they had with rice (55.2%) to sorghum (48.4%). Yet in response to overall acceptance of sorghum to rice, there was no significant difference.

Conclusions: This study provides feedback on the perception of college students on substituting a refined grain for whole grains in ready-made dishes. This preliminary study implies that acceptability for alternative grains is feasible in college-age populations and more research needs to be conducted on overall perception of alternative grains in ready-made dishes.

Background

- Sorghum is 3rd in ranking in grain production in the United States as it is a versatile, drought resistant grain; however, it is minimal in human consumption.
- When whole grains are substituted for refined grains the nutrition content of a dish can be enhanced; Sorghum is whole grain that is lower in calories, higher in fiber, and gluten-free.
- College students food choices are driven by convenience, cost, and their social environment.
- For most college students this is the first time they are making their own food choices with little knowledge on nutrition content in food.

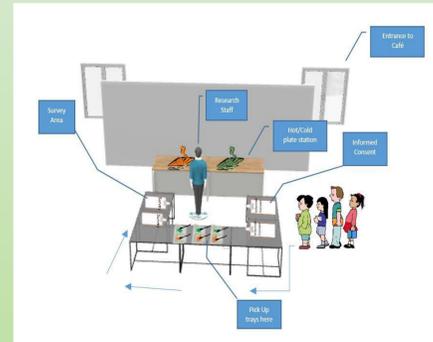


Research Question

How does the type of whole grain affect students perception of a ready made dish?

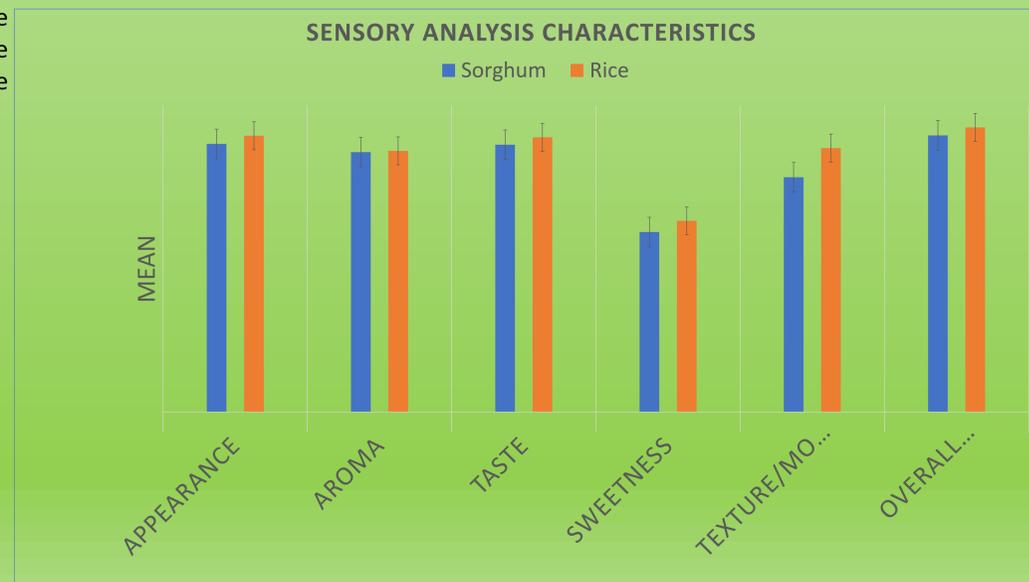
Materials & Methods

The participants (n=596) were randomly recruited, using convenience sampling, to blindly taste test two food samples then complete an associated sensory and perception survey.



Paper and electronic sensory analysis (using hybrid hedonic scales) and food preference surveys were available after sampling on:

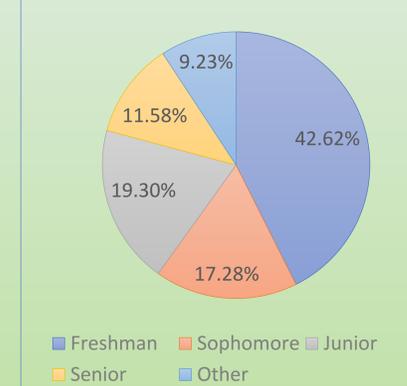
- Appearance
- Aroma
- Taste
- Sweetness
- Texture/Mouthfeel
- Overall Acceptance



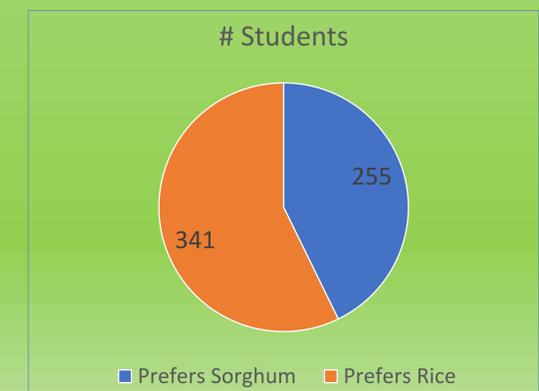
Results

- A majority of the participants (71.9%) were ages 18-20 years old, with 42.3% selecting their educational classification as a freshman.
- Participants indicated they would eat this every now and then to every opportunity they had with rice (55.2%) to sorghum (48.4%).
- There was a significant difference in overall mean (3.66 vs. 3.42, p=0.000), with preference given to rice over sorghum.
- In response to overall acceptance of sorghum to rice, there was no significant difference.

Participant Educational Classification



Answer	%	Count
18-20 years old	71.86%	429
21-24 years old	17.09%	102
25-30 years old	3.02%	18
30+ years old	8.04%	48
Total	100%	597



Conclusion

- This preliminary study implies that acceptability for alternative grains is feasible in college-age populations
- More research needs to be conducted on overall perception of alternative grains in ready-made dishes.