

Investigating Heterogeneous Consumer Preferences for Kernza® Grain

Executive Summary

Uma Parasuram¹, Chengyan Yue¹, Alan Kraus², Dane McKittrick², Megan Reich², Constance Carlson³, Andi Sutton³

¹ University of Minnesota, Department of Applied Economics, 231 Ruttan Hall 1994 Buford Avenue, St. Paul, MN ² Clean River Partners, 710 Division Street Northfield, MN ³ University of Minnesota Extension, Regional Sustainable Development Partnerships, 240 Borlaug Hall 1991 Buford Avenue, St. Paul, MN ⁴ Southeast Regional Sustainable Development Partnerships, Rochester Regional Extension Office, 140 Elton Hill Lane NW Suite 201, Rochester, MN

Kernza is the first commercially available perennial grain and has been gaining market interest through its incorporation into various food products. Perennial grains like Kernza require less fertilizers, irrigation and tilling compared to annual crops, protecting soil health and water quality while improving food security. However, Kernza is entering a highly competitive market with many other sustainable food products.

This study investigated consumers' preferences and their willingness to pay for a pancake mix made from the newly developed perennial grain Kernza compared to 100% whole grain. Using two different estimation approaches—the standard random utility maximization (RUM) approach and the random regret minimization model (RMM)—we conducted a choice experiment to assess: 1) Which group(s) of consumers should be the target market(s) for Kernza food products; 2) The major factors impacting consumer preferences for Kernza compared to other grains; and 3) Which of Kernza's described environmental benefits do consumers value the most, triggering their interest to complete a purchase.

The results showed that Kernza grain significantly increased utility (decreased regret) and that consumers were willing to pay a premium of about \$1.60-\$2.10 for a Kernza pancake mix compared to a 100% whole grain counterpart. Similarly, organic products also had a significant impact on consumer's utility (regret minimization) but not as much as Kernza. Consumers were willing to pay a premium of \$1.00 for organic pancake mix compared to the conventional counterpart.

Survey respondents ranked a set of factors that consumers consider while purchasing food products. Flavor was the most important factor followed by nutrition, price, and environmental benefits in that order. Participants also ranked various benefits that would most encourage them to make Kernza purchases. The benefits of Kernza production ranked by participants were

protection of water, support of local farmers, and protection of soil as the top three factors in that order of relative importance.

Our analysis categorized the consumers into three distinct segments, ‘Kernza oriented,’ ‘convenience oriented,’ and ‘organic oriented.’ The ‘Kernza oriented’ and ‘Convenience oriented’ groups had a statistically significant preference for Kernza, implying that differentiated targeting strategies could be adopted for Kernza products.

Additionally, about 68% of the participants said that the information on the product packaging was impactful and encouraged them to buy more Kernza products. For highest impact, information for packaging and promotion should emphasize the environmental benefits from Kernza, and packaging should be designed in ways that are eco-friendly, convenient, and resealable. Furthermore, when asked of the familiarity with Kernza, nearly 50% of the respondents indicated that they had “never heard about” (42.5%) or “only rarely have heard of it” (7.3%) indicating value in continued and expanded efforts to build awareness among consumer bases.

Given the rising concern about environmental sustainability and that consumers are making more environmentally conscious purchase decisions, this study’s results are encouraging for Kernza researchers and developers.

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