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## **Enhancing the Nutritional Quality of Flour Tortillas: An Investigation of Consumer Receptivity to a Fortified Tortilla Product.**

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The majority of U.S. adults consume less than the recommended amount of whole grains, dietary fiber, and vegetables on a daily basis. Increased intake of these foods is linked with reduced risks of developing chronic diseases. With increased prevalence of chronic health conditions and inadequate intakes of whole grains and vegetables, the need for an appealing enriched food product is evident. Over the past decade, the tortilla industry has been the fastest-growing sector of the U.S. baking industry; therefore, enhancing the nutritional content of tortillas could result in healthier food products acceptable to consumers. This research aimed to determine the effects of altering the flour component and adding a legume ingredient, specifically lentils, on the sensory attributes and overall characteristics of flour tortillas. Sorghum, an ancient whole grain variety, is rich in antioxidants, dietary fiber, and iron. Lentils, a type of grain legume, are high in fiber, B vitamins, minerals, and protein. Ten phases of bench-top product development were completed, resulting in two optimal fortified tortilla product formulations. Sensory evaluations were conducted among college students and instructors (n=35) for sensory attributes and overall likeability of four samples: two fortified tortilla products, a commercial tortilla made with refined flour, and a commercial health-enhanced tortilla. Results indicate that fortified tortilla products enhanced with pureed cooked lentils and sorghum flour are acceptable among the sampled population. Future research opportunities include conducting sensory evaluations among a larger population, optimizing product formulation for commercial production, and further enhancing nutritional qualities with other grains and legumes.

Keywords: tortillas, whole grains, legumes, consumer receptivity, nutrition