BOKU
Institute of
Food Technology

Bachelor's and Master's theses

Climate-smart grain crops:
Redesigning Bread: Sensory Profiling and Digestibility of Sorghum-Fortified Bread

Abstract:

Sorghum (*Sorghum bicolor*) is a drought-resilient cereal crop capable of delivering high yields, yet it remains largely unused in Central European staple foods. In the context of climate change and a growing global population, sorghum represents a promising alternative or complement to conventional cereals. This thesis investigates the potential of sorghum flour as a partial substitute in bread formulations, with a focus on sensory performance and nutritional quality. Sensory trials are conducted to assess consumer acceptability, while chemical analyses—including the evaluation of protein digestibility—are performed to determine the nutritional implications of sorghum incorporation. The findings contribute to a deeper understanding of how processing innovations can increase the technological suitability and consumer acceptance of sorghum-based bakery products, supporting its future role in sustainable European food systems.

Methods: Chemical analyses: in vitro protein digestibility, etc.
Baking trials, Sensory tests

Requirements: Current inscription in the bachelor's or master's degree programs in food science and technology, nutritional sciences, or similar.
Basic skills in working in a chemical laboratory and/or interest in baking and food production.

Start: Immediate start possible

Language: German or English

Location BOKU, Muthgasse 18, 1190 Vienna

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