

The effect of cricket meal inclusion on the quality of bakery products

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The study was focused on the quality and sensory perception of everyday bakery products (buns) enriched by the cricket meal. Rheological properties, nutritional value and amino acid profile of bakery products dough and buns before and after enrichment with two types of cricket meal (light meal; spray-dried) and (dark meal; oven-dried) with the level of substitution of 0, 5, 8 and 10%) were investigated. Rheological differences between the wheat dough and the enriched dough were observed. Decreasing the time of dough stability (lower stability) in enriched dough and the worsened consistency of dough after 12 minutes of the measurement were observed. The addition of cricket meal leads to the changes in the leavening ability of the dough, whereas dough containing cricket meal showed a lower specific volume and a smaller height than the wheat dough without it. Regarding the sensory evaluation, significant differences in brown colour intensity, acceptability of odour, toughness, the intensity of taste, and overall acceptability were observed between wheat products (buns without cricket meal) and buns enriched with the crickets. The buns with 8% and 10% addition had nutty, earthy and bean-like flavours. In the case of acrylamide formation, the addition of cricket meal negatively affected the technological feature or the quality of the buns. Finally, the replacement of wheat flour by 8% of cricket meal in the buns was considered as optimal.

Keywords: insect meal, rheological dough properties, sensory attributes, acrylamide, wheat dough, enriched dough, farinograph

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Acknowledgments:

This work was supported by the METROFOOD-CZ Research Infrastructure Project (MEYS, Grant No: LM2023064) including access to its facilities and by the Grant Agency of the Czech Republic GAČR project No. 21-47159L, Quality, safety and authenticity of insect protein-based food and feed products (INPROFF).