



13-14 November 2025

Development and evaluation of functional cookies with turmeric and rosemary

Sorina Paula Bugarin¹, Bota Claudia¹, Patricia Tarkanyi¹, Despina - Maria Bordean^{1*},
Laura Rădulescu¹

¹Faculty of Food Engineering, University of Life Sciences "King Mihai I" from Timișoara
– 300645 Timișoara, Calea Aradului 119A, Romania

*Corresponding author: despinabordean@usvt.ro

Abstract: Turmeric and rosemary enriched cookies provide a healthier alternative to traditional pastries. Their bioactive compounds offer antioxidant, anti-inflammatory, and preservative benefits. This study evaluates their sensory, physicochemical, and nutritional properties.

Keywords: fenugreek, bread, seed mix, physicochemical analysis, sensory evaluation, functional foods

• Introduction

Pastry products are popular but often high in sugar and fat, making them less suitable for regular consumption. Cookies enriched with turmeric and rosemary offer a healthier alternative, providing antioxidant, anti-inflammatory, and antimicrobial benefits. Turmeric contains curcumin, while rosemary is rich in rosmarinic acid and essential oils. This study evaluates the sensory, physicochemical, and nutritional characteristics of plain cookies and cookies enriched with turmeric and rosemary to highlight potential health benefits.

• Material and method

Cookies were prepared using wheat flour, sugar, butter, eggs, baking powder, salt, turmeric, and rosemary. Three variants were made: C – plain cookies (control), T1 – 0.5% turmeric and 0.2% rosemary, T2 – 1% turmeric and 0.5% rosemary. Ingredients were mixed, dough shaped, and baked at 180°C for 12–15 min. Sensory evaluation included appearance, color, aroma, texture, and taste, while physicochemical analysis measured moisture, acidity, and fat content. All analyses were performed in triplicate, and average values were recorded to assess the effects of turmeric and rosemary on cookie quality and functionality.

• Results and discussions

Sensory evaluation showed that T1 cookies were the most appreciated for aroma, color, texture, and taste, scoring slightly higher than T2 and significantly higher than C (plain cookies). T2 cookies had a slightly firmer texture and a mild bitter note due to higher turmeric content, but overall acceptability remained good. Physicochemical analysis revealed a slight increase in moisture and acidity with higher turmeric and rosemary concentrations, while fat content remained similar across variants. These results indicate that moderate addition of turmeric and rosemary improves the functional properties and sensory quality of cookies without compromising overall acceptability.

• Conclusions

Moderate addition of turmeric and rosemary improves the sensory quality of cookies without compromising taste or texture, while bioactive compounds enhance antioxidant, anti-inflammatory, and antimicrobial properties, making the cookies functional. Higher turmeric content may slightly affect taste and texture, but overall acceptability remains good, offering a healthier alternative to traditional plain cookies. These results support the use of natural functional ingredients in baked goods to promote healthier consumption.

Acknowledgement: The authors thank the Faculty of Food Engineering – “Food Science” Research Center and the Technology Transfer Center of the University of Life Sciences “King Mihai I” of Timișoara for their support and for providing laboratory facilities.