UNIVERSITY OF LIFE SCIENCES ”KING MIHAI I” FROM TIMISOARA
”YOUNG PEOPLE AND MULTIDISCIPLINARY RESEARCH IN APPLIED LIFE SCIENCES”

05-06 November 2026



MINI-TARTS WITH PASTRY CREAM FILLING AND FRESH FRUITS: NUTRITIONAL QUALITY AND CONSUMER ACCEPTANCE

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Abstract: *Mini-tarts filled with pastry cream and decorated with fresh fruit combine the crisp texture of shortcrust pastry with the creamy consistency of the filling and the contrasting colours and flavours of fruit. This study aimed to prepare mini-tarts with pastry cream, blueberries and kiwi and to evaluate their sensory characteristics and nutritional composition. The pastry shells were prepared from wheat flour, butter, icing sugar, egg and salt, baked at 175°C for 10–13 minutes, and filled with pastry cream prepared using milk, caster sugar, egg yolks, cornstarch and vanilla extract. The finished products were decorated with fresh blueberries and kiwi. Sensory evaluation was conducted by 20 students from the Faculty of Food Engineering using a five-point hedonic scale. The reported nutritional composition included 52.25 g/100 g moisture, 0.80 g/100 g ash, 4.54 g/100 g protein, 10.25 g/100 g fat and 32.16 g/100 g carbohydrates, with an energy value of 239 kcal/100 g. The highest sensory scores were obtained for taste (4.82/5), aroma (4.77/5) and colour (4.74/5), while appearance and texture received mean scores of 4.35 and 4.23, respectively. Overall acceptability reached 4.58/5, indicating a favourable sensory response among the evaluators. The results demonstrate that the combination of shortcrust pastry, cream, blueberries and kiwi produced a dessert with a well-appreciated sensory profile and a clearly defined reported nutritional composition.*

• Introduction

Mini-tarts combine shortcrust pastry, cream filling and fresh fruit, offering a variety of textures, flavours and colours. Shortcrust pastry provides a buttery flavour and crumbly texture, while the cream contributes a smooth consistency. Blueberries and kiwi enhance the dessert’s visual appeal and flavour diversity, providing contrasting colours and distinctive sensory characteristics. Sensory evaluation using hedonic scales is a valuable tool for assessing consumer liking of food attributes, including appearance, colour, aroma, taste and texture. Nutritional characterization further complements sensory assessment by describing the product’s general composition. This study aimed to prepare mini-tarts with vanilla pastry cream, blueberries and kiwi and evaluate their sensory characteristics and reported nutritional composition.

• Material and method

The ingredients used to prepare the shortcrust pastry shells included wheat flour, cold butter, icing sugar, egg and salt. The pastry cream was prepared using milk, caster sugar, egg yolks, cornstarch and vanilla extract. The pastry shells were baked at 175°C for 10–13 minutes, then filled with pastry cream and decorated with fresh blueberries and kiwi.

Table 1. The recipe for the preparation of mini-tarts with pastry cream, blueberries and kiwi

Raw material	Quantity	Raw material	Quantity
Wheat flour (g)	250	Milk (ml)	500
Cold butter (g)	125	Caster sugar (g)	150
Icing sugar (g)	80	Egg yolk (g)	95
Egg (g)	57	Cornstarch (g)	40
Salt (g)	3	Vanilla extract (ml)	5
Blueberries (g)	150	Kiwi (g)	150

Sensory evaluation was conducted using a five-point hedonic scale, where 1 represented “disliked very much” and 5 represented “liked very much”. Twenty students from the Faculty of Food Engineering in Timișoara participated in the evaluation. The evaluated attributes were texture, colour, aroma, taste, appearance and overall acceptability.
The nutritional composition values for the finished mini-tarts included moisture, ash, protein, fat and carbohydrates. The calculated energy value was 239 kcal/100 g.

• Results and discussions

The mean sensory scores obtained for the mini-tarts with pastry cream, blueberries and kiwi are presented in Figure 1.

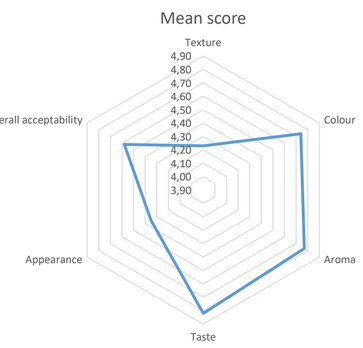


Figure 1. Sensory analysis of the mini-tart samples

The nutritional composition values for the mini-tarts are summarized in Table 2.

Table 2. Nutritional composition of mini-tart samples

Parameter	Value per 100 g product
Moisture (g)	52.25 ± 0.08
Ash (g)	0.80 ± 0.05
Protein (g)	4.54 ± 0.1
Fat (g)	10.25 ± 0.02
Carbohydrates (g)	32.16 ± 0.07
Energy value (kcal)	239 ± 0.06

• Conclusions

Mini-tarts prepared with shortcrust pastry, cream, blueberries and kiwi achieved favourable sensory acceptance among the 20 student evaluators. Taste received the highest mean score (4.82/5), followed by aroma (4.77/5) and colour (4.74/5). Appearance and texture obtained mean scores of 4.35 and 4.23, respectively, while overall acceptability reached 4.58/5.
The reported nutritional composition included 52.25 g/100 g moisture, 0.80 g/100 g ash, 4.54 g/100 g protein, 10.25 g/100 g fat and 32.16 g/100 g carbohydrates. The reported energy value was 239 kcal/100 g. These values describe the finished dessert containing pastry, cream and fresh fruit.

Acknowledgement: The authors are thankful to Faculty of Food Engineering from Timișoara – “Food Science” – Research Center and to Technology Transfer Center of University of Life Sciences “King Mihai I” of Timișoara, for providing lab facilities to carry out the research work.