

Quality characteristics and antioxidant activity of goat milk yogurt with fruits

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Abstract

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Introduction. The aim of the research was to evaluate the physico-chemical, microbiological sensory characteristics and antioxidant potential of goat milk yogurt with fruits.

Materials and methods. The yogurt was prepared from goat's milk with the addition of scald fruits (10%) of aronia (Chokeberry L., Nero variety), peaches (*Prunus persica*, variety Moldova), raspberries (*Rubus idaeus*, Cusma de Guguță variety), strawberries (*Fragaria xanassa*, Selva variety), apples (*Malus domestica* variety, Golden). Quality indices and antioxidant potential was determined according to standard methods.

Results and discussions. The added fruits type had a strong impact on the values of titrable acidity and pH. The peach yogurt had a pH of 4.68 ± 0.019 . Higher acidity was obtained for raspberry yogurt, 103 ± 0.076 °T. The amount of dry matter indicates $20.40 \pm 0.45\%$ in strawberry yogurt. The dry matter content is inversely proportional to the value of the water activity, and maximum values were detected of 0.904 ± 0.038 for apples, peaches, raspberries yogurt. The minimum viscosity values were obtained for aronia yogurt, 5450 ± 4.85 Pa·s, and maximum for strawberry yogurt 8960 ± 4.45 Pa·s. The results obtained for determining the total number of germs in the yogurt are satisfactory, the highest result was for peaches yogurt, $1.8 \log$ cfu/ml. The maximum amount of lactic acid is in apple yoghurt $7.16 \pm 0.40 \log_{10}$ cfu/ml. No yeasts and molds were detected. Aronia yogurt has the highest total content of polyphenols ($187.15 \text{ mg GAE } 100\text{g}^{-1}$), anthocyanins ($56.45/100\text{g}$) and antioxidant activity (3.9%), the maximum carotenoid content $0.452 \text{ mg}/100 \text{ g}$ was obtained for peaches yogurt and ascorbic acid $25.77 \text{ mg}/100 \text{ g}$ for strawberry yogurt. Yogurt samples sensory properties show that strawberry yogurt has the best characteristics, obtaining 19.25 points of 20.

Conclusions. The addition of aronia fruits, strawberries and raspberries and peach positively influences the biological value and the quality indexes of goat milk yogurt with fruits.

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