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Probiotic dairy product with high antioxidant activity (Young researchers Project LACTANOX)

Cartasev Anatoli, Neicovcena Iulia, Mahamat Yamtitina, Lazareva Iulia

Introduction

Abstract

This study characterizes artisanal yogurt made with native lactic acid bacteria and polyfloral honey, focusing on its probiotic potential and functional properties. The yogurt, enriched with 2-8% honey, exhibited desirable coagulation, acidity, and viscosity, and showed enhanced probiotic viability and antioxidant activity. Results highlight the potential of combining local lactic cultures and honey for functional artisanal dairy products.

Research Novelty:

This research uniquely combines native lactic acid bacteria with polyfloral honey in artisanal yogurt production. The novelty lies in utilizing autochthonous strains adapted to the local environment, potentially offering enhanced fermentation and probiotic characteristics compared to standard cultures.

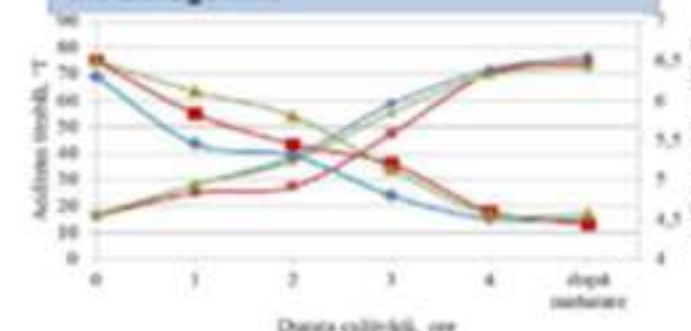
Relevance:

With increasing consumer demand for natural and functional foods, this research offers a relevant approach to developing artisanal dairy products. The use of local resources (goat milk, native bacteria, honey) promotes sustainable practices and diversifies food options. This addresses the gap in the market for goat milk-based fermented products with enhanced health benefits.



Results

Honey Addition - Enhanced probiotic viability and improved functional properties.
Antioxidant Activity - Increased significantly with higher honey concentrations (up to 8% honey).
Sensory Profile - Desirable coagulation, acidity and viscosity achieved.
Syneresis - Exopolysaccharide producing bacteria reduce whey separation during the storage time



Conclusions

Artisanal yogurt with native lactic bacteria shows promising probiotic potential, confirmed by acid survival, antimicrobial activity, and gut juice resistance. Honey boosts yogurt's functionality, enhancing antioxidant activity due to phenolics and flavonoids, potentially reducing oxidative stress. Honey levels impact syneresis (whey separation), requiring optimization for texture. Native strains & honey create a functional, appealing product for health-conscious consumers. This yogurt is a valuable functional food with digestive and antioxidant benefits, warranting further research and scale-up.

Notă: Studiul a fost efectuat în cadrul proiectului Tineri Cercetători 23.70.105.5107.05T Proiect lactat probiotic cu activitate antioxidantă înaltă (LACTANOX) finanțat de ANCD, perioada 2024-2025