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CHALLENGES IN THE FERMENTATION AND GEL QUALITY OF GOAT MILK YOGURT

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Yogurt produced from goat milk, despite its numerous benefits such as lower allergenicity and greater digestibility, faces specific challenges. One of the main issues is the formation of a fragile and low-consistency gel, due to the protein profile of goat milk, particularly the reduced α_{s1}-casein content, which negatively impacts consumer acceptance of the product. Strategies such as protein supplementation, hydrocolloids addition, and increased lipid content are widely used in the production of bovine milk yogurt to enhance consistency. However, the effects of these strategies on goat milk yogurt are still not well studied or understood. To address these challenges, emerging technologies such as ultrasound (US) and high shear dispersion (HSD) can be applied to goat milk to improve fermentation kinetics and yogurt gel quality. According to the literature, supplementation with bovine whey protein, combined with the use of physical processes such as US and HSD, has proven essential for improving the quality of the goat milk yogurt gel. These processes result in a product with higher apparent viscosity and greater water retention capacity, making them a viable strategy for the production of goat milk yogurt. Furthermore, the addition of goat milk cream, combined with homogenization using a high-shear disperser, positively impacts the apparent viscosity of the final product. This not only enhances consumer acceptance of goat milk yogurt but also offers a more consistent and appealing product with significant potential for the industry.

References

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