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STARTER CULTURE INFLUENCE ON THE YOGURT PRESERVATION AND SAFETY

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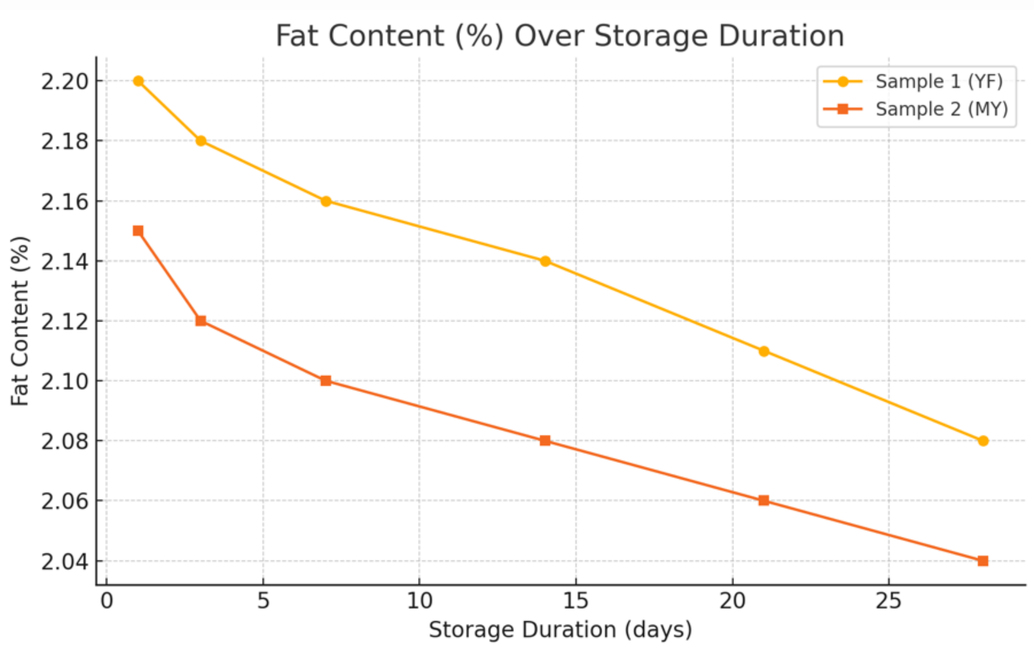
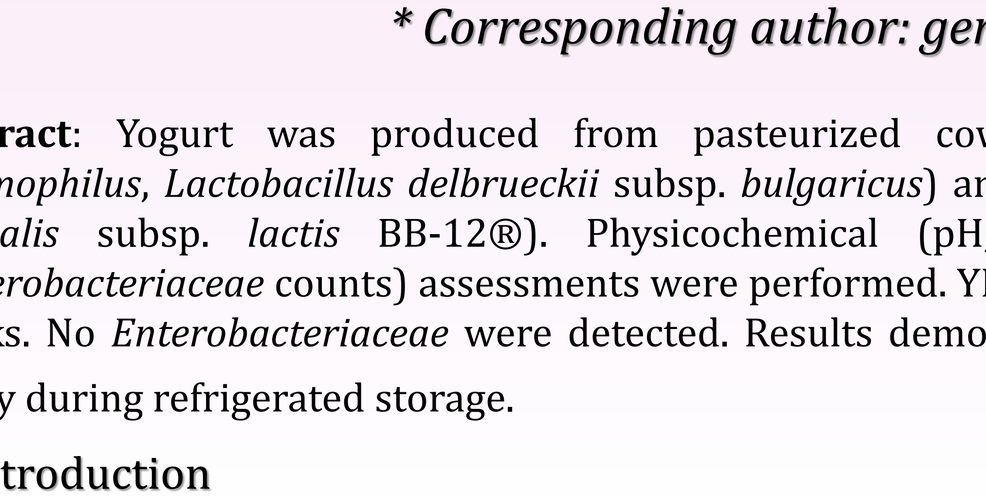
Abstract: Yogurt was produced from pasteurized cow's milk using two starter cultures: YF-L812 (*Streptococcus thermophilus*, *Lactobacillus delbrueckii* subsp. *bulgaricus*) and MyYo (plus *Lactobacillus acidophilus* La-5® and *Bifidobacterium animalis* subsp. *lactis* BB-12®). Physicochemical (pH, titratable acidity, lipids, total solids) and microbiological (*Enterobacteriaceae* counts) assessments were performed. YF-L812 maintained stability for 6 weeks; MyYo remained stable for 4 weeks. No *Enterobacteriaceae* were detected. Results demonstrate that starter culture selection is key to yogurt stability and safety during refrigerated storage.

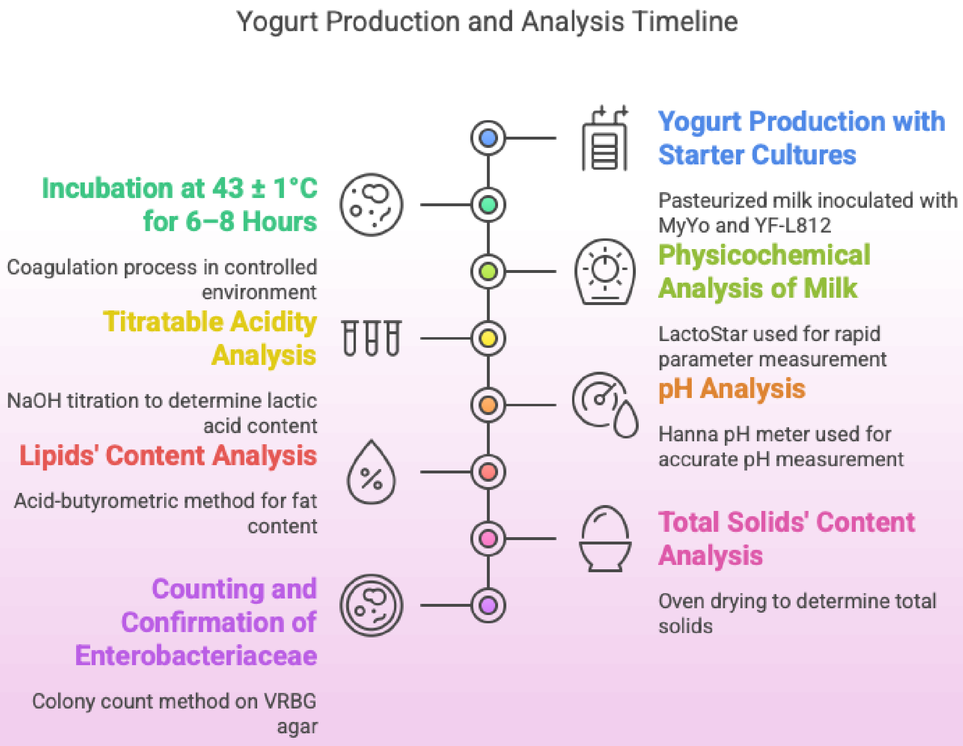
• Introduction

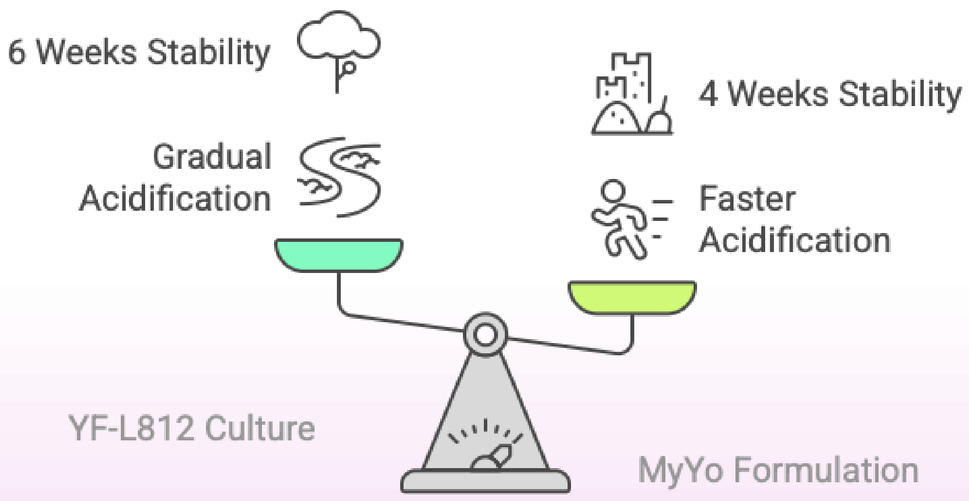
The use of optimized strain combinations, alongside stringent hygienic practices, is essential to ensure compliance with food safety standards. This study investigates the physicochemical stability and microbiological quality of yogurt produced with two commercial starter cultures during refrigerated storage.





• Materials and methods





• Results and discussions

The raw milk met quality standards. Yogurt made with YF-L812 acidified gradually and stayed stable for 6 weeks, while MyYo acidified faster and remained stable for 4 weeks. Both showed slight decreases in fat and solids without quality loss. No *Enterobacteriaceae* were detected, confirming safety. The results highlight the key role of starter cultures in yogurt acidification, stability, and safety during storage.

• Conclusions

This study demonstrates that starter culture selection is a critical determinant of yogurt's physicochemical stability and microbiological safety. Optimizing culture composition is essential to enhance shelf life and product quality. Future research should focus on the development of novel probiotic combinations and the assessment of their long-term effects on yogurt functionality and sensory attributes.