Characterization of the goat and cow yogurt obtained with combined high pressure and thermal treatment

Tudorel FLOREA, Tatiana TAȘNIC, Daniela BORDA*, Iulia BLEOANCĂ

Faculty of Food Science and Engineering, "Dunarea de Jos" University of Galati, Romania * dborda@ugal.ro

INTRODUCTION

As consumer interest in goat milk products continuously increased in the last decade employment of alternative methods to increase acceptability of the goat dairy are highly valuable.

OBJECTIVES:

- **to develop a probiotic goat - cow yogurt from milk treated with high pressure (HPT);**
- **to characterize the functional and sensorial properties of the new product.**

MATERIAL AND METHODS

Two formulations were tested, both based on a mix 1:1 of goat and cow milk and inoculated with a yoghurt starter culture (Christian Hansen) containing *Streptococcus thermophilus* and *Lactobacillus delbrueckii* ssp. *bulgaricus*.

The mix of goat and cow milk was subjected to

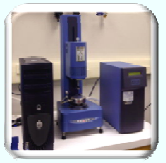
→ **thermal treatment (TT) at 90°C/10min** (control)

→ **TT at 65°C/5min followed by HPT at 6000 bar/15min/75°C** (sample).

Both samples were analysed **just after the fermentation ended** and **after seven days:**

» for the **aromatic profile** by GC- MS

» to determine the **rheological parameters**



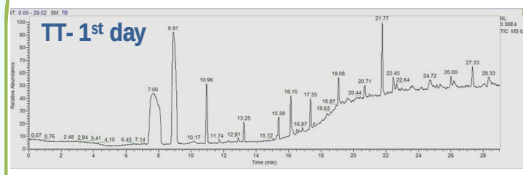
» for **sensory analysis.**

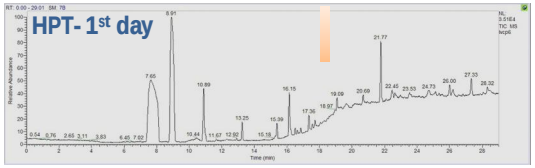
RESULTS

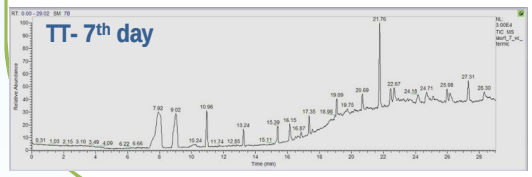
GC- MS Aromatic profile

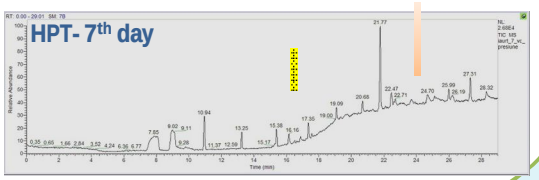
» indicated a **ubiquitous compound**, a derivative of methyl ethyl ketone $C_{17}H_{26}0_2$, with a retention time of 21,76min.

» highlighted **a potential HPT marker**, a heterocyclic sulfur compound C12H10CINO2S, with a retention time of 16,15min.

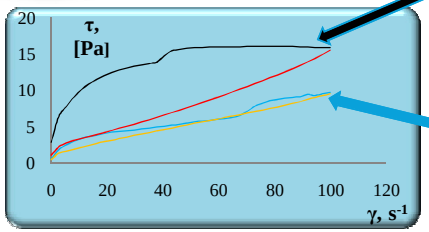








Rheological analysis



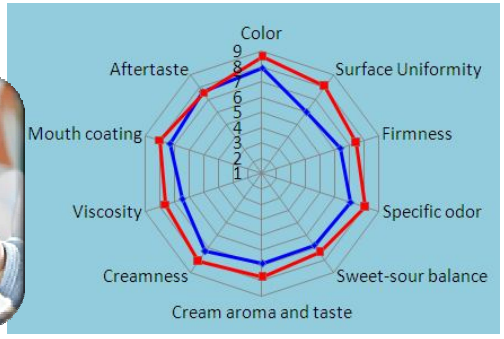
HPT sample

- better structural reversibility
- better palatability

TT control

- firmer texture and
- increased gel firmness

Sensory analysis



Designated the **HPT sample** with **higher overall score** than the **TT control**.

CONCLUSION The study indicates high pressure treatment as a valuable alternative for improving consumers' acceptance of the goat- cow yoghurt.

References

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