



# Protein Recovery: Effect of solvent pre-treatment on the quality of extracted protein from dairy and nondairy expired milk product waste

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## INTRODUCTION

Expired dairy products are often disposed due to lack of methods to recover valuable protein



- Solvent extraction is conventionally used in protein extraction as a complete process or as a pre-requisite
- A comparative study focusing on effect of conventional and green (recycled/agro-by products) solvents to study the structural and functional properties of extracted protein

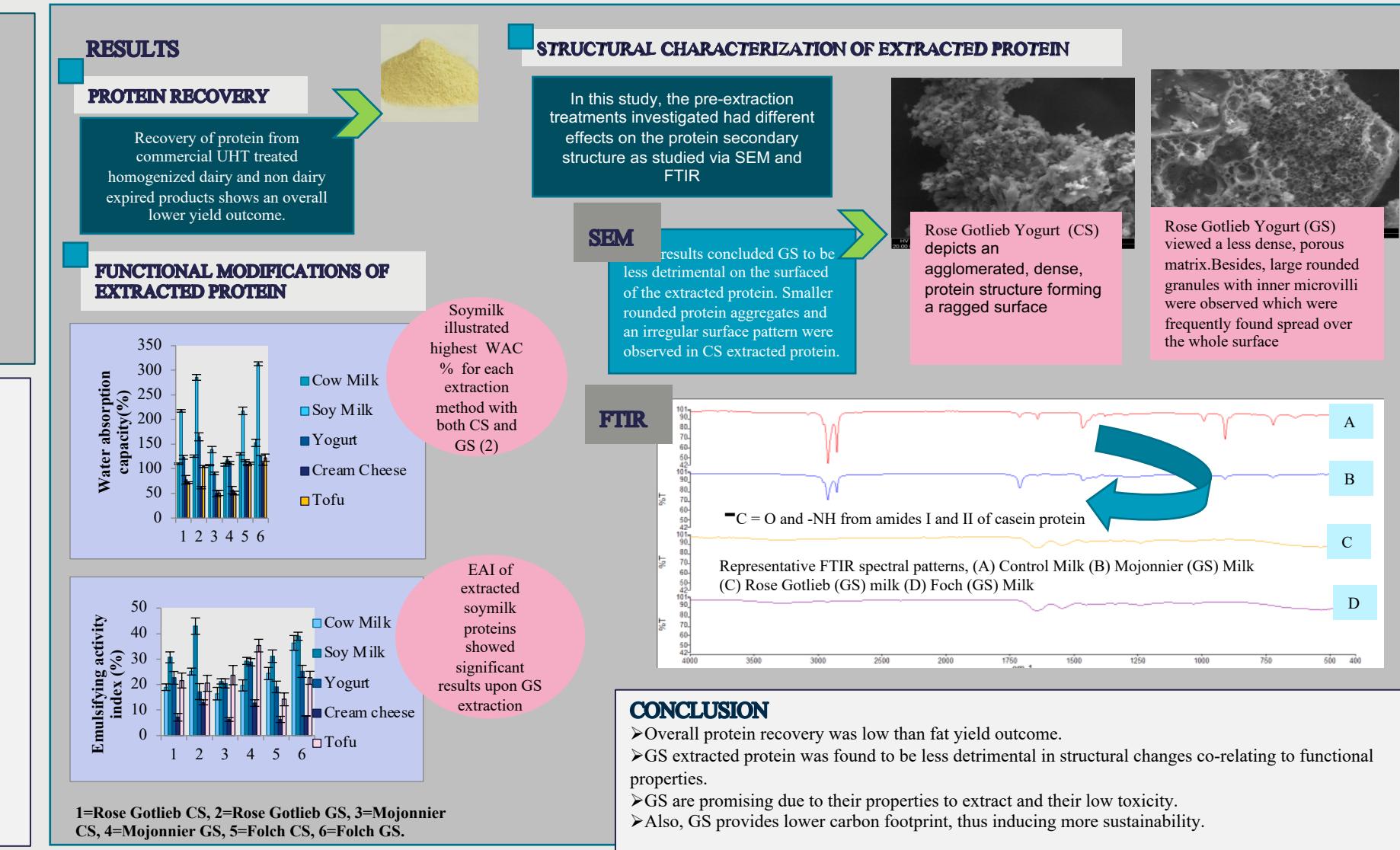
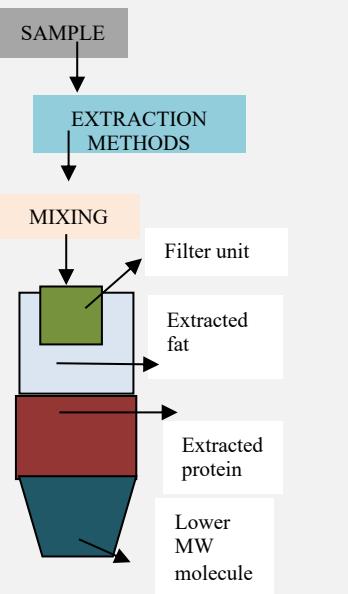
## METHOD

➤ Sample group included dairy (milk, yogurt, cheese) and non dairy (soy milk and tofu)

➤ Extraction was carried out on DAY 14 pass the advertised expiration date

➤ Pre-treatment model focused on the removal of fat via (A) Mojonnier (B) Rose Gotlieb and (C) Folch methods (1)

➤ Each method used green (GS) and conventional solvents (CS) individually



## CONCLUSION

- Overall protein recovery was low than fat yield outcome.
- GS extracted protein was found to be less detrimental in structural changes co-relating to functional properties.
- GS are promising due to their properties to extract and their low toxicity.
- Also, GS provides lower carbon footprint, thus inducing more sustainability.