

R FISH TO FOOD

**RECIRCULATION OF SEAFOOD PROCESSING INDUSTRY
RESOURCES AS A NEW PROTEIN SOURCE**



Financiado por
la Unión Europea
NextGenerationEU



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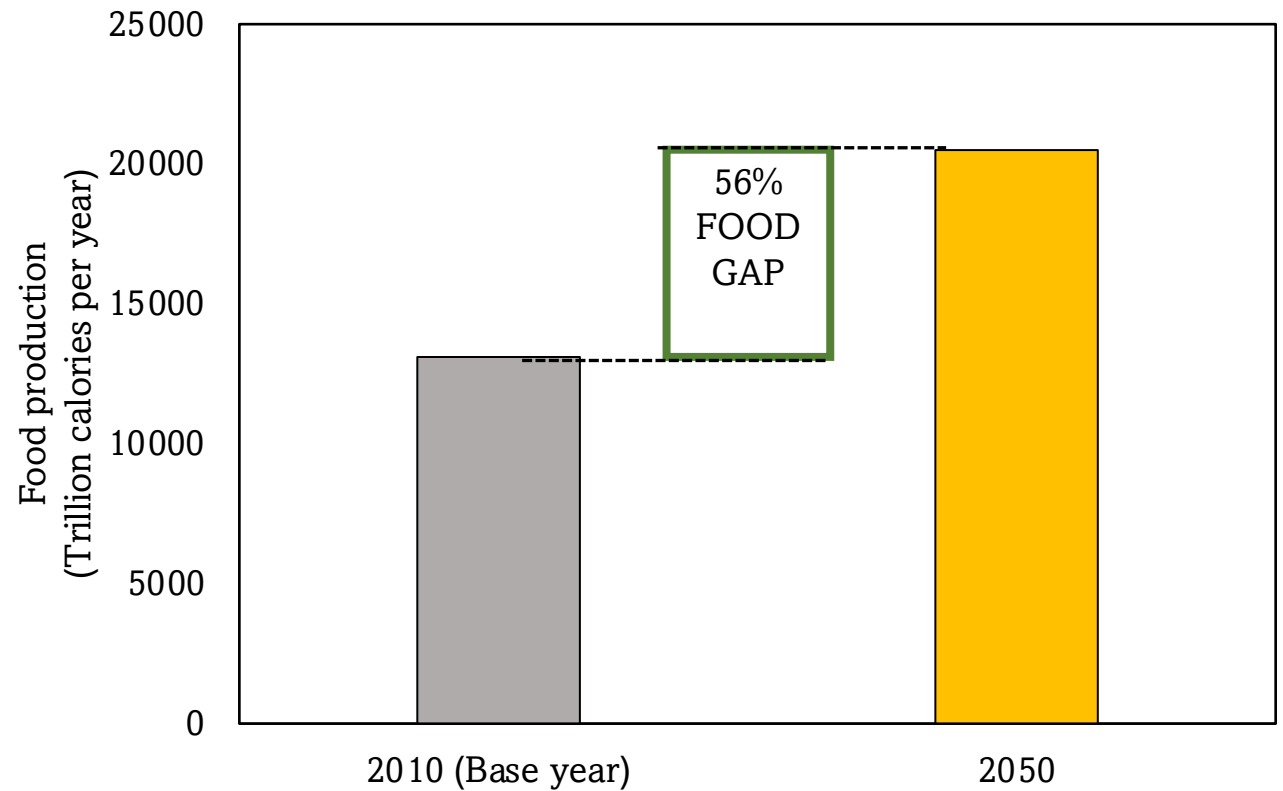


Plan de Recuperación,
Transformación
y Resiliencia



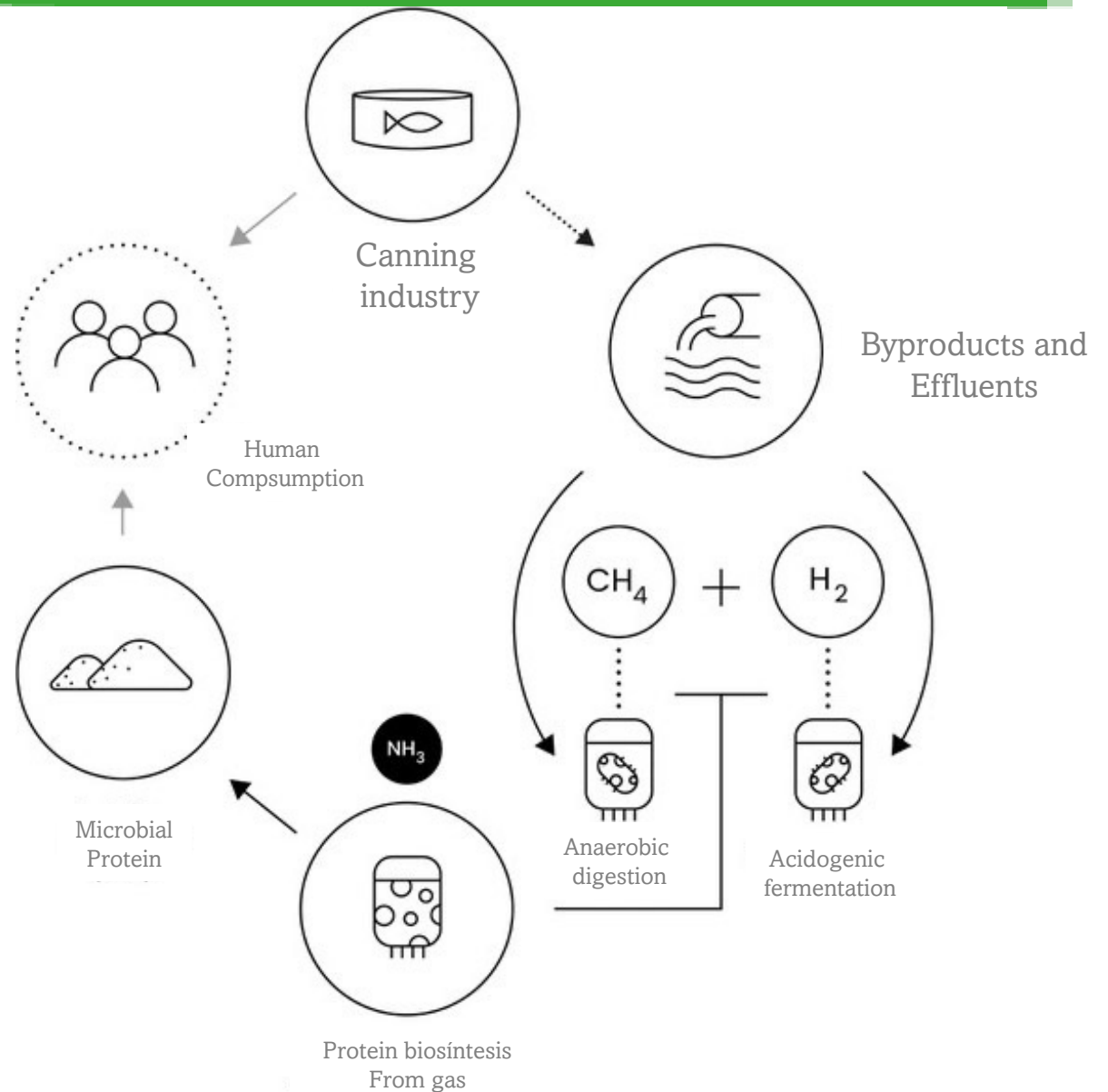
Background

1. Protein demand
2. Circularity in agricultural practices
3. Competitiveness
4. Food security in the face of climate change

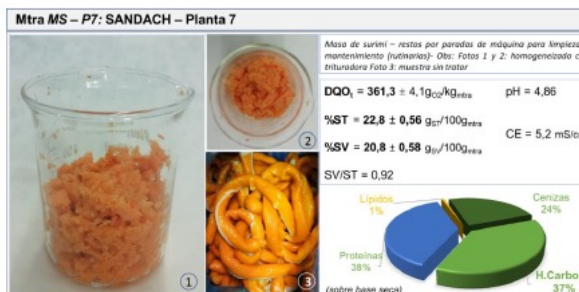
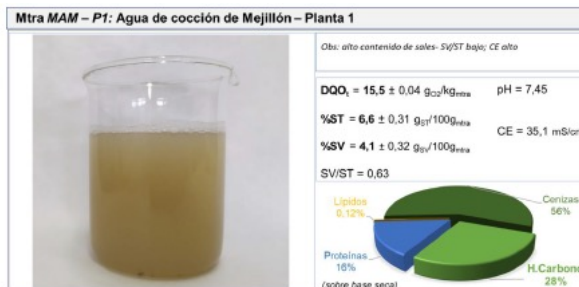
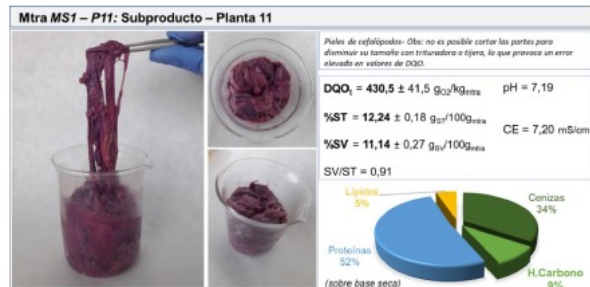
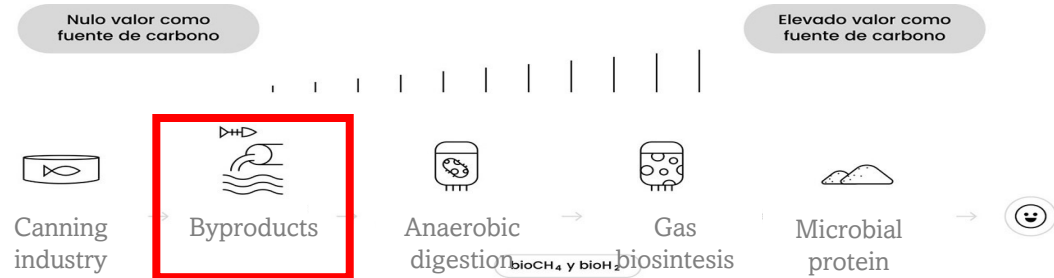


Re-Fish to Food project

The main objective of the project is to **obtain microbial protein from waste from the marine canning industry.**

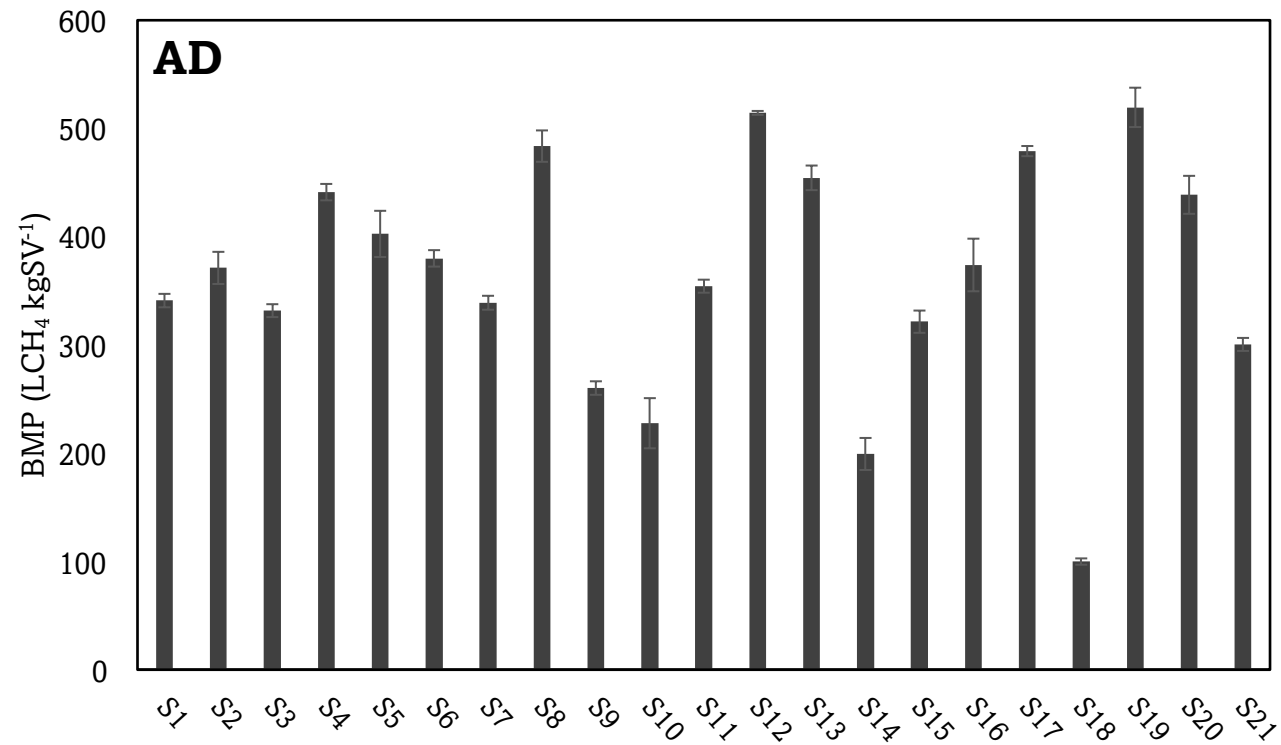
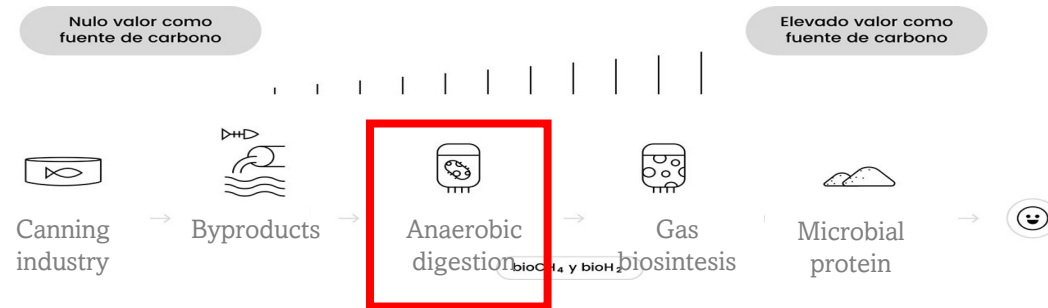


Sampling of byproducts



We have identified and characterized **28 by-product and waste streams** from the canning industry.

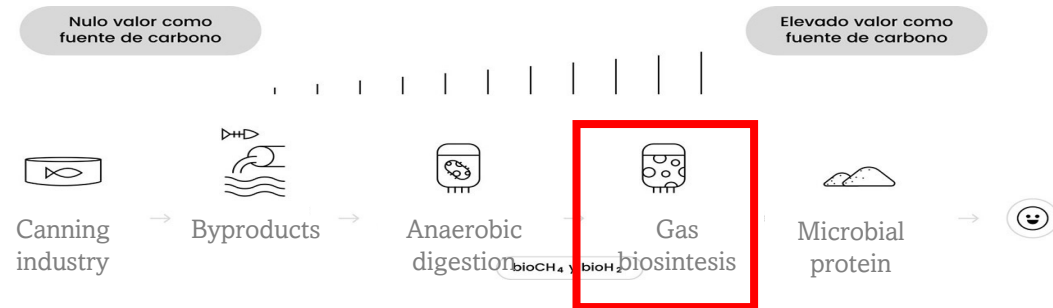
Gas production



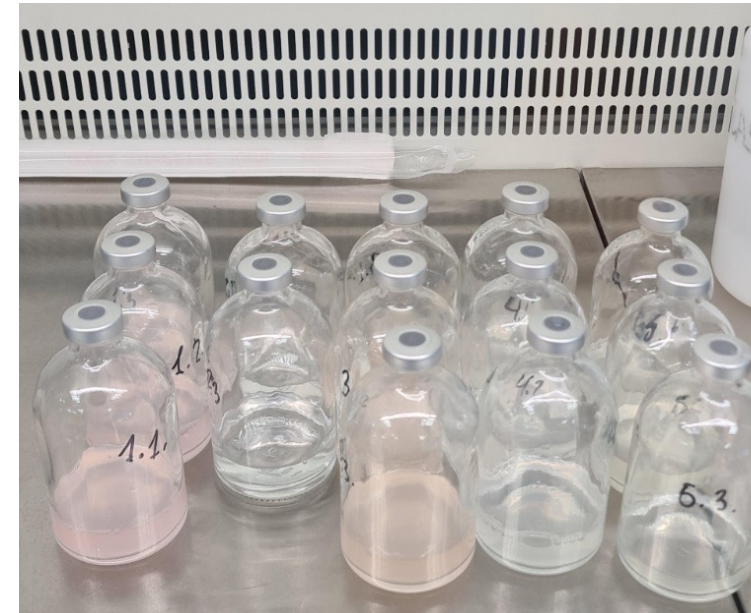
High methane productivity



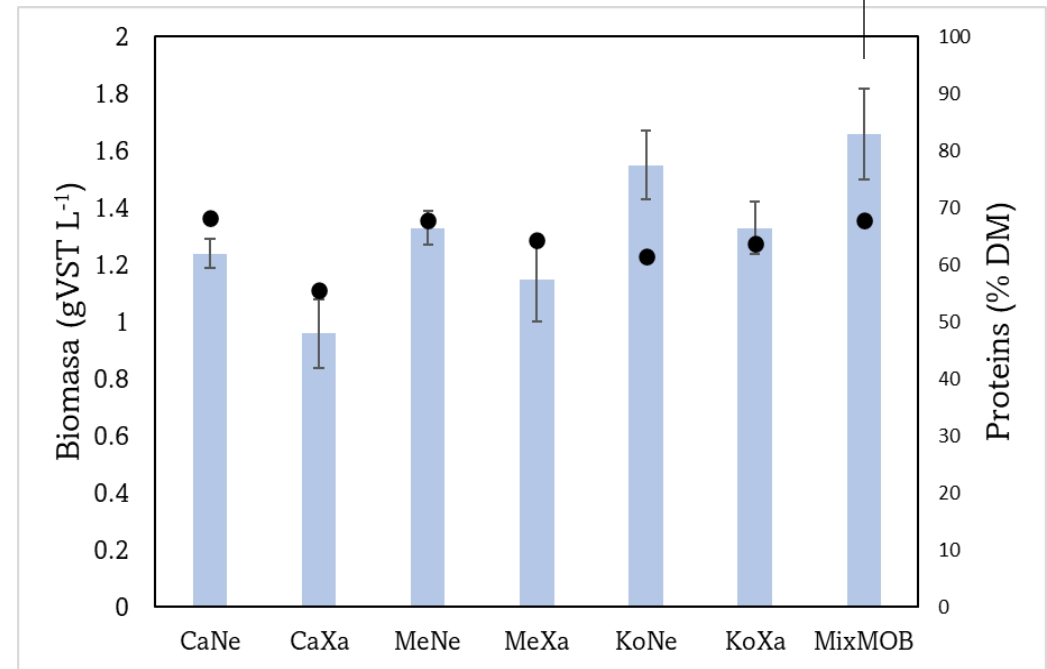
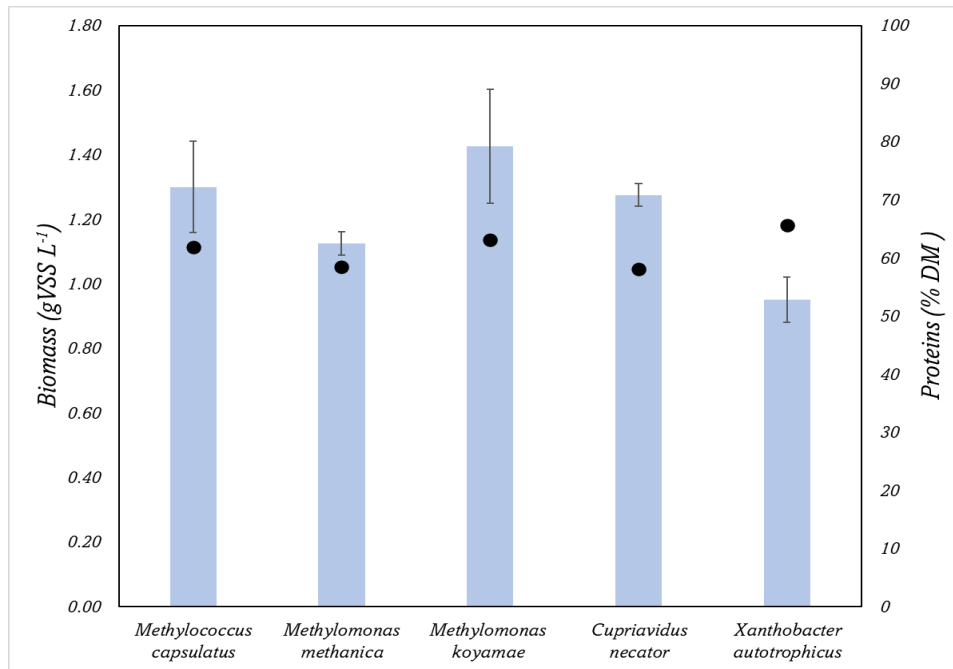
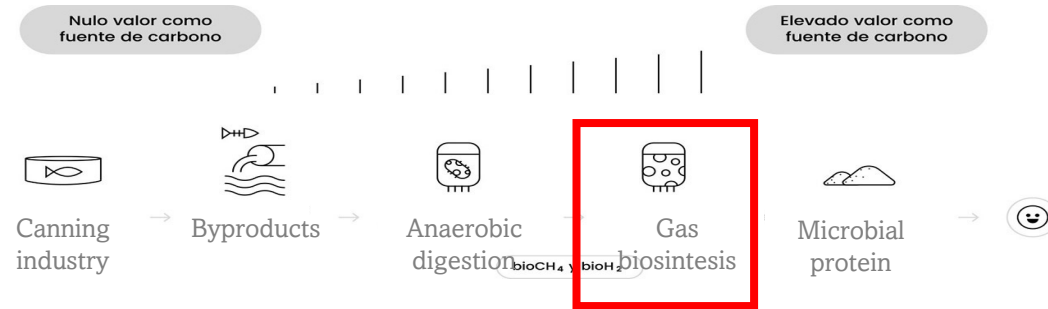
Protein production



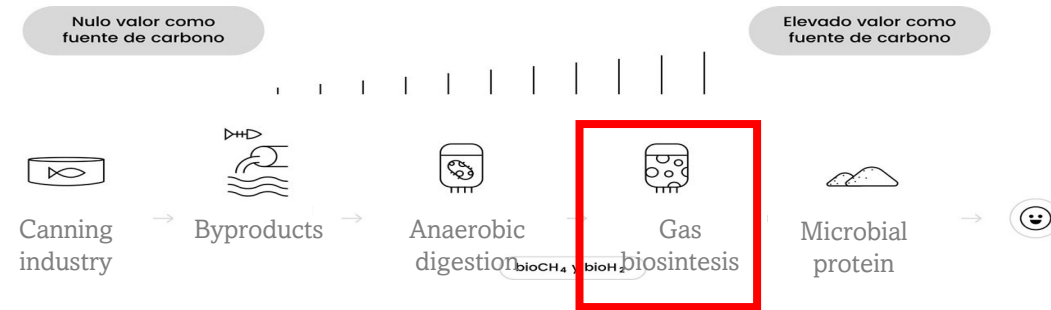
Preliminary analysis



Protein production



Protein production

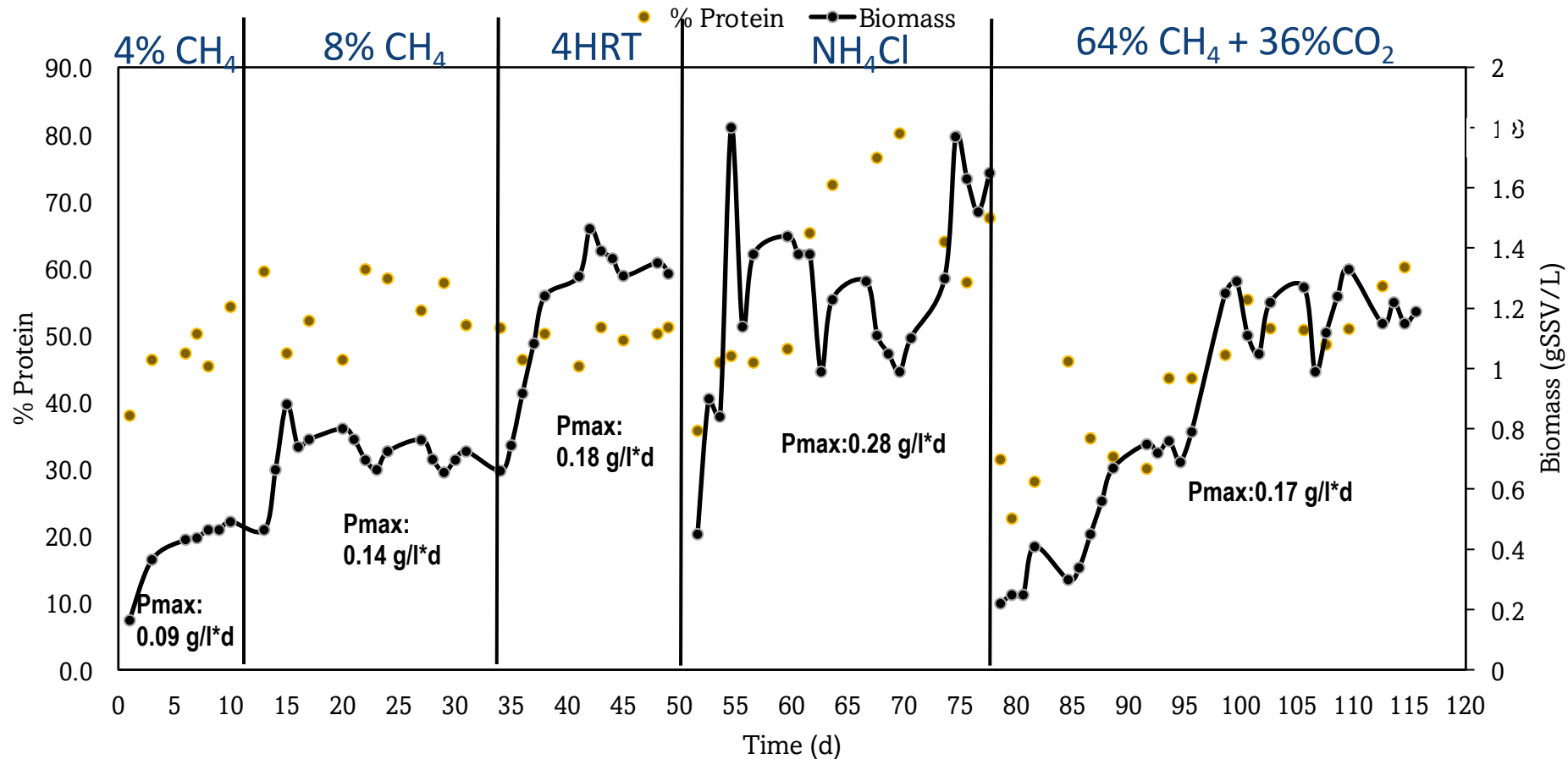
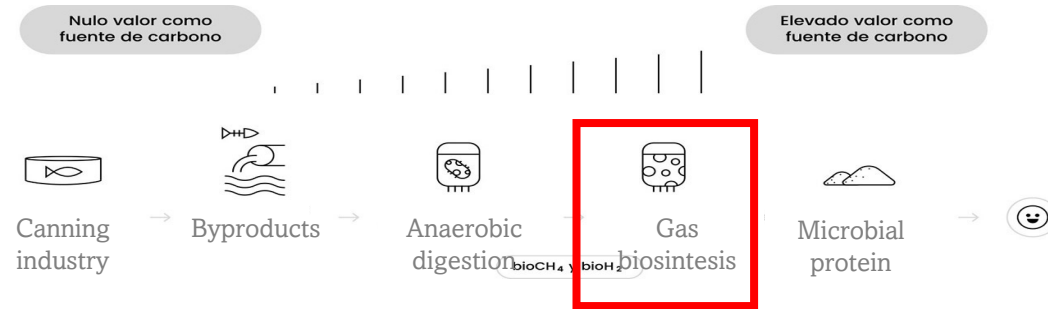


Operational conditions

Type reactor	Airlift
Pure CH ₄	4%
HRT	3 days
Nitrogen source	KNO ₃



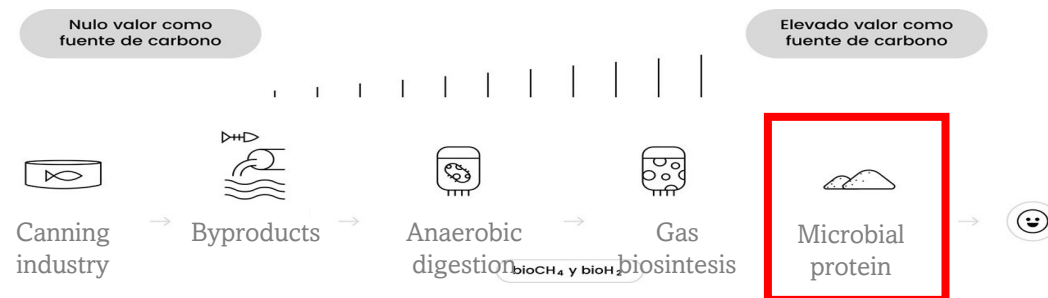
Protein production



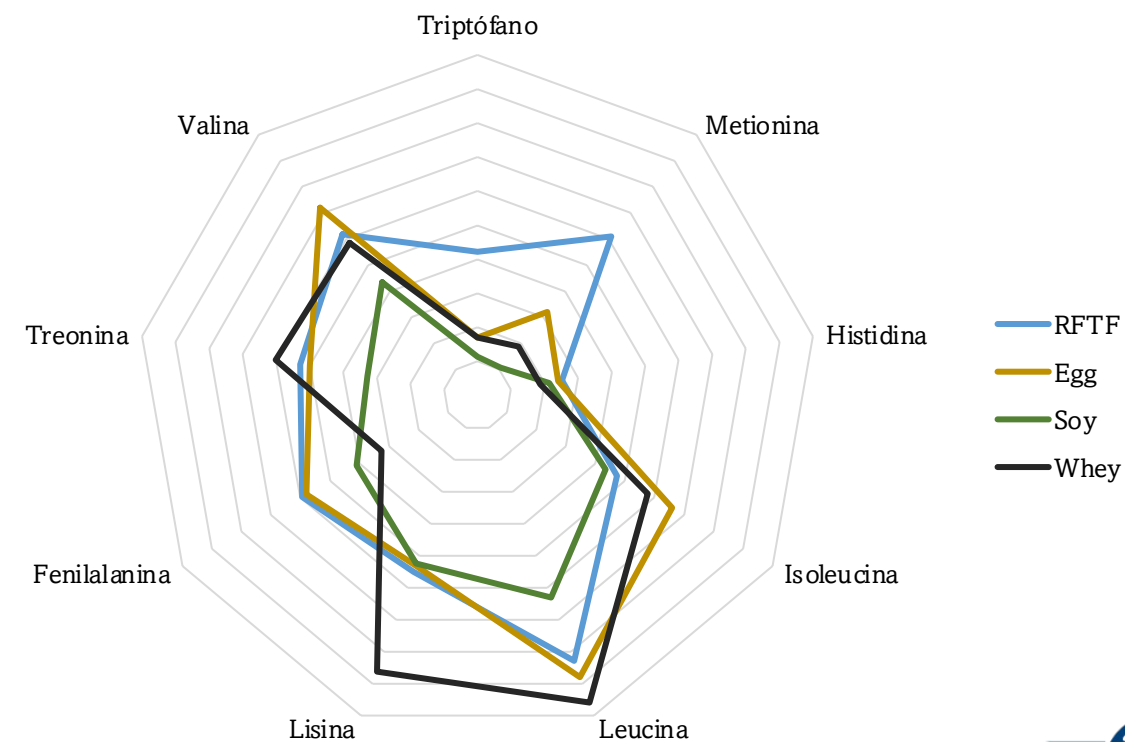
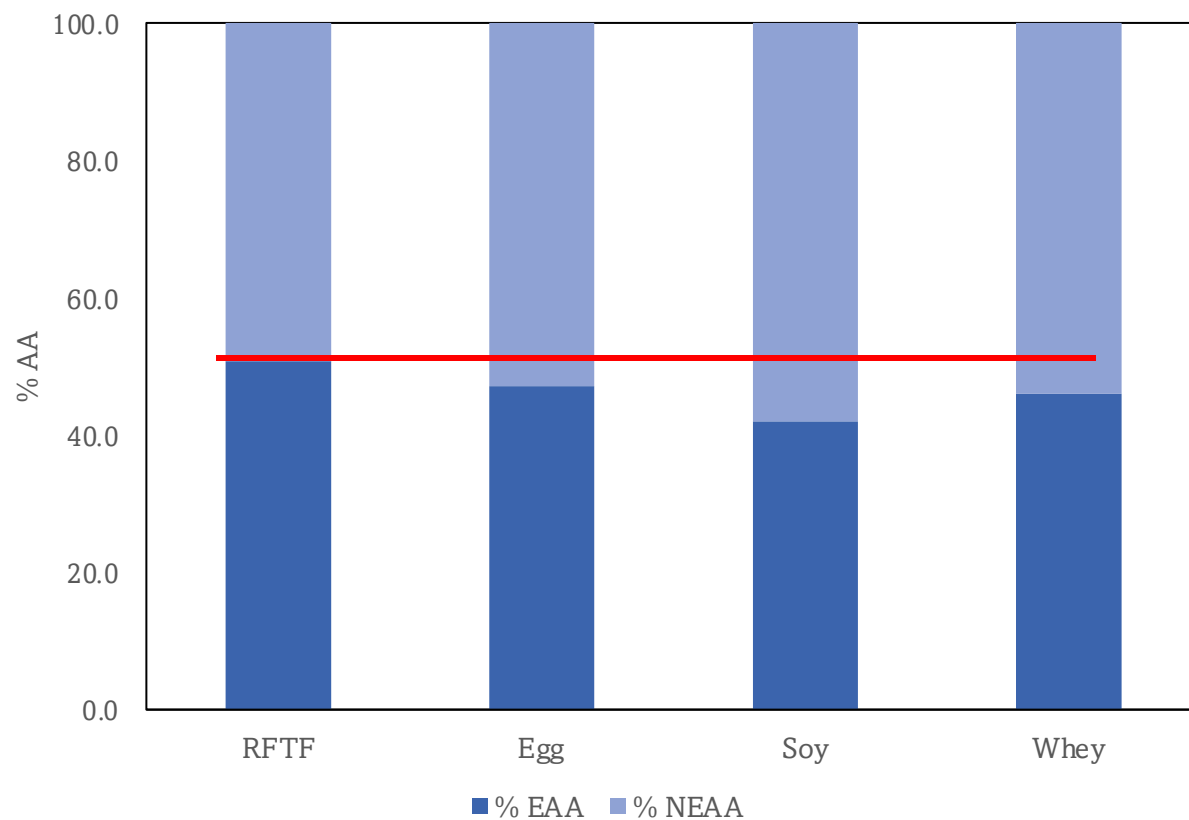
Up to **75%** content of proteins

A productivity of **0.28 gP/L*d**

WP 6 – Análisis nutricional



ReFish protein with egg-like nutritional characteristics!



Conclusions

- Proof of concept tested, performing successfully for a large number and type of canning industry wastes.
- Synergy between MOB strains for protein production optimization
- Similar production using real biogas composition
- High nutritional value of the protein produced: Similar to eggs
- Next step: Sensory tasting



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