“Supporting the future of footwear”
Towards a circular bio-economy: high added value protein recovery and recycling from animal processing by-products

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BYPROTVL
Protein recovery and recycling from animal by-products processes

LIFE16 ENV/ES/000467
Consortium

Coordinator: INESCOP

Partners: Energygreen Gas Almazan S.L., Otivar, Trumpler

Duración: Starting: 01/09/2017 End: 28/02/2022

Website: http://byprotval.eu
PROBLEM AND IMPACT OF THE RENDERING INDUSTRY
RENDERED PRODUCTS APPLICATIONS

Fats and proteins

All processing is done on segregated lines to prevent contamination between different categories of waste and between different species.
LIFE BYPROTVAL’s OBJETIVE

Recovery of valuable proteins and their hydrolysates from high-protein-content processing water and from greaves that are generated in rendering facilities - Category 2 ABPs.
LIFE BYPROTVAL’s RESULTS

Specific enzymatic procedures have been developed for the production different grades of protein hydrolysates:

- **Efficient**: Recovery of up to 75% protein in greaves.
- **Appropriate**: Production of protein hydrolysates with required properties.
- **Resource efficient**: Significant reduction of water and chemicals consumption.
- **Versatile**: Recovering different protein hydrolysates grades by adjusting treatment conditions.
LIFE BYPROTVAL’s PILOT PLANT

Recovering up to 100 tons of protein per year
AMINO ACID BASED FERTILISERS/BIOSTIMULANTS

Promising approach in reducing environmental pollution and achieving sustainable agriculture

- Waste reduction, due to the recovery of protein derivatives.
- Sustainable approach for nutrient recovery
- Substitution of mineral fertilisers: amount of mineral N that can be replaced.
- Reduction on GHG emissions during fertilisers’ production, due to the substitution of mineral fertilisers: CO₂.
- Reduction on GHG emissions during fertilisers use, due to the substitution mineral N in fertilisers: N₂O and NH₃+NOₓ
- Water quality improvement due to the substitution of mineral N in fertilisers: reduction of N leaching.
INDUSTRIAL SYMBIOSIS OF BYPROTVAL

Contribution to a resource efficient and circular bioeconomy
Thanks for your attention

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