

European Circular Economy Stakeholder Platform



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CIRCULAR BIOECONOMY VALUE CHAINS: Insights and Best Practices

5th of October, 2022



BEEF+ Healthy Meat through Circular Economy



Eskualde Garapenerako Europako Funtsa:
"Europa egiteko modu bat"
Fondo Europeo de Desarrollo Regional:
"Una manera de hacer Europa"



R&D Projects 2020
Industrial PhDs 2020

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Introduction

- The meat sector has been recently affected by a considerable **drop in consumption** being one of the main reasons the growing **concern of people on the impact of animal production** in the environment and animal welfare. This was perceived locally in Spain within the Protected Geographical Indication (PGI) meat label: the *PGI Ternera de Navarra*.
- In addition, under the current economic situation, the farmers are facing a **high cost of production**, being the feed the highest percentage of that cost in the animal production activity.



Introduction

- In order to improve the feeding options produced locally, it was proposed to **include the vegetable by-products generated in the agri-food industry in the rations of fattening calves** as a raw material. Besides, these are materials that are generated in large quantities, around 120,000 - 150,000 tons/year, by the Ebro Valley agri-food industry, meaning a real management problem due to the volume it represents and the few recovery options available.



Navarra, La Rioja and Aragón (Spain)



Agri-food industry of canned and frozen vegetables



Vegetable by-products



BEEF+ Project



CANNED AND FROZEN VEGETABLE PRODUCTS

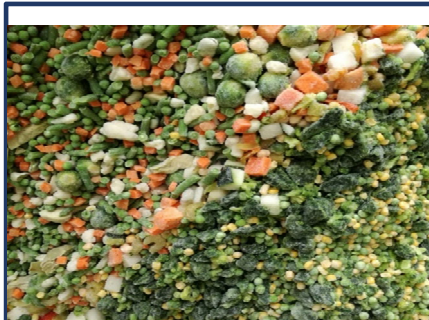


AGRI-FOOD INDUSTRY



CONSUMER

SUSTAINABILITY



VEGETABLE BY-PRODUCTS
Characterization of *in vitro* ruminal fermentation and digestibility.



FEED RATION DESIGN FOR FATTENING CATTLE
Nutritional and economic optimisation.



PRODUCTION TRIAL ON COMMERCIAL FARM
Animal Welfare.
Methane measurements.



MEAT QUALITY
Nutritional characterization.
Sensory analysis.

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WP1: Raw material Valorization

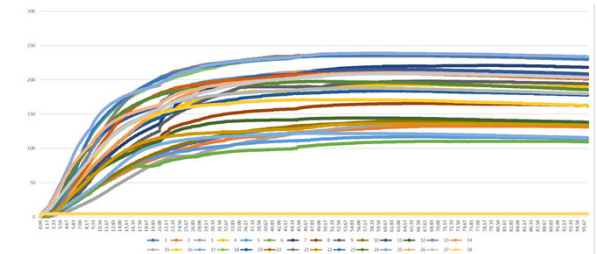
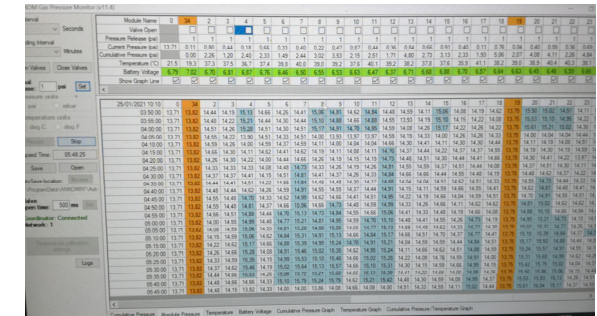
WP2: Circular Economy and Sustainability

WP3: Carcass and meat quality evaluation

WP4: Environmental Impact



Inoculation for *in vitro* ruminal fermentation kinetics trial



Gas production monitoring and study of kinetics



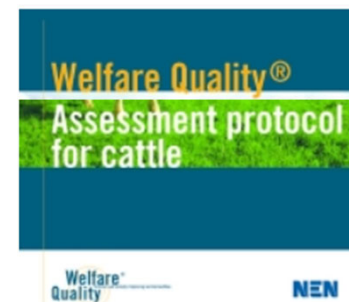
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WP1: Raw material
Valorization

WP2: Circular
Economy and
Sustainability

WP3: Carcass and
meat quality
evaluation

WP4: Environmental
Impact



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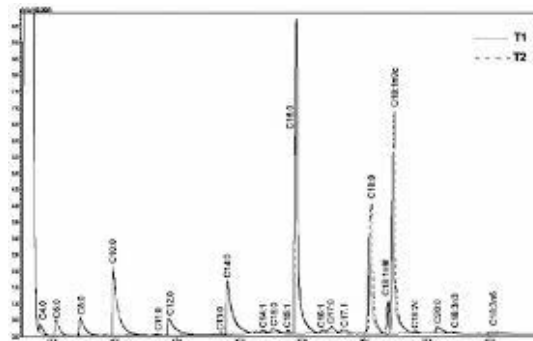
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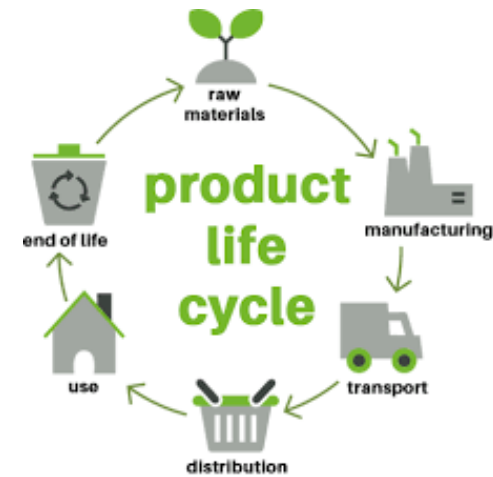
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The project, foresees different benefits, “from feed to food”:

FEEDING

- Use of local by-products
- Source of antioxidants of natural origin
- Characterization of fermentation, digestibility and nutritional value of the raw materials
- Formulation and validation of a complete ration

ANIMAL

- Lower health issues, such as digestive disorders
- Less stress

FARMER

- Higher productivity
- Economically viable

QUALITY

- Better image of the production system
- Consumers demands on local products
- Circular economy
- High quality beef

Company: <https://trasa.es/>

<https://www.youtube.com/watch?v=J0qQ4tqzPKI>

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**THANK YOU
FOR YOUR
ATTENTION**

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