

Activities

- Demonstrating a small-scale mobile grass biorefinery on multiple farms in South West Ireland.
- Producing and validating multiple products from grass through biorefining, including an improved fodder press-cake fibre for cattle, protein concentrate feed for monogastrics, high-value prebiotic sugars (for the food and feed markets) and recovery of nutrients for use as fertiliser.
- Facilitating bioeconomy knowledge exchange activities with Irish farmers.
- Delivering an extensive dissemination package, including digital storytelling, with farmers playing a central role.

Further details



Total budget: € 940.498,00

Total financed: € 940.498,00

Main funding source: Rural development 2014-2020 for Operational Groups
Rural Development Programme: 2014IE06RDNP001 Ireland - Rural Development Programme (National)



Ended, 2019 - 2020



Ireland, South-West



Munster Technological University Kerry
Project coordinator - Tralee (Ireland)
Contact person: James Gaffey
james.gaffey@mtu.ie

Biorefinery Glás

Increasing the Value of Grass through the Grass Circular Economy



Objectives

Pocket digestion (farm-scale anaerobic digestion) can play an important role in the story of sustainable nutrient management.

The OG Pocketboer 2 aims to find solutions for persistent and common problems with pocket digesters, some of which were already defined during the original OG Pocketboer. It encourages implementation of solutions at many existing and future plants to improve the digester performance and efficiency.

Fresh cut grass is loaded onto the hopper on the biorefinery



Grass biorefinery crushes and presses grass to produce a solid presscake fraction that can be used as ruminant feed and a protein rich liquid fraction that can be used as a monogastric feed, prebiotic and grass whey fertiliser



Results

A 40% increase in usable protein per hectare is expected by optimising grass protein usage, creating a fibre press-cake fodder which improves nitrogen to milk conversion efficiency in cattle, whilst creating a second protein concentrate feed product suitable for monogastrics who would otherwise not be able to access grass protein.

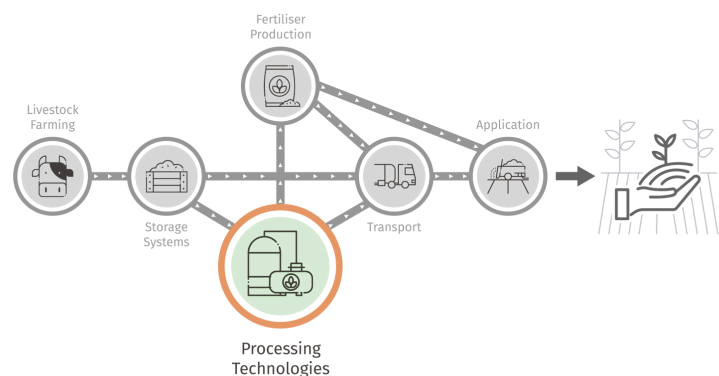
An expected benefit of this approach includes a reduction in nitrogen and phosphorous losses (by 25%) and related emissions for the dairy sector by improving nitrogen use efficiency in dairy, whilst simultaneously reducing indirect GHG emissions through substitution of soybean imports for use in monogastric feed.

Context

Agriculture has been put under the spotlight in recent years as Ireland attempts to decarbonise its economy and meet the challenges and commitments laid out under the Paris Climate Accord and Sustainable Development Goals. With over a third of national Greenhouse Gas (GHG) emissions currently coming from the agriculture sector, most would agree that urgent action is necessary.

Location in the Nutri-Know value chain

Increasing the Value of Grass through the Grass Circular Economy



Ireland's fragmented supply chain and high grass production area make small-scale biorefineries a key opportunity area for growing Ireland's bioeconomy, particularly in rural regions. The project demonstrated the production and validation of the value-added co-products produced by the grass biorefinery. The new business model was assessed to determine its potential for farmer diversification into the bioeconomy. The project demonstrates a future route to market for farmers using the local cooperative structures. The project also demonstrates farm-to-farm bioeconomy symbiosis, in which improved protein efficiency on dairy farms, can create a new local feed product for pig farmers in the region. Biorefinery Glás is a first step towards moving farmers further up the bioeconomy value chain, as processors and producers of products rather than biomass suppliers.



NUTRI•KNOW

Learn more about the project at www.nutri-know.eu



@NutriKnow



nutri-know



Nutri-Know



@nutriknoweu



Funded by
the European Union

Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the granting authority can be held responsible for them.

