

BENEFICIARY: Bord Iascaigh Mhara
PROJECT REFERENCE NUMBER: 19 KGS STS008.2
NAME OF PROJECT: Identification, extraction and testing of anti-methanogenic compounds from Irish seaweeds
IMPLEMENTATION PERIOD: 1st January -31st December 2019

Project Scope

This project aims to investigate the anti-methanogenic properties of a variety of Irish seaweeds (red, brown and green).

In Ireland, agriculture represents 33 per cent of total green-house gas emissions and agriculture is the single largest contributor to overall emissions. Seaweeds are versatile and are being increasingly used by the nutrition and pharma sectors in innovative product development. Recent international work has indicated that seaweeds might be a natural alternative for the mitigation of greenhouse gas emissions by ruminants.

The 2019 work programme required the collection and screening of a variety of targeted seaweeds from the wild in Ireland with provision made for the con-current cultivation of the most suitable seaweeds at a fully equipped licensed aquaculture facility, having the required tankage and pumped water supply.

This is a highly innovative and knowledge-driven project. Harvested samples will be taken from beach-cast, natural populations and from commercial farms. Using international best practise peer-reviewed methods the seaweed extract will be isolated and combined with rumen fluid, then incubated to characterise rumen fermentation. Those species that demonstrate anti-methanogenic properties will then be cultivated in tanks using aquaculture techniques to provide volume for analysis and field trials to be undertaken by Teagasc.

Objectives

- The project generated knowledge of the anti-methanogenic properties of a variety of selected seaweeds.

Budget

Maximum approved expenditure on the project totaled €129,000

Achievements / Spend

- Identification of seaweeds having most potent anti-methanogenic properties has been carried out.
- Selection of the most promising seaweed (*Asparagopsis armata*) and development of cultivation techniques for same established.
- In vitro trials are planned subject to availability of lab facilities and bovine rumen fluid.

SUMMARY OF SPEND:

Total Approved	
Total Eligible Expenditure	€129,000.00
Total Drawdown	€128,846.63
EU – 100%	€64,423.32
Exchequer – 0%	€64,423.32

Report: Lucy Watson

Date: May 2020