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Project objectives

This project is designed to remove the restriction that SMEs face in successfully developing and marketing novel compounds, in particular plant extracts, capable of decreasing methane production from ruminant animals. Specifically we have established a research and development platform to address the following constraints:

- The need to standardise and report the concentration of active component
- Stability of the compounds in practical conditions
- Persistence of the effects/adaptation of the rumen ecosystem
- Lack of in vivo data over a range of live-stock production systems
- Effect of extract on the perceived quality of milk products
- A lack of production data on which to base calculations of market prices

For more information on SMethane please refer to our website : www.smethane.eu or contact

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SMethane



Technological platform
to reduce methane
emissions from ruminants



Technological Platform

The technological platform includes :

1. baseline information on the **stability** of plant extracts under different environmental conditions:

- effect of pelleting process
- effect of storing at different temperatures (4, 20, 30) over 1 and 2 months



Pellets



Meal



GC-MS

2. **In vitro** screening of different compounds that covers the use of different diets and pH



In vitro Bottles

3. **In vivo** measurements over short (7 days) and long (6 weeks) term treatments in sheep, goats, beef and dairy cattle and potential transfer of additives into milk



Chambers



SF6 technique



4. Based on data obtained an **online calculator** will be developed to estimate the effect of including plant extract in ruminant diets on productivity, profitability (both with and without carbon credits) and greenhouse gas emissions per animals and per farm unit. The calculator will be populated with case study data obtained from the trials in the project and will allow the operator to investigate "what if" scenarios based on change the prices of the additives, the value of meat and milk sales and the possible pricing of carbon credits.

