



<b>Title</b>	<b>Capturing effects of diets on emissions from ruminant systems (CEDERS)</b>
<b>Project Timeframe</b>	Sep 2017 – Jun 2021
<b>Countries Involved</b>	New Zealand (AgResearch) UK (University of Reading) Finland (Natural Resources Institute) France (INRA) Denmark (Aarhus University) Sweden (Swedish University of Agricultural Sciences) Germany (Leibniz Institute for Farm Animal Biology) Ireland (Teagasc) Netherlands (Wageningen University) Chile (INIA)
<b>Aim</b>	<ul style="list-style-type: none"> <li>• To develop a global database and extract improved relationships between diet characteristics and GHG emissions;</li> <li>• To conduct experimental work to fill high-priority knowledge gaps;</li> <li>• To conduct process-based modelling to evaluate consequences of dietary management on farm level GHG emissions;</li> <li>• To improve farm accounting and national inventory methodologies to capture effects of dietary management; and</li> <li>• To disseminate the insights to end-users of GHG accounting and inventories.</li> </ul>
<b>Research Highlights</b>	<ul style="list-style-type: none"> <li>• Global databases of research data on effects of animal diet on GHG emissions were collated and analysed, to derive the relationships between dietary mitigation strategies on digestion, enteric CH<sub>4</sub> emissions and excreta/manure composition, and related GHG emissions.</li> <li>• Published the database a peer-reviewed paper on “Challenges and opportunities for on-farm models to capture dietary effects on greenhouse gas emissions from ruminant systems”.</li> <li>• Collated case study farm data and developed a modelling framework to investigate the impact of dietary management on farm-level GHG emissions.</li> <li>• International collaborations were made with Chile, Denmark, Finland, France, Germany, Ireland, the Netherlands Sweden and the UK.</li> </ul>



**Future Work**

- Conduct stakeholder workshops in New Zealand to discuss and extend this new knowledge and the potential for dietary measures to reduce on-farm GHG emissions in New Zealand.
- Contribute to development of international guidelines to assist non-partner countries to refine (or develop) on-farm accounting tools and/or GHG inventory methodologies to capture the effects of dietary measures.