A whole-systems approach to optimising feed efficiency and reducing the ecological footprint of monogastrics

**Projektdetails**

<table>
<thead>
<tr>
<th>Gesamtkosten:</th>
<th>Thema(en):</th>
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<tbody>
<tr>
<td>EUR 7 852 656,60</td>
<td>KBBE.2012.1.3-03 - Monogastrics Feed Efficiency - Efficiency of terrestrial livestock digestive systems and reduction of the ecological footprint through a combination of systems biology, 'omics' and nutrition</td>
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<tr>
<th>EU-Beitrag:</th>
<th>Aufruf zur Vorschlagseinreichung:</th>
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<tr>
<td>EUR 5 999 814</td>
<td>FP7-KBBE-2012-6-singlestage See other projects for this call</td>
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<th>Koordiniert in:</th>
<th>Finanzierungsprogramm:</th>
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<tr>
<td>United Kingdom</td>
<td>CP-TP - Collaborative Project targeted to a special group (such as SMEs)</td>
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**Ziel**

ECO-FCE’s objective is to firstly understand the interactions within the monogastric biological system which create diversity, optimise feed use efficiency and reduce greenhouse gas emissions, nitrogen and phosphorus excretion, whilst not adversely affecting animal health, welfare or product quality. Secondly, ECO-FCE will develop industry-ready tools which will facilitate the selection of breeding stock and nutritional strategies for improved gut health and functionality and host performance.

ECO-FCE will achieve these objectives through five scientific work packages.

Work package 1 involves a systematic literature review which will collate information in the open and grey literature on the effect of nutrition, gut characteristics and host genetics on feed use efficiency, nutrient utilization, greenhouse gas emissions, nitrogen and phosphorus excretion in pigs and poultry.

Work package 2 will focus on the effect of nutrition. Aspects including how and when feed is offered and diet ingredients (raw materials and feed additives) will be investigated. Particular focus will be on nutritional strategies to reduce N and P excretion and to accurately determine and reduce GHG emissions. The effect of environment pre birth and nutrition post birth in pigs will also be investigated. Data and samples from WP 2 will then be used in WPs 3 and 4. Initial work in work packages 3 and 4 will specifically focus on common gut and host genetic factors which promote good or poor FCE. Other work in WP 3 will then investigate the feasibility of inoculating pigs and poultry with this ‘good’ gut microflora. WP 4 will focus on host genomics and will specifically attempt to relate genomic variation to variation in FCE. Further work in this work package will apply 'omics' techniques and will aim to derive biomarkers as tools to improve monogastric FCE. In WP 5 novel, industry-ready tools in the form of models will be developed and tested using data collated throughout the project.

**Verwandte Informationen**

<table>
<thead>
<tr>
<th>Results Packs</th>
<th>Innovation and exploration through cutting-edge Microbiome research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ergebnis in Kürze</td>
<td>Innovative approach to more efficient and eco-friendly pig and poultry production</td>
</tr>
</tbody>
</table>
Berichtzusammenfassungen
Final Report Summary - ECO-FCE (A whole-systems approach to optimising feed efficiency and reducing the ecological footprint of monogastrics)

Nachrichten
Feed innovations offer more efficient, ecological meat production

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Fachgebiete

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