The University of Queensland
Supporting the beef industry through discovery, engagement and impact
The Industry

• $24 billion value

The major challenges

• Minimise environmental impacts
• Production costs are rising
• Increasing threat of exotic disease incursions
• Desire to enhance animal welfare

Beef industry strategy 2030

Increase on-farm profitability, sustainability and welfare by accelerating widespread use of new, cost effective technologies and practices that improve animal health, product quality, biosecurity and production.

Goal

Develop and implement new and existing, cost effective technologies to enable beef producers to improve profitability and meet industry challenges.

UQ solutions

20+ Researchers

25+ beef projects

Current project snapshot

<table>
<thead>
<tr>
<th>Researcher</th>
<th>UQ Affiliation</th>
<th>Project</th>
<th>Timeline</th>
<th>Funder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Sarah Meale, Dr Tyrone Venn, Dr Alwyn Williams</td>
<td>School of Agriculture and Food Sustainability</td>
<td>Utilising novel Pongamia trees to decarbonise Australia’s beef value-chain</td>
<td>2024-2027</td>
<td>Australian Research Council</td>
</tr>
<tr>
<td>Dr Sarah Meale</td>
<td>School of Agriculture and Food Sustainability</td>
<td>In vitro rumen testing of feed additives</td>
<td>2023-2024</td>
<td>Number 8 Bio Pty Ltd</td>
</tr>
<tr>
<td>Dr Sarah Meale, Prof John Gaughan, Dr Shane Campbell</td>
<td>School of Agriculture and Food Sustainability</td>
<td>Reducing emissions of backgrounded cattle - combining Bovaer®10 with supplementation to reduce methane and increase productivity.</td>
<td>2022-2024</td>
<td>Meat &amp; Livestock Australia</td>
</tr>
<tr>
<td>Dr Elizabeth Ross</td>
<td>QAAFI (Queensland Alliance for Agriculture and Food Innovation)</td>
<td>LESTR Low Emission Saliva Test for Ruminants</td>
<td>2022-2026</td>
<td>Meat &amp; Livestock Australia</td>
</tr>
<tr>
<td>A/Prof Marloes Nitert Dekker, A/Prof Marina Fortez</td>
<td>School of Chemistry and Molecular Biosciences</td>
<td>Steak’n wood: demonstrating livestock productivity and environmental service benefits of trees on farm in northern systems</td>
<td>2024-2027</td>
<td>Queensland Department of Agriculture and Fisheries</td>
</tr>
<tr>
<td>Dr Tyron Venn</td>
<td>School of Agriculture and Food Sustainability</td>
<td>Determine the role of ground pearls in pasture dieback</td>
<td>2020-2024</td>
<td>Meat &amp; Livestock Australia</td>
</tr>
<tr>
<td>A/Prof Luis Prada e Silva, Prof Ala Tabor, Dr Ben Hayes, Dr Kieren McCosker</td>
<td>QAAFI (Queensland Alliance for Agriculture and Food Innovation)</td>
<td>Northern Breeding Business (NB2): Assessing practical interventions to reduce calf wastage and herd mortality in northern systems</td>
<td>2021-2026</td>
<td>Meat &amp; Livestock Australia</td>
</tr>
<tr>
<td>Prof John Gaughan, Dr Angela Lees</td>
<td>School of Agriculture and Food Sustainability</td>
<td>Cattle tick and Buffalo fly host genetics, susceptibility to buffalo fly lesions and biomarkers for resistance</td>
<td>2018-2024</td>
<td>Meat &amp; Livestock Australia</td>
</tr>
<tr>
<td>Dr Gry Boe-Hansen, Dr Ben Wood, Prof Nigel Perkins</td>
<td>School of Veterinary Science</td>
<td>Development of a single shot immunocontraceptive vaccine for cattle</td>
<td>2017-2024</td>
<td>Meat &amp; Livestock Australia</td>
</tr>
<tr>
<td>Dr Mieke Van Tiggelen, Prof Karel Van de Weerd, Prof Chiara Palmieri</td>
<td>QAAFI (Queensland Alliance for Agriculture and Food Innovation)</td>
<td>Supporting more effective disease control in Queensland’s industries.</td>
<td>2022-2027</td>
<td>Advanced Queensland Industry Research Fellowship and Scolexia Animal and Avian health</td>
</tr>
</tbody>
</table>
**Case studies - growth, gastronomy and good health**

### Beefing up cattle supplements

**The Challenge** - How to monitor individual feed intake within a herd.

**The Project** - Use biometric wireless ear-tags and cameras to track the movement and time at the feed trough. Development of an equation to estimate individual feed intake.

**Impact** - Adopting the use of ear tags can reduce supplement costs while ensuring each animal eats the correct amount of feed additives.

- **Tamara Freitas-Kirk**
  - E: t.freitas@uq.edu.au

### Decarbonising the beef supply chain

**The Challenge** - Reducing methane emissions with productivity gains.

**The Project** - Develop a framework for the integration of Pongamia into beef production systems, so that not only emissions reductions are maximised, but also to support carbon capture and farm system resilience. Whole-farm modelling will elucidate production scenarios capable of achieving the reductions needed for a carbon neutral Australian beef industry.

**Impact** - Adoption of feeds with carbon sequestration and methane mitigating potential to decarbonise the beef supply chain.

- **Dr Sarah Meale**
  - E: s.meale@uq.edu.au

### Preventing spread of Lumpy Skin Disease

**The Challenge** - Creating a model to assess the likely introduction and spread of the disease in Australia.

**The Project** - Create maps to identify areas in Australia with favourable environmental conditions for the survival of imported infected insects. Produce data on the disease status outside of Australia, for the survival of imported infected insects. Produce data on the disease status outside of Australia.

**Impact** - Boost Australia’s preparedness and awareness of the disease among cattle producers, farmers, and veterinarians to maintain Australia’s disease-free status as an international exporter.

- **Professor Tim Mahony**
  - E: t.mahony@uq.edu.au
#1 Agriculture research in Australia
NTU Performance Rankings of Scientific Papers for World Universities

#1 Biological Sciences in Australia
Times Higher Education Rankings 2023

#1 Environmental Sciences in Australia
QS World University Rankings by Subject 2023

#4 Agriculture research worldwide
NTU Performance Rankings of Scientific Papers for World Universities

#1 Australia for Food science and technology
Academic Rankings of World Universities 2023

Partnership Opportunities

- Contract research
- Research collaborations
- Licensing agreements
- Field trials
- Industry sponsored student projects

Contact us now

qaafi.uq.edu.au
agriculture-food-sustainability.uq.edu.au
uq.edu.au/about/sponsorships/beef-australia