**Terms of reference for the volunteer expert panel advising the *Biopolymers to deliver bioactive compounds that reduce enteric methane* project.**

1. **Project scope**

This collaborative project between the University of Queensland (UQ) and Department of Agriculture and Fisheries (DAF) aims to develop a rumen insert to reduce methane emissions from extensively grazed beef herds in northern Australia. The rumen inserts could also be used to reduce labour and provide more reliable dosing in intensive systems.

The project’s multidisciplinary team includes experts in biopolymers and modelling of bioactive release rates, chemical engineering, rumen ecology, nutrition and chemical analysis. The team engages with DAF’s extensive extension network.

The project aims to produce an insert that slowly releases active agents (such as 3-NOP) into the rumen over an extended timeframe. The rumen insert will ensure each animal receives the treatment, resulting in more consistent reduced methane emission than other methods.

Biopolymer composites in the rumen represent a novel delivery system that will degrade over time through surface erosion, delivering sustained active dosing of animals in extensive pastures (where animals are generally less accessible) and intensive systems (where daily dosing is labour intensive). The composition and size of the biopolymer rumen inserts can be tailored to suit required release rates and animal age, ranging from calves to adults.

For this new technology to be successful, the project team must understand and address the challenges to adoption. Engagement with northern producers will help the team identify potential solutions.

1. **Purpose of volunteer expert panel**

A volunteer expert panel consisting of station managers from across northern Australia will be established to provide practical advice to the research team and contribute to the development of a commercially applicable and appropriate end-product. Focused two-way conversations between the expert panel and research team will develop solutions to encountered issues during the development phase. Outcomes could be factored into the product and an optimal adoption plan for the technology.

1. **Composition of volunteer expert panel (selected through an expression of interest)**
   1. Project: Project leaders (DAF, UQ) and other project team members by invitation for discussions (e.g bolus design/function; economics; veterinary input)
   2. Producers: 6 producers would be desirable to allow for a minimum quorum of 3 producers attending each meeting. The following will be considered when selecting panel members:
      1. Ability to attend annual meetings (via Teams or Zoom); potential in-person meeting at NABRUC.
      2. Diversity of enterprise size (2 each of small, medium and large)
      3. Regional diversity to capture varying frequencies of animal handling and management (e.g. once per year versus more frequently)
   3. MLA representative
   4. Discussions will be held with abattoir operational managers to seek input but it is not envisaged they will form part of the core expert panel.
2. **Volunteer expert panel meeting arrangements**
   1. A minimum of one online meeting a year (Teams or Zoom)
   2. Meetings will run for 2 to 3 hours (start time by panel consensus)
   3. An agenda and relevant project information (pre-reading) for discussion will be provided 7 to 10 days before the meeting
   4. Meeting minutes will be circulated after the meeting.