

Australian Pork Limited

AUSTRALIAN
Pork™

REQUEST FOR PROPOSAL
INVESTIGATING ODOUR IN QLD PONDS POST BIOGAS

August 2021



Request for Proposals

Project objective – to provide further evidence for odour following covered anaerobic ponds and analysis of contributing factors

Australian Pork Limited

Australian Pork Limited (APL) is the national representative body for Australian pig producers. APL is a producer-owned not-for-profit company combining marketing, export development, research, innovation and strategic policy development to assist in securing a profitable and sustainable future for the Australian pork industry. It is one of 15 rural research and development corporations (RDCs) providing research to Australian agriculture.

Funded by pig farmers, APL is paid to do what farmers can't do for themselves. This includes:

- a. Building demand for pork meat products
- b. R&D to reduce costs, improve product quality and value chain efficiency
- c. Interaction with government on farmers' behalf

Background

Limited odour assessment work has been completed in the last 20 years. Odour is a challenging issue for the industry and scientific measurement is challenging as it is a very dynamic variable and measurement by scientific instrument does not always correlate to human nose experience (measured indirectly by complaints). Odour can be a source of great conflict and disagreement between regulators, consultants, producers and the community and can be a very costly and inefficient to treat after the fact.

The APL Report Validation of piggery odour data and models found that the odour profile of the industry had not changed substantially in the past 20 years and that industry developed modelling tools including the VEF Maker software and S-factor formula still produced results consistent with odour measured on site. However the study did find some instances of higher odour in SEPs following covered anaerobic ponds used to generate biogas than what had been recorded before installation of the biogas systems. The project undertook sampling across a number of farms at points identified by regulators to be of concern due to changed practice. These included biogas installations which were not in existence at the last odour sampling in the early 2000s. It is unknown why the change in odour profile occurred. Possible explanations for increased odour may include that the ponds were optimised for biogas generation and not for management of odour or were too overloaded, which resulted in higher odour concentration in secondary and settling ponds. The research recommended that further investigation into the characteristics of these systems and their relationship to odour.

Clarification on the odour impacts of biogas is warranted as the industry has committed to pursuing a low greenhouse gas emissions future, and the adoption of this technology will play a key role in achieving that goal.

Current project

APL is seeking proposals to undertake a targeted investigation of odour downstream of Queensland biogas covered anaerobic ponds (CAP). While Queensland focused, the research outcomes need to be applicable to all Australian piggeries.

The research should undertake targeted odour sampling and compare against histories of complaints and physical properties of the effluent set up of the farms including:

- the loading rates
- volatile solids (VS) and nitrogen reduction,
- hydraulic retention times,
- effluent and sludge chemistry,
- microbiology
- sludge accumulation associated with a CAP in effluent systems.

Studies should include hybrid CAP systems that are continuously stirred and heated if available.

Project proponents should present the research design and data analysis in a way that is acceptable for use by regulators in making determinations for development applications.

Preference will be given to proposals that present meaningful extension outputs which could include (but is not limited to):

- peer reviewed journal articles,
- management guide for odour with biogas,
- factsheets,
- infographics.

At a minimum the successful applicant will be requested to present the results in a webinar for industry.

As this in response to a live issue, preference will be given to projects that can deliver quality results in reasonable time frames.

Research Purpose

Project objective – to provide further evidence for odour following covered anaerobic ponds and analysis of contributing factors

Key research objectives

Objectives and Outputs

1. Investigation into odour emissions around covered anaerobic ponds and likely influencing factors
2. Sufficient evidence provided to allow guidance material to be updated and regulators to be satisfied
3. Webinar recording

Methodology

The consultant is to recommend the best methodology to achieve desired outcomes with the following considerations:

1. Must be to current Australian standard methodologies for odour and be comparable to results from previous project

Evaluation criteria

- Scientific quality and research relevance
 - Scientific foundation of the project proposal and quality of the research plan.
- Project proposal feasibility
 - Realism and feasibility of the research (with respect to the planned time, objectives, intended results, risks, proposed costs and resources available).
- Applicant and research environment quality
 - Scientific competence and research contributions of the applicant, research institute and/or team members in the proposed area (based on previous accomplishments and international relationships).
 - Proven ability to generate adoptable strategies for industries on ambitious targets
 - Applicant familiarity with the pork industry odour issues considered an advantage.
- Adoption and additional analysis options

- Options/Development of extension material on project outcomes considered an advantage.

Timeline

Date	Activity
3 rd September 2021	Applications open
30 th September 2021	Applications close 5pm
8 th October 2021	Notification of proposal review outcome
12 th October 2021	Issue of Provider Agreement for successful applications and commencement of project
30 th April 2022	Final Report

***Note** Applications with long timeframes should include a minimum of 1 progress report every six months. Longer timeframes for this project may be considered, please contact to discuss.

Submissions

How to make a submission:

Register or log in via PigConnect - <https://pigconnect.australianpork.com.au/>

- Submit and manage Project Applications
- View and manage your in-progress Projects
- Review Project Applications referred to you

Submissions close 5pm Thursday 30th September 2021

Contact

If you are interested in submitting an application, please contact

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