Call for research proposals

for research projects commencing FY 22/23

Industry consultation has identified that the following research topics are a priority for Australian egg farmers. We invite all interested researchers to submit a preliminary research proposal (PRP) on the following research topics. We recommend that interested researchers schedule a time to discuss the research and our funding cycle with us, before drafting a PRP.

To schedule a time, email research@australianeggs.org.au

1. Options for egg farmers to enhance on-farm sustainability.

Enhancing industry sustainability is one of Australian Eggs' key objectives. We seek proposals which provide innovative approaches for the egg industry to enhance it's sustainability. Additionally, recent research has indicated that the following areas present opportunities for the egg industry to achieve better environmental outcomes:

- innovations in manure management.
- implementation of energy efficient practices.
- integration of food waste into layer diets.
- implementation of a low carbon accreditation scheme.

Projects should investigate the practical application or implementation of the proposed innovation, at a farm and industry level. The inclusion of commercial trials in proposed projects is encouraged.

2. Technology and data approaches to rodent control.

Investigating efficient and cost-effective rodent control strategies using data and/or technology. This project should include:

- literature review component: analysing the technology and strategic options available for the industry to control rodents.
- trial component: conducting trials in commercial egg farms to analyse the challenges and benefits of each technology or strategy.
- for the most promising 1-3 strategies/ technologies: an implementation guide for farmers to follow.

3. Methods for reducing floor eggs.

Investigating practical strategies for reducing floor eggs in barn, aviary and free range sheds. This project could include an analysis of potential causes of floor eggs but should focus on providing recommendations to industry on effective strategies that can be implemented, at a shed or farm level, to reduce floor egg numbers. Strategies could include; management strategies, rearing strategies and implementation of technology such as monitoring systems or robotics.

4. Development of a sub-unit vaccine for *Campylobacter hepaticus*.

Previous research has been conducted to develop an effective Spotty Liver Disease (SLD) vaccine, and this research indicates that a sub-unit vaccine approach could be a viable option for SLD control. This project should aim to deliver an effective sub-unit SLD vaccine for the industry.

5. Ideal starch inclusion in the diet to improve layer health.

Investigating the optimum amount of starch to include in layer diets, with respect to production, health and longevity of commercial layer hens. Application of fermentable fibre and oligosaccharides has been well explored in broiler diet formulations, as a tool to enhance dietary fibre utilisation, but little research has been conducted in this field in layer diets. To begin to investigate this for layers, this project should provide to industry:

- an understanding of how well layers use fermentable fibre and oligosaccharides.
- an understanding of the optimum size of oligosaccharides.
- an understanding of the optimum level of inclusion in a layer diet to promote good health and productivity.
- recommendations for farmers who want to implement the above learnings on farm.

6. Waste management and value adding with microalgae.

Investigating the viability of integrating microalgae cultivation systems into egg farm operations to provide a potential value stream for egg farmers through the constant production of bioproducts. This project should include:

- an assessment of the practical steps that would need to be taken to incorporate microalgae operations into current egg farm structures, including any potential barriers and steps to overcome these.
- a pilot trial in a commercial or experimental setting.
- initial modelling to provide insight into the cost of establishment of a microalgae system for an egg farm, expected payback period and value to the business over time.
- a roadmap for the Australian agricultural industry and other stakeholders to support adoption of microalgae systems in poultry operations.

7. Practical strategies to enhance layer hen welfare.

We are seeking projects that build on Australian Eggs' body of welfare research and use innovative analysis, tools or technology to address the following key challenges:

- disease prevention and monitoring.
- on farm welfare indicators and monitoring.
- optimising the welfare of free range, barn and aviary hens.
- rearing enhancements for improved lifetime welfare.
- identifying economical and effective environmental enrichments.