Royal Veterinary College
University of London

AWERB Summary Minutes for the website: AWERB: PPL review meeting

Status: FINAL

Meeting held: Wednesday 21 January 2025 at 11.15am

Present: 10 plus one in attendance, two by invitation, 20 apologies

1 STUDY REQUEST 124 – REVISED FORM

Two researchers were welcomed to the meeting. AWERB were reminded that they had originally attended an AWERB meeting in July to discuss a study request. Following this, AWERB had concluded that the proposed design of the study raised questions and some ethical concerns including a lack of an appropriate control group (no light exposure during incubation) to make comparisons to the current industry standard and also concerns over the number of animals/eggs proposed and subsequent wastage from using these large numbers. As the likely benefits of the study proposed did not outweigh the harms, the decision was made that this study could not be approved until the study design had been amended to take account these concerns.

The researchers had subsequently revised their experimental protocol proposing to run green light vs dark conditions and then white light vs dark conditions. This would allow them to identify which of the two light conditions results in a more positive hatch outcome when compared to the industry standard dark incubation. They had also revised the numbers of eggs being used as they would be running three trials for the green vs dark and three for white vs dark. They were attending this meeting to discuss their changes.

A recap of the project so far was given. The aim was to test the feasibility of introducing light into an incubator setting. Previous work carried out has shown that light in an incubator has a positive effect on chick embryo development, but it was not known if different light wavelengths produce different outcomes, nor the precise mechanisms that are controlling these changes. The aim was to identify the optimal wavelength and duration of exposure of this light.

The experimental design had been re-evaluated and the proposal was now to do a phased study, comparing different lights with dark: so white light would be compared with dark; and green light would be compared with dark. This would provide the dark light control that AWERB had requested.

To address the second major concern that AWERB had in relation to the wastage in using a large number of animals and eggs, the following would be done. Approximately 100 chicks would be provided to the histology team for teaching purposes. Any residual chicks and carcasses not used would be frozen and collected by a Birds of Prey centre to be used as food for their birds.

The following comments were raised by AWERB:

- **Would the lights be set to provide a defined range of light intensity (eg Lux) and wavelengths to all incubated eggs?**
  The minimum light level that was needed to have an effect would be over 100 Lux. They were aiming for 150 Lux.
- **Why was the effect of the light not being explored in some days old chicks?**

This would involve raising the chicks for several days. The costs of setting up this facility would be quite high and would not be cost effective at this stage.

- **What aspects of welfare may be affected?**
  This was a hard question to answer at this stage. They were hoping to see a potentially better immune system and if their brains develop into a properly laterally divided brains, then they potentially should suffer from less stress in the future.

- How much was this research contributing to industry profitability and how much to improving animal welfare? There had been a concern that the focus seemed to be on better productivity and increasing body weight, which as the birds already grow too fast, would increase the welfare issues being faced by the birds. Instead there should be a focus on also highlighting how this research would improve the birds welfare.

  There was a lack of knowledge of the mechanism around the biological findings in terms of the impact of the light. This they wanted to investigate further, including by looking at cell proliferation in breast muscle to see if there was any increase that could be evidenced and quantified in a cellular and molecular way. They were not just looking at the immune gene expression but also the circadian rhythm in terms of brain expression and in the development of the eye, as they were key issues that are influenced by light during development and are quite often missing from most studies that focused on production outcomes. They wanted to focus on these types of welfare issues for if the eye or brain aren't developing normally then the birds won't behave normally. This has not been looked at when comparing green and white light previously. This additional information would be added to the proposal to highlight how the research could improve the birds welfare.
- **How much of this proposed research already had funding? Also how much were the partners contributing?**
  The grant proposal had been unsuccessful, however their partners were still keen to progress with this research and were analysing their budgets to see how much they could contribute. They had also provided the refurbished industry standard incubators. Discussions were underway with them about which aspects of the project they wanted to prioritise.

  There were also two other pending grant applications to the RVC's Innovation Fund and also an Industrial Partnership Award scheme but these were on hold until they had ethical approval for the project.

  If ethical approval was obtained then this would cover analysing all the samples up to the BCR that they were doing.
- **Culture of Care: this project would involve a lot of animals having to be killed under Schedule 1, which can be hard for the staff involved. Who would be doing this?**
  For previous projects, their research team have been involved in the Schedule 1 killing of animals. It was expected that this would be the same for this project.

The researchers were thanked for attending the meeting. They were asked to make the requested changes to their study design and to respond formally to the questions raised.

After the researchers had left, the project was discussed. AWERB were of the consensus that the project was much improved and that the researchers had paid attention to the concerns raised which was appreciated. There were still some issues though:

- Uncertainty about which elements could actually be achieved with the available funding. For the project to be feasible then outputs from the PCR, the immunohistochemistry and the cell proliferation assays were needed, to ensure that the science could be completed and published relatively quickly and so stimulate more work in this area.
- The harm benefit analysis should only be done on the data that there was funding for.

The following feedback would be provided:

- In the table that the researchers were putting together to help with the harm benefit analysis, they should be asked to include a column to indicate which of these elements have been funded and which are not funded. They should also indicate the impact on the numbers of birds that were required.
- They would be asked to share an anonymised version of the budget proposal that was provided to the Innovation Fund and the industrial partner.
- The proposal should be sharpened up to emphasise the increased welfare benefits to the animals in addition to how much this is contributing to the chicken industry.

2 ANY OTHER BUSINESS

AWERB were thanked for attending this additional AWERB meeting that had been scheduled at short notice to discuss this study request.

3 DATE OF NEXT MEETING:

- 5 February: Standing agenda items: 2pm to 4pm

Secretary
24 April 2025