

Project Overview

An investigative study of shed management simulation training tools

PRJ-011701

There are many variables that can affect the internal environment of a chicken shed. Changes to both internal and external environmental conditions such as temperature, humidity and air quality can potentially have an impact on chicken welfare and production. Having a shed management simulation tool available for training purposes can help to enhance the skills and understanding of how changes to different shed parameters can impact the internal shed environment and chicken in a virtual situation.

In summary, this project will identify the scope of what is required for a virtual training tool that would be suitable for the Australian chicken meat industry. It will also identify what shed management simulation training resources are currently available, the internal and external shed parameters that are used and if they are suitable for Australian conditions.

Objectives

The purpose of this project is to identify the relevant input and output parameters required for a simulation training tool, to see if one has already been developed and is suitable for, or able to be adapted for, Australian conditions. It would be expected that a virtual tool of this type should include how the different shed variables interact and impact on shed conditions, such as litter, air quality and bird welfare movement.

Background

An online training tool for people new to the industry to learn and understand the interactions that happen within the shed, will need to consider:

- the key internal and external variable climatic inputs
- how key outputs such as litter condition, air quality, chicken performance and welfare are affected.

The data required to develop such a tool is extremely large as there are many internal and external variables that impact on each other. Before committing large resources to develop such a beneficial tool, this project will identify what other tools, simulation platforms and computer models are already available internationally. It is also beneficial to determine if any commercial businesses in Australia have developed similar tools that may be manipulated to include additional variables relevant to shed management, namely air quality and litter condition.



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Benefits

An interactive training tool will be beneficial to industry as it can provide a method to visually show how changing different internal and external shed parameters can affect environmental conditions within the shed that can potentially affect chicken performance and welfare. This could be used as a training and induction tool for farm staff to understand the dynamics of the shed environment and how it can impact on other internal shed variables such as litter condition, bird health, welfare and performance.

The advantage of conducting an investigative study before committing to the full development of a shed management simulation training tool, is that similar tools and models may already exist. It would therefore be more cost effective and beneficial to commit resources to adapting existing material rather than develop a new one.

Implications

Potential implications for this research are a new training tool for industry that can be accessed online. This would be beneficial as it would allow people new to the industry to be able to manipulate shed variables in an induction or training setting without having any impact on chickens. It is expected that will result in better animal welfare outcomes and improved training for industry.

Outcomes

This project is expected to find out what shed management simulation tools exist and if they are suitable for the Australian chicken meat industry. This will be done by engaging with industry to identify what parameters are expected to be in a simulation tool and what its capabilities should be. An assessment of relevant tools and simulators currently available will be conducted. If the data and program already exists, this may be a more cost effective way of achieving the same outcome without the need for developing a program from the beginning.

This project will then make recommendations on the feasibility or possible ways to implement a shed management simulation training tool to ensure it is in a format or available platform that is easily adopted by industry.

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