

Project Overview



Water Security for the Chicken Meat Industry

January 2020 - March 2025

The primary objective of this project is to improve water security (the reliable supply of water of sufficient quality and quantity to meet the goals of the industry) for breeder farms, hatcheries, grow-out farms and processing plants across the chicken meat industry.

To do this we will review industry regional water use, identifying water security issues currently affecting the industry, and identifying likely impacts into the future under climate change scenarios.

The project aims to provide specific guidance on water policy settings that would ensure water security for the chicken meat industry, novel solutions to improve water use efficiency and water harvesting, and barriers to closed loop water usage.

This will enable engagement with state-based water regulators and policy makers and will identify opportunities for improved water utilisation that can be implemented by industry.

Background

The nation and the chicken meat industry are facing unprecedented water shortages in response to climate change and increased water demand, meaning water security is now a critical problem for the continued growth of the industry. This problem is rooted in unsecure water allocations, high prices and few alternative or 'fallback' options for producers.

Our previous Agrifutures funded research (PRJ 004596, PRJ 005770) demonstrates chicken meat production is water efficient. However, the impact and severity of water shortages is projected to increase under the influence of climate change, and the current water policy settings do not necessarily ensure reliable water supply for the chicken meat industry.

This project will address these risks by providing a robust knowledge base regarding water use and water security (both now and into the future) in response to climate change. This knowledge will underpin solutions relating to water access and water use efficiency, including closed loop options, and water allocation/licencing policy settings which would improve water security for the industry.



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Research

The first stage of this project involves stakeholder consultation with industry and government to identify the key factors affecting water security for the industry. Water security and climate change impacts will be investigated for key meat chicken production regions. A review and consultation process will be used to expand the knowledge base regarding water use across the industry (including sources, quantities and uses), and the economic return per ML for chicken meat and other industries will be reported.

The final stage of the project will identify technological and policy-based solutions to improve water security for industry. Technological solutions will include closed loop systems, water efficiency measures, and feasibility of alternative water sources (runoff capture, atmospheric harvesting, and treatment of low-quality sources). A cost-benefit analysis of key technologies will be undertaken. The viability of closed loop water use for breeder farms, hatcheries, grow-out farms and processing plants will be investigated., this will include existing uses (particularly processing plants), barriers to closed loop water use throughout the industry (such as disease and regulations) and how these barriers might be overcome.

Policy solutions will seek to improve access to high security allocations, revise water use classifications for the industry, and identify regional water markets and policies/water plans which support industry. Policy settings regarding economic return per ML will be investigated to improve water security.

Outcomes

We anticipate this project will develop clear pathways to improve water security via adoption of project recommendations. This will include pathways which identify solutions to improve water allocation security for grow out farms and any other exposed industry segments, water use efficiency, water availability, and closed loop water use (including identification of barriers to adoption) throughout the industry into the future. This will enable engagement with state-based water regulators and policy makers, and will identify opportunities for improved water utilisation that can be implemented by industry.

Implications

If the recommendations of this project are adopted, it is expected that improved water use efficiency, availability of water sources, and closed loop water use will result in lower water demand and costs for producers, as well as reducing their exposure to the risk of highly variable and uncertain water availability and prices.

The project will identify solutions to improve water allocation security, which will enable engagement with state-based water regulators and policy makers. Adoption of these measures is expected to result in improved water security for industry by improving the availability of water entitlements and allocations for high value industries such as chicken meat production.

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