

# Smallstock RFID

Trial of New Lamb Gambrel RFID hooks at JBS  
Bordertown

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## Project Description

Developing reliable traceability through the entire Australian red meat supply chain is an important enabler for supply chain efficiency, equitable distribution of supply chain wealth, supply chain troubleshooting and demonstrating the supply chain sustainability framework credentials that consumers are expecting from mature supply chains.

This project focused on developing a reliable Smallstock RFID gambrel for the lamb gambrels used in most Australian harvest floors, chiller networks and fabrication floors. The aim was to repurpose existing non-RFID gambrels in an attempt to develop a proven process to reuse existing gambrels that all Australian lamb processors could benefit from. The aim was to use a combination of maintenance staff and staff on light duties and or staff without holiday periods available during shutdown periods.

A 3rd party vendor provided the RFID chips and JBS provided the staff to modify existing gambrels and fit the chips. A large number of the chips resulted in failure. JBS engaged a third-party investigator to ascertain the root cause (answer = fitment was too tight of the RFID chip in the gambrel). Although the chips have failed, the root cause has been ascertained and now a procedure developed for correct fitment.

## Project Content

JBS Bordertown engaged a team of 13 people (operational and maintenance staff) to perform the conversion.

- 2 were drilling,
- 2 were screwing,
- 1 was on the forklift and helping each group
- 8 were sorting hooks, removing chips, marking holes, scanning finished hooks etc.

They team worked from 6:00am – 5:00pm (9.5 effective hours)

This team of 13 were able to process the 10,000 hooks in 28.5 hours, or 350.88 hooks an hour.

## Project Outcome

JBS noticed the newly installed RFID chips failing within 3 months of operation. Of the 10,000 RFID chips installed 20% failed within 3-5 months of operation.

It is evident that without clear instructions to modify existing gambrels for correct insertion tolerances, that this has led to the failure rate of the RFID trial at Bordertown.

Note: A question, for future consideration and other processors, arises that even if exacting tolerances and instructions could have been provided to Bordertown prior to the modification process, would Bordertown have the onsite tooling and staff skill availability to then perform this conversion on site to the now known exacting standards?

With this knowledge in hand, JBS now has a clear understanding of how to modify gambrels for these 3rd party chip supply.

JBS is in discussion with RFID and gambrel providers to ascertain the best rectification step as the objectives of the project are yet to be achieved.

The three approaches under consideration are:

1. Turn key third-party supply (gambrel and RFID chip) as a turnkey solution.
2. Purchasing new gambrels and RFID chips and retrofitting under now established work instructions at JBS Bordertown, with suitable tooling and staff skills.
3. Repurposing existing gambrels, remove old RFID chips, increasing tolerances, reinstalling new RFID chips.

### **Benefit for Industry**

As this project was not successful there is no positive benefit to the industry that is realisable. There is new knowledge generated on the importance of taking the fragile nature of RFID chips into account when retrofitting them to equipment items (such as gambrels).