

Enhancing traceability in Smallstock processors using hook tracking and the implications for industry - LAT24-022

Project Summary

This project aimed to improve the adoption of livestock traceability technologies within Australian processing plants. Through demonstrating the practical application of electronic identification (eID) and RFID hook tracking technology in a commercial processing environment, the project has strengthened industry confidence in the value of individual animal traceability and individual carcass feedback.

The project successfully delivered full automation of a hook tracking system capable of linking individual carcass measurements to live eID data with an average accuracy of 99%. Throughout the project, additional enhancements were made to improve system performance and reliability, including installation of a new eID reader and a notification device that immediately alerts processing staff if the eID reader is not functioning correctly. This innovation has the potential to benefit other processing facilities, if implemented, by improving the accuracy and integrity of traceability records. Changes were also made to the current hook track system using SCL SmarTrack hook tracking solutions. Integration of the hook tracking system with the GMP SCADA reporting system further strengthened system reliability and operational performance.

Over a ten-month validation period, the eID reader and hook tracking system were monitored, tested, and refined under commercial processing conditions. Continuous assessment of eID read rates, carcass identification accuracy, data integrity, and automation enabled technical issues to be resolved, resulting in a robust system capable of consistently achieving a minimum 98% eID read rate while accurately linking individual carcass data with producer information.

Individual carcass data was collected from 15 producer lamb consignments, with five participating producers featured in producer case study videos, webinars, and the Gundagai Lamb eID workshop. These extension activities, industry presentations and workshops effectively communicated project findings and demonstrated the practical benefits of individual carcass feedback and improved traceability systems to producers, processors, and other supply chain stakeholders.

Overall, the project successfully demonstrated that RFID hook tracking technology is both practical and commercially viable within Australian processing facilities. The project improved industry understanding of the technical and operational requirements for maintaining individual animal identity through processing and highlighted the benefits of enhanced traceability, improved data accuracy, and timely individual carcass feedback. It also confirmed that successful implementation requires more than simply installing RFID equipment. Reliable operation depends on effective system design, integration with existing plant software and processes, staff engagement, ongoing optimisation, and close collaboration between processors, software developers, and system integrators to develop robust and automated tracking solutions. The project provides a strong foundation for broader industry adoption and supports Australia's ongoing livestock traceability objectives.

While hook tracking technology offers significant benefits for processors and producers, wider adoption will require addressing barriers such as implementation costs, technical integration, operational challenges, and uncertainty around return on investment. Future efforts should focus on increasing access to funding through government and industry programs, encouraging co-investment across the supply chain, and supporting additional pilot and demonstration projects to build industry confidence. A follow-up evaluation 12–24 months after producers receive individual carcass feedback is also recommended to assess how the data has influenced on-farm management decisions and to quantify improvements in productivity, carcass performance, market compliance, and profitability. This evidence will strengthen the business case for broader adoption of sheep eID, hook tracking technology, and enhanced traceability systems across the Australian sheep and goat industry.