Canadian Cattle Identification Agency

KEY FINDINGS

This project did not employ any unusual measures or allow intervention to ensure tag reads. When visually identified tag issues such as no tags or bar-coded tags were noticed, these issues were then documented by the field research associate. This research reflects the read accuracy and impact on business process that would exist if these systems were installed in auction markets across Canada utilizing current business process and activity.

Impact on Business Process Efficiency and Effectiveness and Speed of Commerce

Every auction market has a unique design configuration and process flow. The design of the RFID system must also be unique and located in an area that is well integrated with normal process flow in order to be efficient.

The location of the system had more impact on business process than the design of the system.

- The installations at the receiving area had some impact on speed of commerce, between seven to 10 minutes per some groups and a few minutes on others. The total impact per day exceeded two hours in some instances.
- Installations at the sale ring (both before and after) had the least impact on process efficiency as the cattle must flow through to the sale ring whether before or after. Markets speed of commerce was impacted between a few to 14 minutes on a sale day.
- Systems not aligned with process flow had significant negative impact on speed of commerce.

The consistency of read accuracy per system varied from week to week and market to market. This may be a result of numerous factors including: electrical interference; tags or tag placement; animal behaviour; and size of cattle.

- Two single alley systems processed 12 per cent of the total head. These systems had the lowest variance of three per cent between the low weekly read accuracy of 96 per cent and high of 99 per cent. Global accuracy was 97 per cent. The narrow alley structure reduced flow of cattle at high processing periods.
- Two dual alley systems processed 15 per cent of the total head. The weekly accuracy ranged from 86 to 93 per cent with a global accuracy of 90 per cent. This was the lowest overall reading in the project and the highest day over day variance of seven per cent.
- Five wide alley systems processed 72 per cent of the cattle. The variation in group size accuracy was the highest at eight per cent (88 to 96 per cent) showing a definitive trend

of higher accuracy in smaller groups. Weekly accuracy ranged from 90 to 94 per cent with a global accuracy of 93 per cent.

Identify the Business Case Regarding Feasibility and Cost/Benefit to Enable Traceability

The preliminary cost estimates, based on only one RFID hardware system at each of the estimated 150 auction markets in Canada is approximately $8.6 million. This cost estimate does not include software, or installations at buying stations and assembly yards.

It was determined that auction markets will have additional operating costs resulting from administration and submission of the tag reporting to the CLTS, maintenance on the hardware and the likelihood of additional personnel. Preliminary estimated annual operating costs for the industry, including maintenance and warranty, is estimated at almost $2.6 million not including software, computers, capital cost of equipment or any additional increased staffing costs.

There were no direct benefits to the auction markets identified as a result of having RFID hardware installed in Phase One. Phase Two will explore potential benefits based on the integration of commercial software.

Delivers an Opinion on the Feasibility of the Existing Hardware/ Software Supporting Full Traceability

The RFID scanning hardware provided a global weekly read accuracy of 91 to 94 per cent with a global accuracy of 93 per cent. Resolution of identified tag issues (no tags, bar coded tags or tags that didn't read) would have increased read accuracy by 0.6 per cent.

Any requirement for collection and reporting of RFID tags above the read accuracy documented in this research may impact auction markets speed of commerce and costs to a level that may not be sustainable.