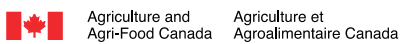




For more information on RFID systems:

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Some sheep software programs link health treatment records to individual animal data and will indicate withdrawal time is not complete when the ear tag is scanned.

Investment - \$3,000 – \$4,000, plus the cost of tags.

#3 - Intermediate Approach

System Components - With an intermediate RFID system, producers could add a digital scale head and optional load bars to their existing weigh crate.

Advantages - A digital scale for recording animal weights reduces the guess work associated with a spring scale and the time spent weighing animals. This system would require weights from the scale to be entered into the computer manually. However, if the handheld computer/reader has Bluetooth capabilities, producers may opt for digital scale heads with the same feature. This would allow weights to be recorded automatically and tied to the animal's identification number.

Investment - \$4,200 – \$6,400, plus the cost of tags.

#4 - Advanced Approach

System Components - The advanced RFID management system further incorporates a panel reader, digital scale head with load bars and either cable or Bluetooth connection to the handheld computer. Some larger operations, or those looking for higher levels of individual animal management capacity, may add auto-sort handlers to the sheep handling facility. These can dramatically reduce time requirements for sorting operations such as breeding group selections, market lamb grouping by weights, feedlot grouping by weights and/or sex, etc.

For the efficiencies of these components to be fully realized, a well-designed handling system is a must.

Advantages - The digital scale head with cable connection or optional Bluetooth technology enables weights to be linked to the animal ID and recorded into the individual animal record along with any other information the handler enters.

Addition of a panel reader and/or auto-sort sheep handlers further reduce time required for processing jobs such as weighing and weight recording, sorting lambs for market, and sorting sheep into management groups.

Investment - Up to \$30,000* plus the cost of tags. (*does not include the cost of handling facility).



RFID Management Systems Evaluation

The majority of RFID management system efficiencies described here are derived from observations from the Alberta Lamb Traceability Project. A similar analysis project is currently being carried out by the CSF. It's anticipated that the findings of this project will complement those of the Alberta Lamb Traceability Project. Both projects include cost-benefit analysis and the combined results will provide additional insight into the costs involved and efficiencies that can be realized.

Radio Frequency Identification Management Systems



Finding the Right Fit for your Farm



Canadian Sheep Identification Program

Traceability and Radio Frequency Identification

Federal and provincial governments have mandated that full traceability for the livestock sector be implemented by December 31, 2011. Traceability systems in Canada are based on three basic elements: animal identification, animal movement and premises identification. The ability to rapidly trace an animal throughout its life cycle is essential to isolating animal health emergencies and can help limit the health, economic, trade, environmental and social impacts of such emergencies.

To meet the requirements set out for a national traceability system, the Canadian Sheep Federation (CSF) has investigated a number of tracking options that would best suit the unique size and structure of our industry, with Radio Frequency Identification (RFID) systems emerging as the best option of those currently available.

RFID Management Systems Benefits

RFID systems are livestock management systems built on RFID technology that have the potential to improve sheep production efficiency and productivity. At the same time, they enable producers to meet national traceability standards. Compared to paper-based records, RFID management systems offer the benefits of minimizing data entry errors (i.e. no two animals can have the same identification number), make it easier to analyze animal data, and rank sheep within the flock based on performance during a given lambing, year or lifetime. The value of these systems becomes greater as additional years of flock data are accumulated. Producers, however,

still need to analyze information in reports generated by the software programs for flock management improvements to be fully realized.

RFID Management System Components

The basic components of an RFID system include RFID tags, an RFID reader and computer with livestock management software.

- There are currently two official RFID tags approved for use under the Canadian Sheep Identification Program (CSIP) – the Shearwell Data SET tag and the Allflex RFID button.
- A variety of RFID readers are available from wand or stick readers, to handheld computer versions that can read, record and store data. It is important to note that most wand or stick readers can only read and store RFID tag numbers along with a date and time stamp. They have limited ability to link with sheep software management programs.
- Computers should have a minimum of 4GB of memory; dual core processors are required for most current management software to operate effectively.

The required investment varies depending on software and equipment chosen:

- Tags: \$1.80 – \$2.98 (depending on tag type). Excludes cost of provincial licence fee
- Readers: \$700 – \$3,000 (depending on model and features)
- Software: \$300 – \$2,500
- Computers: Starting around \$600 and increasing based on power, function and style (i.e. desktop vs. laptop)



Flexibility Helps RFID Fit Your Flock

The flexibility of RFID management systems enables producers to select different components that fit their management style, objectives and budget. It allows producers with smaller numbers of sheep to share the cost of a handheld computer and/or digital scale as long as each producer uses a licensed copy of the management software. Compatibility between chosen components is crucial and should be verified before final purchase.

Four Approaches to RFID

There are four approaches to implementing an RFID management system – business as usual, basic, intermediate and advanced. It is assumed that producers will have a sheep handling facility adequate for the size of their flock. Otherwise, the labour and animal handling efficiencies described here will not be fully realized.

#1 - Business as Usual Approach

System Components - Some producers may opt to use the CSIP RFID tags just as they are using the current CSIP tags – applying a tag as sheep and lambs leave the farm.

Advantages - No change to current management practises. This approach will ensure sheep and lambs leaving the farm of origin comply with federal regulations. A producer will not see any on-farm management benefits.

Investment - The difference in cost between the current CSIP non electronic identification tag and CSIP approved RFID tag.

#2 - Basic Approach

System Components - A basic system includes RFID ear tags, a handheld computer/reader as well as flock management software.

Advantages - With the handheld computer/reader, producers have some flock management capabilities while in the barn.

They can collect and electronically store individual sheep data and sheep health treatments as animals are being processed. It also gives fingertip access to individual sheep information previously recorded.

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