

On September 6, 2006, Agriculture and Agri-Food Canada (AAFC) launched the \$1.7M Canadian Integrated Traceability Program (CITP). The CITP provides funding to support pilot projects in the livestock and meat sector that demonstrate integrated approaches to traceability implementation across the value chain. Under the CITP, AAFC will make contributions of up to 50 per cent funding to a maximum of \$150,000 per project.

Under the CITP, Pacific Ag Consulting has received approval for funding assistance for two projects: “Canadian Livestock Markets Pilot with Radio frequency Identification (RFID)” and “Tracking Commingled Cattle”.

#### *Canadian Livestock Markets Pilot Project with Radio Frequency Identification (RFID)*

In order for Canada to achieve whole life traceability all livestock movement must be recorded. Within Canada, approximately 75% of the cattle are sold through livestock markets. Hence, it is extremely important that recent advances in RFID tag reading technology and the multitude of available tag RFID systems be demonstrated to Canadian livestock markets.

The “Canadian Livestock Markets Pilot project with RFID” will demonstrate, first hand, in real situations, the challenges surrounding reading ISO RFID tags. Portable reading systems will be installed and cattle will be read through a variety of different systems. The project results will identify the gaps in whole life traceability and the benefits of low frequency RFID.

The project will enable livestock market owners to gain a better understanding of the infrastructure and cost associated with RFID tag reading systems. This will help ensure accurate budgeting for such future systems. As well, the project will provide an opportunity for livestock markets to pose inquiries and to become involved in the manufacturing (i.e. design) of equipment. Canadian livestock markets sell cattle through the use of a sales ring, thus, if the systems are to be adopted in the livestock markets it is imperative that the project demonstrate that the RFID readers will not slow down the speed of commerce.

#### *Benefits*

Although many areas of Europe, Australia, South America and the United States have adopted RFID technologies into their livestock markets there is a need to demonstrate this technology in the unique Canadian environment. Canadian livestock markets must be provided with an opportunity to view working systems, travel to other countries is not always a viable option. Not all livestock markets are set up in the same manner, each reader must be installed to meet the individual livestock market design. The size of Canadian livestock markets vary by region/province, what works well in one market will not always be applicable to another.

RFID reading systems range in cost from \$1000-\$40,000. It is important that livestock market owners are aware of the limitations of each reading system so that they can make an informed decision on the type of reader that will best meet their individual needs. Demonstrating various systems will allow livestock markets to understand each readers' limitations, animal throughput, stress each system puts on cattle, personal/operating requirements, cost associated with software and infrastructure upgrades, system placement requirements, potential environmental issues, outside radio frequency noise that may inhibit reading results and most importantly help them find a RFID reader that can meet their needs and financial constraints.

### *Goals*

- Demonstrate the implementation of animal tracking by installing proven RFID Readers into real time situations in Canadian Livestock Markets.
- Demonstrate the different types of RFID readers available. (Hand Readers, Wand Readers, Panel Readers)
- Demonstrate the different types of panel reader installations currently available. (Single Alley Systems, Dual Lane Systems, Multi Animal Systems)
- Validate that the current method of reading Low Frequency RFID tags are able to be used as cattle move through commerce without slowing down the day to day business in a Livestock Market.
- Help each individual Livestock Market identify the hidden costs around a RFID Reading system such as electrical requirements, interference, additional staff costs (if any), software requirements, data reporting requirements and infrastructure costs to their current alleys.
- Give each individual Livestock Market the opportunity to try a system of their choice on a sale day to see the system work in a real time situation.
- Help Livestock Market owners understand the added benefits to a reading system such as inventory control, management issues and age verification.

### *Results*

This pilot project will help Canadian livestock markets understand that it is possible to implement RFID reader systems to read cattle at the speed of commerce without affecting or changing the way they currently run their sales operations. RFID Reader manufacturers will have an opportunity to address the concerns that the livestock markets bring forth during each of the demonstrations by developing and manufacturing systems that will meet their future needs. Although the pilot project is focused on cattle, it will also give multi-species markets a chance to determine and address possible concerns regarding readings. Considering the increasing importance of age verification in the Canadian cattle industry, a successful project of this nature would also provide livestock markets with the capacity to be able to link the age of the cattle they sell to the tag reading system and add value for the Canadian cattle producers. This pilot project will also help determine the total investment required by the Canadian livestock markets to properly implement a national traceability system. The pilot will help demonstrate the feasibility of livestock traceability and will support the Federal-Provincial-Territorial

Traceability Task Team (FTP TTT) in its efforts to implement a National Livestock Traceability System.

### Tracking Commingled Cattle

Recording animal movement is a crucial component to the development of an effective traceability system. Currently in Canada, records are kept on where cattle are born and where cattle are slaughtered. However, movement tracking (i.e. the daily movement of cattle and the interactions with other cattle) is not recorded. This project will demonstrate and design livestock tracking systems that can identify and record animal movements using RFID readers and data collection services. This process will ensure a complete 48 hour trace back by keeping track of all premise IDs that the cattle move to. These “real world” trials will help identify the challenges related to tracking the movement of commingled cattle and enable industry participants (i.e. producers associations, RFID manufacturers and systems integrators) to work together to develop viable solutions. At the same time, participants will obtain an increased understanding of the variety of products available and their associated cost.

### *Benefits*

The benefits of a project that demonstrates the viability of tracking cattle in areas of commingling is multi-faceted and covers every sector of the cattle industry. The project will help determine the limitations and feasibility around mandatory tracking of cattle movements throughout areas of commingling across Canada. It will also highlight the need to educate the livestock community on premise ID enforcement and identify the focus that public education should take in order facilitate the transition to mandatory tracking. This project will allow the participating associations to obtain a first hand, real time experience on how they would be involved in the tracking of cattle as they come and go from their individual premise. The participant associations have limited full time staff that would be responsible for the data entry for every event. This project will provide the associations with an opportunity to provide their input to the manufacture, design and currently available data transfer methods. It will also give these associations an increased understanding of the infrastructure changes and associated costs required with such a process. Leading solutions providers and manufacturers will be given a chance to demonstrate their equipment in a real time environment. It will also enable them to adapt the systems to meet governmental requirements, product pricing limitations, environmental issues, product durability, ease of use, download requirements to the CCIA database and most importantly that the products can handle multi-sector traceability for the future in Canada.

### *Goals*

- Demonstrate the implementation of animal tracking by installing proven RFID Readers into real time situations in areas cattle are commingled in across Canada.
- Demonstrate the different types of RFID readers available. (Hand Readers, Wand Readers, Panel Readers)

- Demonstrate the different types of data collection devices available. (Palm Pilots, iPAQ's, Tablets, Laptops and custom data Boards)
- Demonstrate how data can be transferred to the CCIA Database.
- Validate that the current method of reading Low Frequency RFID tags can be done, and accurately as cattle move through areas of commingling.
- Help each individual association identify the hidden costs around a RFID Reading system such as electrical requirements, interference, additional staff costs (if any), software requirements, data reporting requirements and infrastructure costs.
- Give each individual Association the opportunity to try a system of their choice to see the system work in a real time situation.
- Help each association understand the added benefits to a reading system such as inventory control and management issues.

### *Results*

The results of this project will help educate livestock producers on how cattle can be tracked through areas of commingling and how participating associations can play a role in making this process a future success. Participants will be provided the opportunity to try and test systems in an effort to provide them with first hand knowledge of how such a system will work. With the current trends in technology changing every year, this project will also highlight to the product manufacturers future development direction that will be required to meet the needs of associations and producers in filling this gap in animal movement traceability. The project will be highly visible to Canadian producers thus providing the opportunity to increase their understanding of the current technology (RFID Tags) and the benefits around a national traceability program. The results of this project will carry forward for years past the completion date since this project will outline how these associations will participate in animal movement tracking and what issues they will be facing. Though this project will revolve around cattle it will open the doors for multi-species applications in the future and will provide interested stakeholders with the chance to contribute their ideas and identify the limitations around a national tracking system. The public visibility of this project will highlight to the Canadian consumer that the livestock industry is working diligently to ensure the safety of Canadian livestock products now and into the future.

If you have any questions in regards to these pilot projects or if you wish to participate in these pilot projects please contact:

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