Unparalleled Cattle Traceability with UHF ID Technology

99-100% read rate at the unrestricted speed of commerce

FORT SUPPLY TECHNOLOGIES

Use Case

- Cattle Movement Traceability Pilot
- MX-US Livestock Border Crossing at Jeronimo, MX and Santa Teresa, NM
- January 2022

Key Results

- UHF demonstrated 99-100% accuracy tracking cattle from MX producers through the MX-US border port to the US feed yard
- Cattle moved at the unrestricted speed of commerce with no facility modifications required
- UHF improved safety and reduced stress for both the livestock and handlers
- Proved the feasibility of implementing a UHF tag for the SAGARPA and/or US Tuberculosis IDs

Abstract

Approximately 1.6 million head of Mexican cattle cross the border each year to be finished and harvested in the United States. The USDA and SENASICA, with input from state officials and livestock associations in both countries, have developed biosecurity measures to mitigate entry of foreign diseases to the collective US herd. These measures include pre-border crossing preparation and testing, on-site border inspection of each animal and efforts to continue tracking each animal as they move through the finishing and harvest locations in the US.

Historically, visual ID tags have been used for animal identification and to document their status and location in written records or spreadsheets. There is growing interest by multiple parties in transitioning to an effective electronic ID (EID) based traceability process. Border crossing pilot projects utilizing low frequency EID have failed to achieve acceptable read rates without significantly altering group handling of cattle. Fort Supply Technologies' pilot project at the Jeronimo-Santa Teresa port clearly demonstrated the unparalleled performance of our ultra-high frequency (UHF) EID tags, autonomous readers, and cloud-based software. Fort Supply's UHF inventory monitoring system (Asset Tracker) provided 99-100% accuracy for individual identification and movement monitoring at the unrestricted speed of commerce across multiple check points in the border crossing process.

Fort Supply Technologies will continue monitoring these cattle through the feed yard and harvest facilities. We are working collaboratively with Mexican livestock producers, state and federal officials, Five Rivers and JBS USA, all with a vested interest in the accurate, safe, and productive handling of livestock.

Mexican Side Of The Border

Tagged At Collection Facilities in Mexico
December 13-14, 2021

Received At Jeronimo Mexico Port
January 18 & 20, 2022

USDA Inspection Prior to Crossing
January 18 & 20, 2022

Tagged At Collection Facilities in Mexico | December 13-14, 2021

100%

401 Read
401 Tags

Three to four weeks before the livestock were delivered to the border for inspection and crossing, the initial tagging process occurred in Mexico resulting in three unique ID tags for each animal – the SAGARPA ID (nested low frequency and visual tags that are the official Mexico ID tags), the USDA Tuberculosis ID (blue metal clip tag required by the USDA at the southern border), and a unique UHF tag ID (Fort Supply's UHF strip tag). The three tag IDs were paired together in the Fort Supply Technologies' Value Tracker application on a rugged tablet and then uploaded to our Fast HERD cloud-based software, along with appended data such as: animal sex, geolocation, date, and time stamp. **Our traceability pilot started with 401 cattle at tagging, but only 393 cattle were delivered to the Jeronimo Port.**

Received At Jeronimo Mexico Port | January 18 & 20, 2022

99.2%

390 Read
393 Cattle

Each load of cattle was weighed in groups on arrival at the Jeronimo Port in Mexico, with **99.2% (390 of 393)** of the individual cattle autonomously identified in the weighing process. It was later discovered that 3 of the 393 cattle did not have a UHF ear tag, which means that **100% of the 390 UHF ear tags were read** on the scale at the speed of commerce. FST used autonomous stationary UHF readers and software (Asset Tracker) to identify and record the cattle. Fort Supply personnel were on hand to monitor the process, but no human involvement was required. The new data was automatically synced to the Fast HERD cloud updating the geolocation, date, and time stamp for each individual animal.

USDA Inspection Prior to Crossing | January 18 & 20, 2022

100%

390 Read
390 Tags

One to three days after arriving at the MX border corrals, the cattle were presented at the USDA inspection point prior to crossing. Fort Supply personnel were present and paralleled the USDA monitoring process using semi-autonomous hand-held UHF equipment and Value Tracker software. It was during this process that the afore mentioned three missing UHF tags were discovered. When taking into consideration the three missing tags, a UHF read rate of **100% (390 of 390)** were identified at this station. Seven cattle were turned back by the USDA resulting in 386 head crossing the border. All 386 head had UHF tags. The new data was automatically synced to the Fast HERD cloud updating the geolocation, date, and time stamp for each individual animal. We were unable to determine if the three untagged cattle ever received a UHF tag.

US Side Of The Border

Received At Santa Teresa, New Mexico Port
January 21, 2022

Load-out At Santa Teresa, New Mexico
January 21, 2022

Receiving At 5 Rivers, Hartley
January 22, 2022

Received At Santa Teresa, New Mexico Port | January 21, 2022

93.8%

362 Read
386 Tags

After crossing the border, the animals were again autonomously scanned at the scale at Santa Teresa, NM. The read rate of 93.8% (362 of 386) was an outlier due to the scale being larger than anticipated and requiring additional antennas that were unavailable once on-site. The resulting read rate was noted as easily correctable given the >99% read rates at all the other check points. The new data recorded at this location was automatically synced to the Fast HERD cloud updating the geolocation, date, and time stamp for each individual animal.

Load-out At Santa Teresa, New Mexico | January 21, 2022

99.7%

385 Read
386 Tags

Later that evening, 386 cattle were loaded onto four trucks with a successful autonomous read rate of **99.7% (385 of 386)** at the true speed of commerce using a stationary reader and Fort Supply Technologies software (Asset Tracker). Simulating what would be the function of a veterinarian on-site, Fort Supply personnel were on hand to monitor the process, document the truck information and notate the destination. This step facilitated tracking the specific cattle by load. The new data was automatically synced to the Fast HERD cloud along with updating the geolocation, date, and time stamp for each individual animal.

Receiving At 5 Rivers, Hartley | January 22, 2022

100%

386 Read
386 Tags

All four loads were offloaded at the Five Rivers feed yard in Hartley, TX early the following morning. A Fort Supply stationary UHF reader and software (Asset Tracker) autonomously identified a read rate of **100% (386 of 386)** with no Fort Supply or Hartley Feeders personnel present. The Pilot demonstrated accurate and autonomous identification and traceability through all checkpoints while minimizing stress on the livestock and providing unrestricted speed of commerce capability. The geolocation data for each animal, including date and time stamps, demonstrates that Fort Supply's UHF solutions can be used to accurately track individual animal and group movements.

This UHF traceability pilot is still in process. The will continue to be monitored at the feed yard and when they are moved from the feed yard to the processing plant later this year. Fort Supply Technologies will update this project recap at that time. Representatives from the USDA, Texas Cattle Feeders Association, and Corral Quemado were onsite at the border port observing several steps of the traceability pilot process.
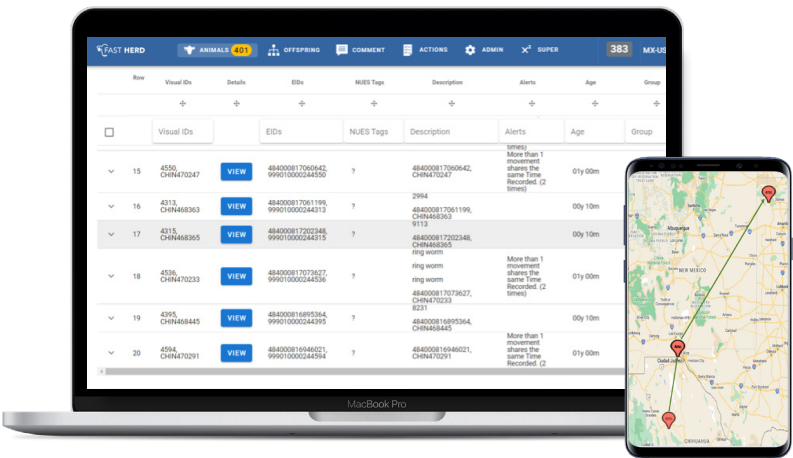
Value Tracker App

Mobile Data Capture Made Easy

One-Touch Connectivity | Reduces Human Error | Sync's to FST Cloud.
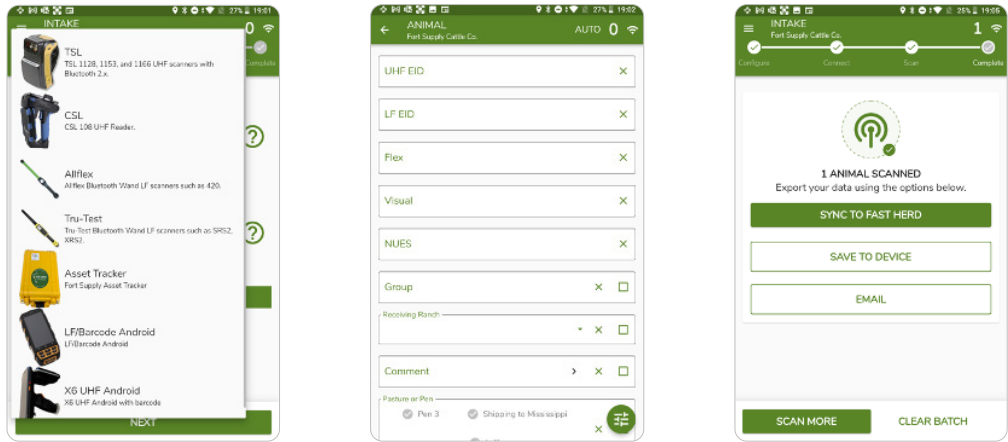
Fast HERD

Enables Data Access, Analysis, and Secure Data Sharing

Data Management, Movement Tracking, and More on all Devices.

Fast HERD

- Cloud-Based Data Platform

- Permission-Based 3rd Party Data Sharing

- User Interface to All Data or Restricted Access

- Any Web-Enabled Devices

Contact Fort Supply Technologies at Marketing@Fort-Supply.com for more details on this UHF Traceability Pilot and tracking cattle movement through commercial operations.