



Live Cattle Exports from Mexico into the United States: Where Do the Cattle Come From and Where Do They Go?

by Rhonda Skaggs, René Acuña, L. Allen Torell, and Leland Southard

Recent concerns about animal disease outbreaks, food safety, and agricultural terrorism highlight the need for information about the movements of food and agricultural commodities into and within the United States. Livestock and meat are of special concern, given the potential health and economic impacts of diseases such as foot and mouth, bovine spongiform encephalopathy, anthrax, tuberculosis, and brucellosis. Development of animal tracking systems in the European Union has been prompted by similar concerns. Western Europe has a livestock identification and registration system, and tracking systems are being implemented in Canada and Australia. The United States is showing increased interest in animal and meat product traceability due to the potential disease threats. There is funding in the FY 2005 federal budget for the development of a National Farm Animal Identification System to expedite traceability of animals, which the Secretary of Agriculture has indicated is a necessity. The purpose of this article is to present recent research on the origins and destinations of Mexican cattle imported into the United States.

U.S. Imports of Live Cattle from Mexico

No comprehensive system currently exists for tracking livestock from U.S. farms and ranches through the meat marketing system, although a national effort was recently initiated, and several products can aid in tracking. The lack of traceability extends to the thousands of live cattle imported annually into the United States from Mexico. Although the Animal and Plant Health Inspection Service

(APHIS) maintains import records at various sites along the U.S.-Mexico border, no formal databasing or analysis occurs. If tuberculosis is suspected, animals are traced through painstaking reviews of individual records.

In recent years, about one million head of cattle per year have entered the United States from Mexico through ten ports of entry in Arizona, New Mexico, and Texas. The imported cattle tend to weigh 300–500 pounds and are destined for pasture, backgrounding, finishing, and slaughter within the United States. The cattle primarily originate in the northern Mexican states and are mostly English or mixed English breeds, with some Brahma and English crosses.

Some records are maintained for the Mexican cattle, but none are intended for aggregate analysis of U.S.-Mexico cattle trade. The sanitary certificates required by the Mexican government for export of cattle report the animals' points of origin

Import Practices

Approximately 25% of the Mexican cattle imports enter at Santa Teresa, New Mexico. This port is near El Paso, Texas, directly across the border from its Mexican counterpart, San Jerónimo. Both the Santa Teresa and the San Jerónimo facilities are owned and operated by the Unión Ganadera Regional de Chihuahua (Chihuahua Regional Cattle grower's Association). Mexican cattle spend 24–48 hours at the Santa Teresa-San Jerónimo facilities. They are fed, watered, and inspected by U.S. and Mexican federal officials. APHIS veterinarians working on the Mexican side conduct visual and tactile inspections, verify castration, and send the animals through 60-foot-long vats of insecticide. The cattle cross the international border on foot, are loaded on trailers, and are shipped throughout the United States.

down to the *municipio* (or county) level. Copies of these certificates are maintained by APHIS in a confidential form. The archived certificates are accessed if APHIS needs to conduct an individual traceback. The Santa Teresa port managers maintain a bill of lading for each departing truckload of cattle, but these are proprietary internal records. A New Mexico Livestock Board inspector located at Santa Teresa also examines the imported animals and their documents. The inspector issues a state-level inspection certificate, which includes information about the consignee. Similar state-level record keeping is conducted only at the much lower-volume Columbus, New Mexico port of entry. Thus, little is known about the final destinations of the cattle imported from Mexico.

Recent Research

A recent research project used geographic information systems (GIS) and the previously unavailable data sources described above to generate new information about U.S.-Mexico cattle trade. The research highlights shortcomings of current data collection and cattle tracking processes.

The graphic output of the research is presented in Figures 1 through 5. Figure 1 shows the origins of cattle imported through Santa Teresa from the northern Mexican states of Chihuahua and Durango, using the Mexican zoosanitary certificates. These certificates indicated that many of the animals originated near the cities of Juarez and Chihuahua. The cattle owners tend to reside or have an office or gathering pens in the city, but the cattle come from ranches throughout the region.

Data Sources

Three data sources for the Santa Teresa-San Jerónimo cattle crossing were used in this project. Copies of twelve months of bills of lading (~4,000 records) were obtained from Unión Ganadera Regional de Chihuahua managers in Santa Teresa, New Mexico; copies of more than 2,200 inspection certificates were provided by the New Mexico Livestock Board; and 900 copies of Mexican federal zoosanitary certificates were supplied by Unión Ganadera officials in San Jerónimo and Chihuahua City, Chihuahua. The raw data were input into a Microsoft Access database, which was then imported into ArcView. The data were georeferenced by states, U.S. counties, and Mexican *municipios*. The New Mexico Livestock Board inspection certificate and the Mexican federal zoosanitary certificate could be linked through tuberculosis test identification numbers. The Santa Teresa bills of lading could not be linked to any other information.

Figures 2 and 3 show U.S. states and counties of destination from the Unión Ganadera Regional de Chihuahua bills of lading. Figures 4 and 5 show U.S. destinations obtained from the New Mexico Livestock Board inspection records. States and counties of destination are presented in the figures to illustrate the relative concentration of locations where the animals were reported to have gone. Using common tuberculosis test identification numbers for cattle lots, 58% of the Mexican zoosanitary certificates could be linked to the New Mexico Livestock Board inspection records. Data analyzed covered the marketing year beginning on August 2000–July 2001, but did not cover 100% of all Mexican cattle that entered the United States through the Santa Teresa port.

Figures 2 through 5 show that many of the imported cattle remain in Texas and New Mexico. The movement of these animals into the Texas Panhandle reflects the large amount of cattle back-grounding and feeding which occurs there. The results for New Mexico only show the *first* U.S. destination of the imported cattle. Cattle traders in Santa Teresa subsequently ship the cattle throughout the United States. The rodeo stock imported by some Santa Teresa traders likely moves throughout most of the United States, but the current import records usually do not distinguish between rodeo stock and other animals. The maps also clearly show that the imported cattle do not go only to Texas. Cattle imports through Santa Teresa are apparently shipped as far as Mississippi, Idaho, and Oregon, whereas the New Mexico Livestock Board records show cattle destined for as far as Washington and Iowa.

Data Obstacles

This project used GIS methods to analyze data that were not recorded for GIS analysis or for any other aggregate analysis. The data yielded numerous obstacles. Several of the original data entry forms were not complete, which hampered georeferencing in the United States. Many of the rural U.S. cattle destinations were located with place name locators on the U.S. Geological Survey website, the U.S. Postal Service website, and several internet map websites.

The New Mexico Livestock Board inspection records and Unión Ganadera bills of lading were

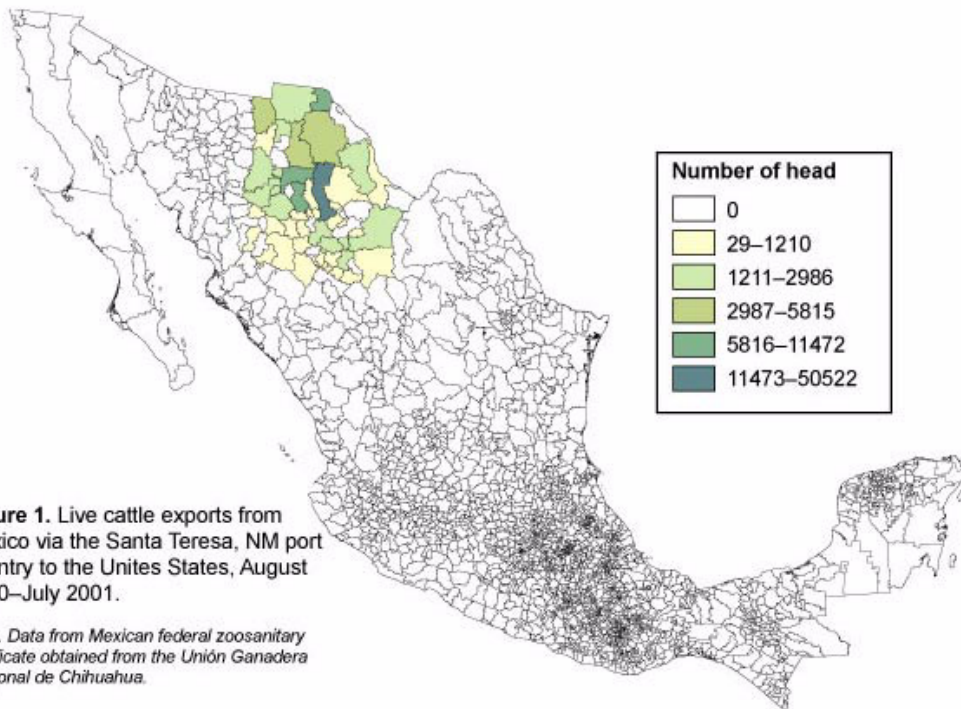


Figure 1. Live cattle exports from Mexico via the Santa Teresa, NM port of entry to the United States, August 2000–July 2001.

Note. Data from Mexican federal zoosanitary certificate obtained from the Unión Ganadera Regional de Chihuahua.

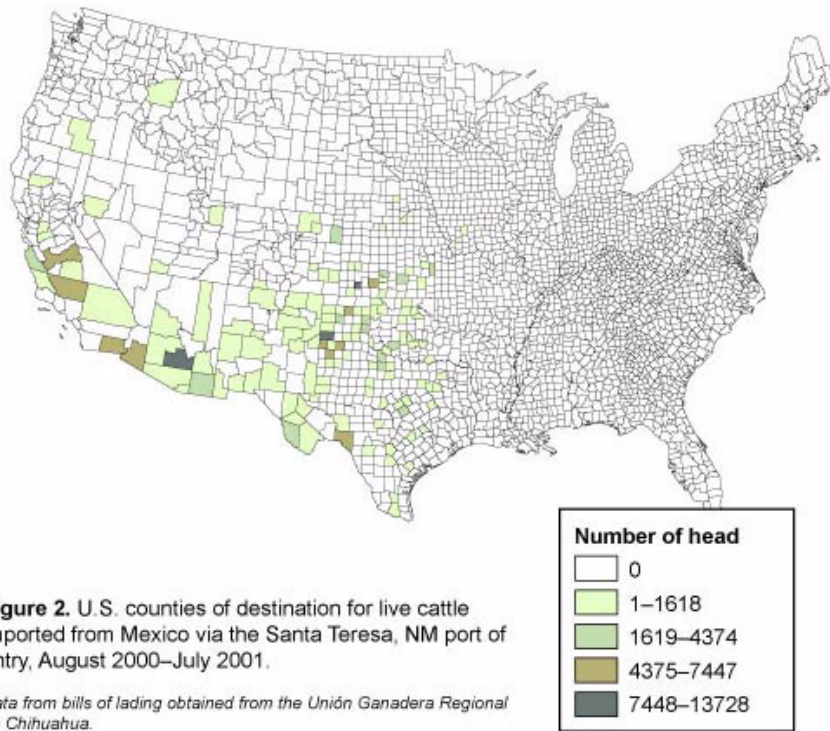


Figure 2. U.S. counties of destination for live cattle imported from Mexico via the Santa Teresa, NM port of entry, August 2000–July 2001.

Data from bills of lading obtained from the Unión Ganadera Regional de Chihuahua.

handwritten and in some cases illegible. Copies of the original forms were made available to the project; assumptions were made when the original data entry forms did not copy well. Mapping cattle destinations using zip code data was unsuccessful. Many of the cattle apparently went to ghost towns

or rural areas with no zip code at the cattle's physical location. In other cases, cattle were declared as shipped to metropolitan areas where the cattle could not be physically located. Misspellings of place names for U.S. cattle destinations yielded

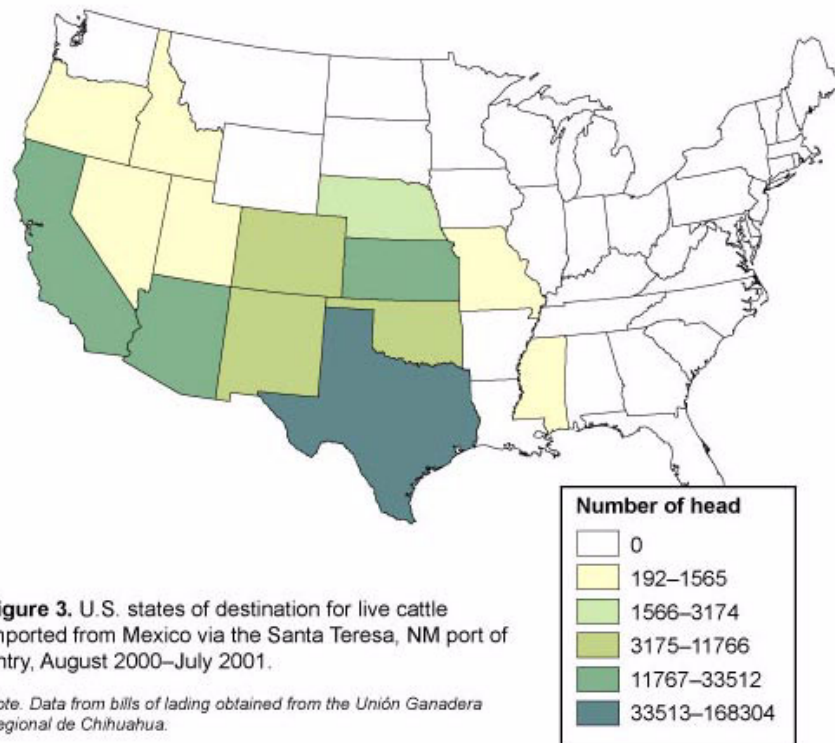


Figure 3. U.S. states of destination for live cattle imported from Mexico via the Santa Teresa, NM port of entry, August 2000–July 2001.

Note. Data from bills of lading obtained from the Unión Ganadera Regional de Chihuahua.

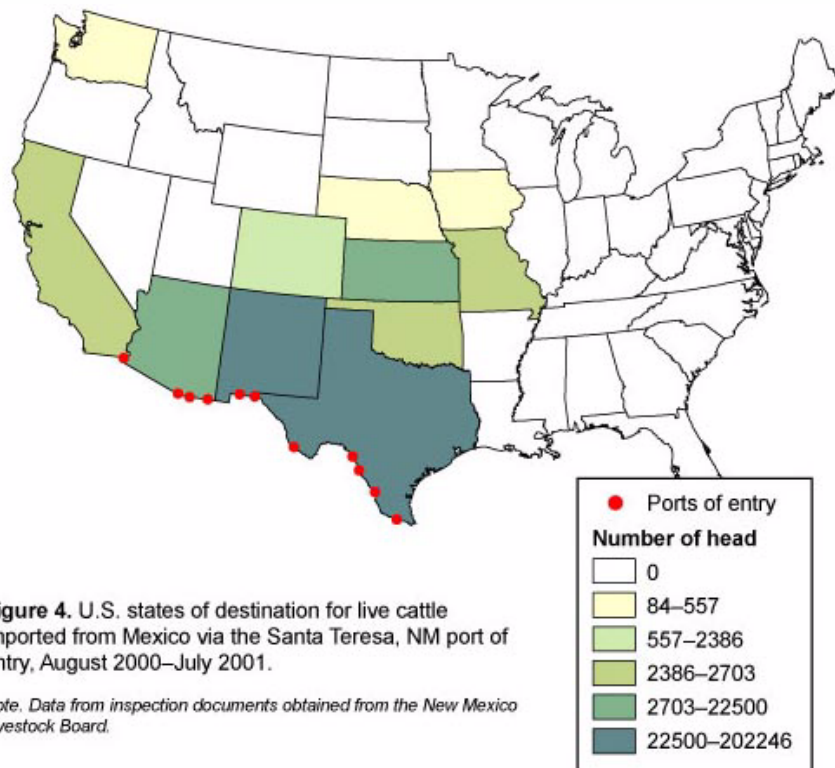


Figure 4. U.S. states of destination for live cattle imported from Mexico via the Santa Teresa, NM port of entry, August 2000–July 2001.

Note. Data from inspection documents obtained from the New Mexico Livestock Board.

unknown locations or assumptions of actual place names.

Total cattle crossings during the August 2000–July 2001 marketing year vary between the three sources of data and from records kept by USDA

APHIS for the same period. Given the nature of current record keeping, a perfect match between the Certificado Zoosanitario and the New Mexico Livestock Board records is impossible. Unique records are not kept for each animal imported, and

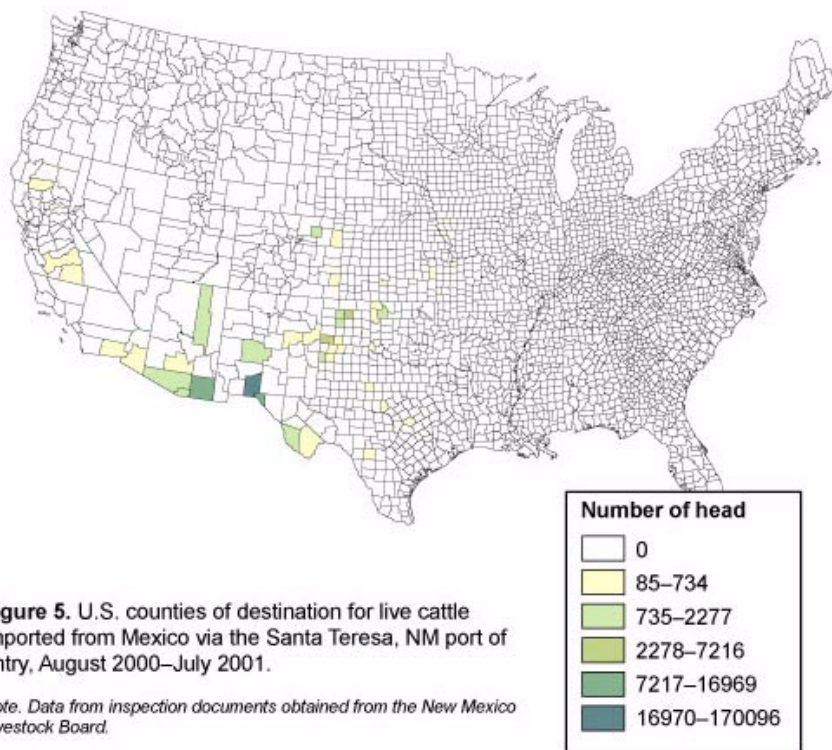


Figure 5. U.S. counties of destination for live cattle imported from Mexico via the Santa Teresa, NM port of entry, August 2000–July 2001.

Note. Data from inspection documents obtained from the New Mexico Livestock Board.

lot or group totals rarely coincide due to marketing practices, animal deaths, and other factors.

The December 2003 identification of a Washington dairy cow that tested positive for mad cow disease (e.g., bovine spongiform encephalopathy) has created a new sense of urgency for improved livestock traceability. The U.S. cattle industry is experiencing lower than expected prices, as additional beef supplies are placed into the domestic market as a result of trade bans or restrictions created in response to the single case. A National Animal Identification Plan is taking shape in the United States, and the northern Mexico cattle export industry is adopting technologies that will be consistent with the U.S. plan. Although this research has increased our knowledge about cattle imports from Mexico to the United States, it also revealed many shortcomings in the current record-keeping systems that are likely to be incorporated

into the national identification system. Regardless of whatever technology is used to record livestock movements, the technology will still be dependent on the types of records used in this research.

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