

Electronic ID System for Beef Industry Introduced

A new electronic livestock identification system used to permanently identify and track cattle throughout the production cycle was introduced to the beef industry by Texas Instruments Inc. at the 1991 National Cattlemen's Association (NCA) Convention. Called Texas Instruments Registration and Identification System (TIRIS), this new product is a key element for improving farm management production processes and providing traceback to help ensure the integrity of the beef product.

By providing a permanent, reliable and accurate method of identifying and tracking individual cattle, the TIRIS system enables improvements in the beef production cycle when linked with electronic and computerized farm management systems. The TIRIS system provides a means of electronically collecting individual animal identification numbers, enabling the livestock manager to cost effectively maintain accurate ownership records, pure-bred registers and feedlot history. With this system, the implementation of electronic carcass tracking systems and value-based marketing becomes more practical.

The main component of the TIRIS system is a small, battery-free transponder that holds a unique, tamper-proof identification code. The transponder is injected under the animals skin and activated via radio frequency transmissions emitted from a reading unit. TIRIS transponders replace other forms of identifying animals such as external brands or tattoos which deteriorate as the animal grows, and ear tags or collars which are often lost.

Each transponder contains an antenna and an IC chip housed in a biocompatible capsule. The IC chip holds the 64-bit factory-programmed identification code which represents up to a 19-digit decimal number. The TIRIS transponder is read in about one-tenth of a second with a handheld or stationary reading unit that has a range of 20 to 40 inches (50 to 100 cm.), depending on the reading unit configuration.

Identification numbers are stored in the internal memory of the reading unit. They can be transferred to a PC or host computer via RS-232 or other communication protocols for use in a farm management system.

Injection of the transponder can be performed when the animals are very young. When properly injected, the risk of fraudulent removal or biological rejection of the transponder is minimal. Injection is accomplished with a hand-operated injector.

Texas Instruments is marketing the TIRIS technology to original equipment manufacturers and livestock managers through its worldwide application centers located in Attleboro, Mass.; Austin Texas; Almelo, Holland Bedford, England Freising, Germany; Elizabeth, Australia and Tokyo Japan.

The company is currently pursuing regulatory approvals for

the TIRIS product in the United States.

A research project is being conducted in Alberta, Canada's largest cattle producing province. The TIRIS system is being used to identify and track 200 beef cattle through the entire production cycle — from the grazing range, to the feedlot and through the packing plant.

This system is also being evaluated as an alternative to hot iron branding which reduces the value of the finished hide and deteriorates as the animal grows.

TIRIS transponders are a permanent method of identification that are injected into the animals and easily removed after the animal has been slaughtered. Results of the study, begun in April of this year, will be published at the conclusion of the project this summer.

In addition, the growth of 50 first-calf heifers will be electronically tracked via the TIRIS system in a field trial at the Agway Research Farm in Tully, N.Y.

Researchers will monitor individual growth patterns using injected TIRIS transponders and an electronic scale equipped with TIRIS reading equipment. As the calf steps onto the scale, its identification number and weight are recorded and sent automatically to a personal computer for analysis. The field trial

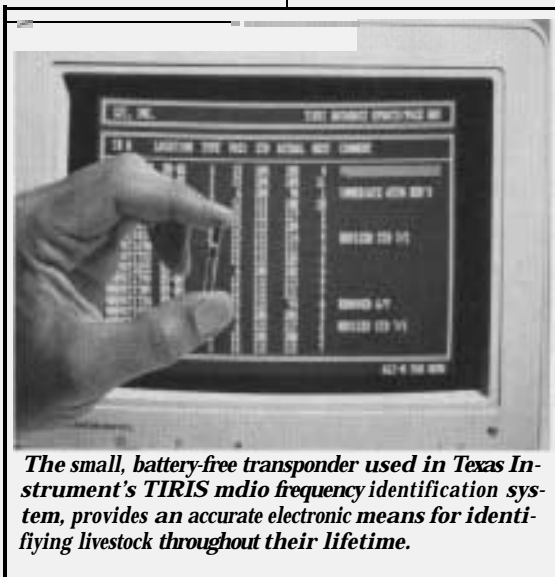
began in the winter of 1990 and will last for approximately six months.

The Meat and Livestock Commission (MLC) of the United Kingdom is evaluating the TIRIS System as the primary identification system for all beef and dairy cattle. The MLC is seeking a faster, more permanent method of identifying cattle throughout the entire production process in an effort to better control animal diseases. Using the TIRIS system, the MLC will monitor 250 cattle for 18 to 24 months in a field trial, which began last October.

The Irish government is currently evaluating the TIRIS system for disease control in beef and dairy cattle. The Eradication of Animal Diseases (ERAD) Board, an agency within the Ireland Department of Agriculture and Food, is seeking an integrated electronic identification system that links livestock data with a host computer to monitor cattle herds throughout the country.

Specifically, ERAD's goal is to eradicate bovine tuberculosis and brucella by establishing a program of careful testing and permanent identification of all cattle. Initial testing has been completed by the Grange Research Centre on behalf of ERAD. At present, more than 600 cattle have been injected with TIRIS transponders as part of this program.

For additional information contact: Texas Instruments Inc., 34 Forest St., MS 20-27, Attleboro, MA 02703; (508) 699-3406.



The small, battery-free transponder used in Texas Instrument's TIRIS radio frequency identification system, provides an accurate electronic means for identifying livestock throughout their lifetime.