

The funding should help the National Animal Identification and Tracing project meet its goal of having all cattle and deer in the country RFID-tagged and registered by 2011.

By Dave Friedlos

June 19, 2008—New Zealand's [National Animal Identification and Tracing](#) (NAIT) project got a boost earlier this month when the government committed more than NZ\$23 million (US\$17.5 million) to the country's [Agriculture and Forestry Ministry](#). Initiated more than three years ago, the NAIT project aims to have all cattle and deer in New Zealand tagged with radio frequency identification transponders by 2011. The government allocated more than NZ\$10 million (US\$7.6 million) in capital spending and NZ\$13 million (US\$9.9 million) in operational spending in its budget to develop an online database that will store up-to-date electronic maps of farms, contact information and stock details.

Farmers, meat processors and saleyards—where livestock is bought and sold at auction—will be required to ensure that all cattle and deer are tagged with low-frequency (LF) tags complying with the ISO 11874 and 11875 standards. They will also be mandated to record all animal details on the database, and to notify the government of all animal movements.

Each tag will be encoded with only a unique identification number, linked in a database to other relevant details, such as the tagged animal's age, sex, owner and herd of origin, as well as the identification number of the property on which it is located and its history of movement and regulated treatments. The unique number will be matched to an official visual number printed on the tag's surface in case the RFID interrogator fails, or for farms that choose to invest in RFID tags but not readers.

Trials of RFID tags are already underway at more than a dozen farms in Waikato, New Zealand. In addition, NAIT has begun a pilot to test the proposed national animal identification database to develop specifications for the final system, finish developing a tag registry and ensure the system is practical for all businesses within the cattle and deer supply chain. The trial is slated for completion by July 30.

Craig Purcell, NAIT's project manager, says RFID is essential to meeting increasing consumer demands for traceability and information regarding exported animals. "The international market sometimes requires information about meat products, and the farm they originated from, in less than 48 hours," he says.

That was not possible under the previous system, Purcell explains, which included a number in printed and bar-coded form that identified the herd in which the animal was first tagged. Data on properties and livestock was often incomplete, the information was difficult to share between farmers, and the systems often relied on paper-based records.

"With more than 5 million dairy cattle and about 5 million beef cattle in New Zealand, RFID was the best solution to provide information on individual animals," Purcell says. "It is also more accurate, with less chance of misreads, and a much faster way to identify animals without slowing their movement on the

farms. Other countries have already set a standard in electronic tagging of animals, so it is vital that we adopt it to remain competitive in the international market."

Additionally, the New Zealand government demanded increased traceability to track stock in the event of a disease outbreak. In 2005, a hoaxer claimed to have released a vial of infectious foot-and-mouth virus on Waiheke Island, 18 kilometers east of Auckland, demonstrating the need to have quick access to comprehensive information about animals. But Purcell says farmers would also benefit from adopting RFID. The use of the technology, he says, will yield accurate information regarding individual animals, enabling farmers to make better decisions, such as tracking the ideal weight for sale, monitoring treatments and recording breeding information.

What's more, Purcell adds, the government funding will provide the RFID project with certainty and longevity. "The funding will allow the capital building to go ahead immediately, so it is a real shot in the arm," he says. "The database is vital, as it will hold all the animal information and connect to peripheral systems." This will include FarmsOnLine, a central database of information about rural properties, which will contain maps of farms and include details regarding their ownership and use. "NAIT has been a joint initiative between the government and industry," he notes, "and it has been challenging to develop a consensus, but this funding allows us to plan for the long term."

Farmers will ultimately pick up the tab for 65 percent of operational expenses for NAIT, Purcell says, but he believes this will not put too large a burden on already-stretched farmers. "We have chosen a passive, single-write LF tag because it is a proven technology that will suit the New Zealand market," he says. "We recognize that New Zealand is a relatively small market, so we determined to be technology adopters rather than leaders."

New Zealand's tag registry is already up and running, and farmers are being encouraged to begin tagging animals they plan to keep for more than two years, and to enter the tag numbers in the registry now. Purcell says NAIT hopes to have the database containing all animal details and movements ready by late 2009 or early 2010, with a further 18 months before full compliance is achieved. Rollout will be a staged process, he indicates, before eventually becoming legally mandated for farmers in mid-2011.

Cattle will be tagged first, followed by deer, though the system will be designed to enable other livestock to be added in the future. The introduction of RFID is expected to reduce the effects of a major disease outbreak by between 2 and 10 percent, as well as prevent a resulting loss in export value in international markets of between 1.25 and 3 percent.