

The sector is expected to be the dominant RFID market by 2017, when sales of RFID tags for food and livestock are slated to reach \$2.66 billion.

By Claire Swedberg

Nov. 2, 2007—As a result of government programs and mandates, RFID technology for tracking animals and food has been marching forward throughout various regions of the world. According to "RFID for Animals, Food and Farming 2007-2017," a report published in October by British research and analysis firm [IDTechEx](#), the food market (including the tagging of farm animals and the tracking of fresh produce through the supply chain) will rank as the largest RFID market by 2017.

For farming, food and animals (both livestock and pets), the report forecasts, worldwide sales of RFID tags will rise from \$233 million in 2007 to \$2.93 billion in 2017, with livestock and food applications accounting for 90 percent of that total. What's more, it indicates, sales of RFID systems (including tags) used for farming, food and animals will rise from \$531 million in 2007 worldwide to \$6.53 billion in 2017.



Peter Harrop

"Two years ago, most people in the industry thought the story was about the United States, Wal-Mart and UHF," says Peter Harrop, chairman and founder of IDTechEx. "They were wrong on all counts." In fact, Harrop maintains, growth is taking place outside the United States, with government support and, most commonly, with high-frequency (HF) tags.

Government support and legislation, IDTechEx reports, has made the tagging of animals and food products commonplace in some unexpected areas, such as Botswana and Uruguay. Those two nations, along with New Zealand, Australia and Canada, have been tagging cows and other four-legged animals on a wide scale to provide traceability, as well as reduce the chance of mass food-supply contamination. Other countries, including those in the European Union, are looking to issue mandates in the coming years for the same animals, while the United

States has no plans in place for such a mandate.

Those using animal tags are still deploying rugged low-frequency (LF) tags with a coil antenna that can withstand water and damage caused by animals. However, countries in Asia are finding ways to use HF tags with a 50 to 400 percent greater read range, and are looking toward tags based on standards other than [EPCglobal's](#)—which some countries, namely in east Asia, find too reliant on high-cost technology. Instead, they are using the ucode, a 28-bit identifying number that can be employed in place of an Electronic Product Code (EPC) number, in pilots in seven Asian countries. The ucode is being advanced by the [Ubiquitous ID Center](#), a nonprofit research organization (see [Japanese Promote Ubiquitous RFID](#)).

Though the use of RFID tags is growing rapidly for farm animals, and also for pets, the tagging of cases

and pallets for retail purposes has not undergone the same growth. This, Harrop says, is because the [Wal-Mart](#) mandate put too much pressure on suppliers that couldn't (or wouldn't) invest in a technology offering what they saw as limited benefits.

However, Harrop states, a lag in adoption is not seen once a government becomes involved. In 2006, for example, the Chinese province of Sichuan financed the use of HF ear tags on 10,000 live pigs in Qionglai city. The tags were provided at a cost much cheaper than the price of low-frequency (LF) tags that have been standard in the rest of the world. By underwriting the system, the government took the financial burden off the farmers. It has not, however, deployed a province-wide tagging program, or set a date requiring the tagging of pigs.

In addition to mandating the use of RFID tags, Harrop says, governments around the world are placing big orders for the tags. The drive for RFID adoption is also coming from product suppliers more than retailers, he says, citing [Leche Pascual](#), a Spanish food product supplier currently tagging 200 million packets of dried eggs. "They [Leche Pascual] want the tagging and are prepared to pay," he says. "It's indicative of the large amount of stirring in the market outside of the United States."

The benefit for those operating in the food supply chain is more immediate than for those selling other products, since livestock disease control and protection from contamination and spoilage is so vital to a nation's food supply. In 2012, the report predicts, more than \$1.4 billion will be spent worldwide on tags for food products.

According to Harrop, the country to watch most closely may be China. The number of chickens in that country is higher than the total throughout the rest of the world, he says, and disease control is a major Chinese concern. China is already the largest RFID market, in fact, partly due to a national ID card system for adults that incorporates an RFID chip containing data about the cardholder.

The United States, Harrop says, was initially at the forefront of RFID technology deployment, but has since lost that status, with no nationwide tagging program currently in place. "The U.S. is largely in denial about food safety," he says. "I think those sitting in the U.S. get a false impression that nothing is happening with RFID."

For governments, however, the benefits of deploying RFID are clear, he states. "If there is a major terrorist attack or accidental infection that rages out of control, a government can fall. That is the thing that makes governments get involved."