

Ultra-High Radio Frequency Identification Demonstration Projects

Executive Summary

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In FY 2014, USDA APHIS VS provided limited funds to support Ultra High Frequency (UHF) demonstration projects through the administration of 8 cooperative agreements with the States of California/Hawaii (joint agreement), Colorado, Florida, Michigan, Montana, Oklahoma, Tennessee and Wisconsin. The objective of these demonstration projects was to evaluate UHF technology to document its potential merit for the collection of official livestock identification and animal health information to support disease traceability and animal disease control programs. The expectation was that use of UHF technology would increase the efficiency and accuracy of collecting animal identification and animal health information by integrating electronic data capture solutions. Funding was awarded to projects that included cattle as the primary focus, targeting areas in the cattle industry that are most common or frequently practiced so that the outcomes would have the potential to impact a significant portion of the industry. Projects that spanned multiple states and multiple sectors of the cattle industry were encouraged.

The demonstration projects indicated that the UHF technology has certain advantages over low frequency RFID tags, in particular the read rate and read distance increase the potential of reading the animals' official identification numbers at the speed of commerce. However, no RFID technology appears to be perfect for capturing animal identification information in all livestock environments. In certain cattle handling situations (working cattle in lockups or chutes, dairy parlors, etc.) UHF may have minimal, if any, advantages over LF technology. However, in management environments that require longer read distances, reading multiple animals at one time, etc., UHF technology has significant advantages, as the read distance for UHF technology is able to be adjusted to decrease read distance, whereas LF technology cannot be adjusted to significantly increase read distance.

Overall the UHF tags and technology worked very well and as expected. Impediments to successful integration included utilizing the improper equipment for the production setting or environment, unfamiliarity with the equipment to ensure continued function at the speed of commerce, and lack of incorporation of appropriate software to achieve maximum benefit and efficiency of UHF technology. It is apparent that successful utilization of UHF tags will be driven by the industry for management and marketing purposes. The utilization of UHF technology is likely to advance and grow as more fine-tuning of the equipment and tags is achieved. Continued use of the technology by 14 of the 32 (44%) participants, two of which already used low frequency RFID, is a good indicator that investment in UHF technology is feasible in some environments.

