

## NAIS Cost-Benefit Study Summary

**NAIS Cost for Beef/Dairy Cattle Industry:** *The total cost for implementing a full traceability electronic individual animal ID program in the U. S. cattle sector is estimated to be \$175.9 million annually at 90 percent participation, \$209.1 million at 100% participation. A bookend ID system (animals are tagged as they go into commerce and the tag is removed at death without movement recording) is estimated to cost \$140.3 million at 90% participation, \$165.3 million at 100%.*

--The costs for beef and dairy cattle are the highest in the study largely due to production practice differences and more intense traceability tactics. Costs were estimated by segmenting the cattle industry into six main groups, referred to as “operation types” in the report: 1) beef cow/calf, 2) dairy, 3) backgrounder/stocker, 4) feedlot, 5) auction yard, and 6) packing plant.

--Costs to the cattle industry represent less than one-half of a percent of the retail value of U.S. beef products.

**Premises Registration Costs.** *\$2.9 million (90% participation), \$4.5 million (100% participation)*

--Premises registration is currently a free service of the individual states. However, the potential costs related to management time, mileage, and paperwork requirements for registering premises was estimated at \$20 for first year and \$10 for registering premises every three years equates to a cost of \$4.64 per operation annually in current dollars..

**Tags and Tagging Costs:** *\$157.3 million annually (full traceability). Tags and tagging costs vary among cattle producers with 50 head from \$3.30 to \$5.22 per cow, depending on current identification practices. The cost per dairy cow ranged from a low of \$2.53 per head for the largest operation currently tagging, to a high of \$5.84 per head for the smallest operation not currently tagging.*

--Tags and tagging costs reflect the cost of the official electronic identification devices and the application of the devices to the animals. Tagging costs included the tag applicator, labor, and chute (for working animals), as well as the economic impact of cattle shrink and potential injury to both cattle and people during tagging.

--Tags and tagging costs account for 75 percent of the projected cost of implementation in the cattle industry.

--In the swine industry, it was assumed that market hogs would be identified with a group/lot identification number, and cull breeding stock would be identified with a unique visual premises eartag.

--Sheep (ovine) industry cost estimates were based on a scrapie program tag for breeding animals and group/lot identification for lambs.

**Reading Costs:** *\$47.3 million annually with range of \$2.48 (largest operation currently tagging) to \$7.17 (smallest operation not currently tagging) per head*

--The term “reading costs” refers to costs associated with collecting the animal’s ID number (AIN) or other official identification number from each animal (or group of animals) as it is received into a premises.

--Data collection cost includes expenses associated with three types of reading: a third party to read the tags, purchase of a wand reader, and purchase of a panel reader. (The size of the operation and its number of reads determined what type of reader was used in the estimation; generally, larger operations employ the more expensive panel readers.) Costs also include the need for a computer with

the correct software as well as costs of reporting animal data to a database. Cost estimates took into account the extra time in the chute needed to read the tags and associated potential for injury to humans and animals it could cause.

--For producers who do not currently identify calves individually, it was assumed that the producers would have their animals tagged at an auction market when selling their animals and that the auction would charge these producers for such tagging service. (It was estimated that the average chute and labor cost for auctions would be \$2.54 per head, not including the cost of an RFID tag. It did include added liability insurance premiums and human injury costs to the extent that auction markets incorporate these costs into their charges.

***Auction Market Costs: \$8.8 million annually, \$0.023 per animal marketed, based on 69.6% or 38.1 million of all cattle marketed through auctions. (These figures are reasonably consistent with the “Bolte” K-State study, “Electronic Animal Identification Systems at Livestock Auction Markets: Adoption Rates, Costs, Opportunities, and Perceptions.”.)***

--Cost include: (1) tagging of calves, (2) reading RFID tags and (3) data storage.

--Over 70% of markets, based on volume data for 526 markets provided by LMA, sell less than 50,000 head of livestock annually.

--The volume-weighted average cost, of 526 markets, to tag cattle and calves is \$2.54 per head. (*“Bolte” K-State Study showed that most livestock markets (90 percent) experienced annualized costs of less than \$5.00 per head for an RFID tagging service. Based on the estimated model, the annual cost per head decreases up to approximately 12,000 head of livestock using the service and then the cost per head remains constant at \$1.51.*)

--Cost of tagging shows as a cost to producers, not to markets in the analysis.

--The volume-weighted average for reading RFID tags at the 526 markets used in the analysis is \$0.145, the simple average is \$0.027. These costs, unlike the tagging cost, are shown as cost to markets, even though the researchers believe these cost would be passed back to producers.

--A per head cost of \$0.085 per animal was included for markets to store the RFID data and was not included directly in the livestock budgets. (This is extremely low in light of the data management proposals presented to LMA a couple of years.)

--\*K-State auction market study of 2007 indicated that 48 percent of markets adopting RFID technology had to purchase a new computer. 44% that had RFID systems place also had to purchase new market software to use with their reader systems.

### **NAIS Benefits:**

--As a result of NAIS, the Federal and State governments’ savings in connection with the administration of animal disease control and eradication programs are significant, but they are only part of the overall benefits.

--Economic benefits in both the domestic and international marketplace resulting from enhanced traceability may be greater than the cost savings realized during animal disease control and eradication efforts.

--For industry, the effect of not implementing some aspects of NAIS (maintaining the status quo) may result in significant losses—as great as \$13.2 billion annually due to reduced export market access.

--Implementation of NAIS becomes more cost effective as participation levels increase and actually may not be economically viable at lower participation levels.

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