

A contentious issue among U.S. livestock producers is the extent to which national individual animal identification and traceability systems are needed. For instance, the National Animal Identification System (NAIS) was deliberated by livestock producers and governmental official for years and ultimately was never adopted by the majority of U.S. livestock producers.<sup>1</sup>

In 2010, the administration of the USDA began planning a new, more flexible framework led by individual states and tribal nations, where USDA will serve as a partner. In short, the future status of national animal identification and traceability in the United States remains uncertain.

One of the primary reasons a national system has not been widely implemented in the U.S. cattle industry is the host of concerns cow-calf producers (as the origination point in a live animal traceability system) hold regarding the requirements a national system would impose on their operation.

To better understand this issue, the preferences cow-calf producers have regarding alternative traceability systems were investigated.<sup>2</sup> Insights into the preferences of U.S. cow-calf producers are hoped to increase the likelihood of success in implementing future traceability programs that match public goals while involving livestock producers critical to live animal traceability. This publication summarizes the results of this study. More details or published academic research papers from this study are available from [www.agmanager.info](http://www.agmanager.info).

## Methods

Because producer-level data are not publicly available regarding preferences for traceability systems, collection of primary data was necessary. In collabora-

tion with *BEEF* magazine, 609 cow-calf producers operating throughout the United States were surveyed.<sup>3</sup> The survey contained a choice experiment (research technique for simulating decision making) in which producers made choices between traceability systems with varying attributes including premiums or discounts per head sold, what entity managed the system (e.g., government, private-industry, or private-non-industry), and the information producers were required to provide as a condition of participation (e.g., age verification, production practices, performance/genetic information, and/or health records).

In this study, the choice experiment facilitated economic models to be estimated for identifying a) the premium producers would pay to obtain a preferred system attribute, b) how much producers would accept as discounts to maintain their selection of a preferred system attribute, c) the proportion of producers who would voluntarily participate in a range of traceability systems possessing different requirements, and d) the economic welfare impacts on producers of participation in a national animal identification system being mandated.

## Main Findings and Implications

Key findings and implications of this study include:

- Notable differences exist between cow-calf producers in their preferences. This suggests resistance from some portion of the industry is likely to develop regardless of the characteristics of a single national live animal identification and traceability system.
- The typical producer would accept a discount of \$2.53 per head and be indifferent between not participating in a traceability system and in participating in a system like USDA's old NAIS program. This discount value varies notably across producer types, reinforcing the likelihood of national schemes facing resistance from subsets of producers.

1 Interested readers are encouraged to view the benefit/cost study conducted on the NAIS program at <http://www.agmanager.info/livestock/marketing/AnimalID/default.asp> as well as to review the history of USDA's NAIS program at [http://www.aphis.usda.gov/animal\\_health/animal\\_diseases/animal\\_id/](http://www.aphis.usda.gov/animal_health/animal_diseases/animal_id/).

2 This research was primarily conducted as a graduate research project when Schulz was a student and Tonsor was a faculty member in the Department of Agricultural, Food, and Resource Economics at Michigan State University.

3 Several survey summary statistics on issues not discussed in this fact sheet are available to interested parties in an article published by *BEEF* magazine available at <http://beefmagazine.com/beef-quality/0801-survey-id-feedback/>.

- Under voluntary market conditions, a representative producer has a 26 percent probability of participating in a system like USDA's old NAIS program, 17 percent probability of engaging in an advanced traceability system managed by a nongovernmental entity, and a 57 percent probability of not participating in any available system.
- The economic welfare effects of mandating traceability, in the absence of any corresponding live animal market response, vary notably across producers. Imposing a system like USDA's old NAIS program reduces economic welfare of the typical producer by \$20.57 per animal. However, this value ranges from a low of \$0.76 per animal to a magnitude of \$118.82 per animal depending on the characteristics of a given producer.

## Conclusions

As traceability becomes more important within the beef industry for verification of animal health, marketing, and other purposes, the need is evident for traceability systems that are attractive to producers, while meeting the goals for which they were designed.

Results of this study suggest that notable differences exist between cow-calf producers in their preferences and the welfare effects of mandating particular traceability adoptions. Moreover, this study suggests that in the absence of a nationally mandated traceability system, private market premiums and incentives could increase the willingness of most cow-calf producers to participate in voluntary systems. Hopefully this project will further inform future discussions and ultimately improve the collective resource allocation decisions associated with implementing national animal identification and traceability systems.

**Glynn T. Tonsor**  
Agricultural Economist  
Livestock Marketing

**Lee L. Schulz**  
Graduate Student  
Department of Agricultural Economics

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