

How consumers would use the National Whole Chain Traceability system



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Oklahoma State University has developed a traceability software system that can translate and merge data from a variety of off-the-shelf traceability systems into a common format. This common format data can be transferred between individuals throughout the supply chain, regardless of the traceability software being used. This means that information stored originally in different software packages can now be transferred from the cow-calf operator all the way to the consumer, improving product quality, livestock management practices, and animal welfare (Figure 1). Much of these improvements are derived from consumers being able to see information about the food they consume, and provide feedback about the product which processors, feeders, stockers, and cow-calf operators can use to improve their beef products.

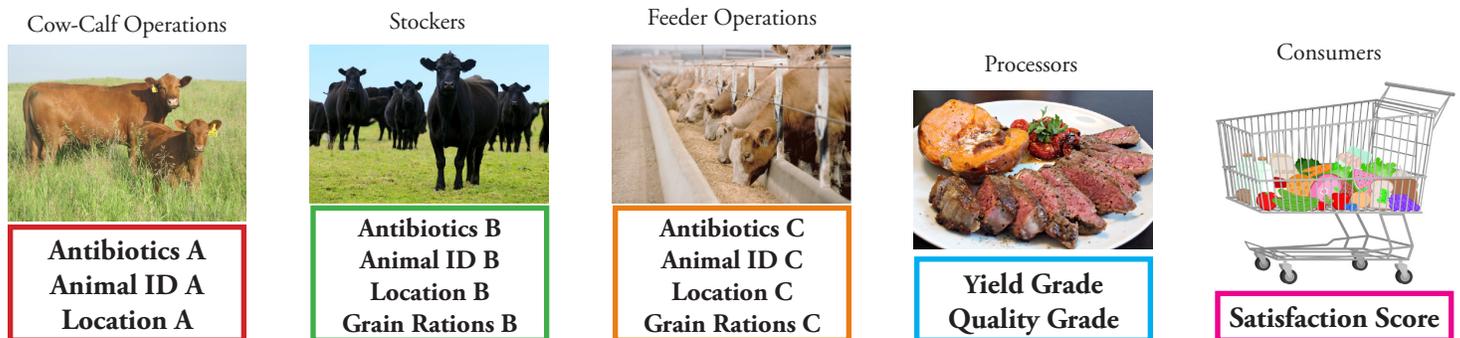


Figure 1. Information generated at each step in the supply chain may be shared with other members of the supply chain to improve product quality. However, each member of the supply chain retains full control of their information and may choose to share all, some, or none of their data with the other members.

Depending on what information suppliers choose to share, consumers could see where an animal was born, photographs displayed by the farm, what antibiotics the animal received, if hormone implants were used in the animal and whether or not it was grass fed. This information would be provided to the consumer through QR codes which can be read with a cell phone or other smart device (Figure 2). In addition, consumers could provide product ratings and reviews. If a product is part of a whole chain traceability system, then consumer feedback could be shared with all members of the supply chain.



Figure 2. Consumers can scan the barcode on products to see details about the product directly on their cell phone or tablet. Viewable information would be determined by the product manufacturer.

As an example of how the system could work, if you purchase a steak and provide product feedback about its tenderness, flavor, and overall quality. This information could be shared with the cow-calf operator, feeder, and processor through the traceability system (Figure 3). The processor knows which animal the steak came from and which feeder produced the animal so the processor could seek to purchase more animals from this feeder to produce higher quality steaks. The feeder has a record of the feed rations fed to the animal and will seek to maintain these rations in other animals to produce equivalent gains. The cow-calf operator knows the animal's genetics and breeding. They will work on breeding cattle with similar qualities as the animal that produced your steak.

A whole chain traceability system can help promote a safe food supply for consumers by helping to rapidly identify the source of any animal disease outbreak or food safety event. In such an emergency, an overseeing entity could be able to quickly locate and cull potentially infected animals at the producer, feeder, or processor levels of the supply chain. At the distribution stage, stores could be instantly alerted to problems and the products could be removed from the shelves. Consumers could be alerted to the potentially contaminated item, and could return the product to the store for a refund. This could ultimately save consumers millions, by preventing the unwarranted disposal of uncontaminated beef products and mitigate public health issues through timely alerts.

For more information about traceability, contact Dr. Michael Buser using the information below. YouTube videos related to the NWCTI system can be viewed at <https://goo.gl/MwPhoS>.

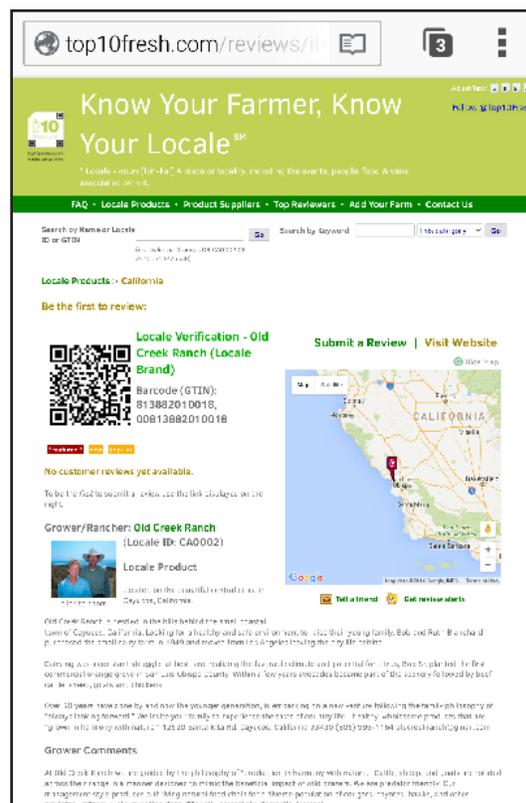


Figure 3. Example of product/farm information displayed to the consumer through their phone. The consumer can provide feedback through this interface as well.

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