

**56 Development of a small-scale animal-carcass-retail cut traceability, inventory, and point-of-sale system.** T. Lawrence\* and J. Pauli, *West Texas A&M University, Canyon.*

Our objective was to develop and implement a traceability system that can maintain the identity of live animals from harvest to the final retail point of sale. To accomplish this, 3 sub-systems were created and linked to form a complete system. The initial animal identity sub-system records all incoming information for each animal harvested (harvest date, specie, animal ID, sex, age if known, last premise ID, last owner name and address, hot carcass weight, slaughter method). This information is stored in a database and then used to generate a unique barcode label that remains with the carcass through the cooling and aging process. The second sub-system is an inventory management system, which transfers a particular set of animal ID and carcass information to each individual retail cut fabricated from a carcass. The unique retail cut barcode contains the information collected at harvest as well as new information collected at fabrication (date of fabrication, use-by-date, URMIS code, cut description, weight, price per pound, total value). All information from each retail cut is contained in a database that works in conjunction with the third sub-system, the point-of-sale system. The point-of-sale system controls typical POS hardware: cash drawer, receipt printer, and pole display. The point-of-sale system removes a purchased item from the inventory management system and maintains the identity of the purchased item on the purchase receipt. The POS system also includes multiple reporting functionality that will allow evaluation of current inventory, sales and yield records, as well as the tracking of all retail cuts from any animal.

The system was developed as a prototype by a senior project class consisting of computer science and computer information systems students. As food traceability and accountability become increasingly important issues to today's consumer, this system is designed to provide a fast and accurate means of animal, carcass, and retail cut traceability.