Cattlemen's College: Here's the Beef CONTINUED FROM PAGE 187

The goal was simple: cease dependence on inspection to achieve quality. Instead of a reactive approach that found and attempted to eliminate effects after they were produced, the audit brought to light how beef producers could avoid such defects in the first place.

Committed to the formula that "demand equals price over satisfaction," Belk said, "The idea was you would implement these process controls and you would improve the quality and efficiency of the production system."

That goal exists today, along with 25 years of data that support it.

"It's been a great learning opportunity for us to understand what we're producing in the United States," said Jeff Savell, distinguished professor of meat science at Texas A&M University.

Savell, who has worked on the audit since its 1991 inception, walked the audience through the three phases of data collection:

Phase 1: Face-to-face interviews that target open-ended discussion.

Phase 2: In-plant assessments looking for live physical indicators such as lameness, cancer eye and other live defects, as well as carcass characteristics like bruising and injection-site lesions.

Phase 3: Workshops to assess Phase 1 and 2 findings and to develop strategies for improvement.

In tandem with USDA inspectors, researchers set out to determine why particular cattle were condemned. Historically they focused on liver, lung, head and tongue. More recently, "lung condemnation has been important for us to think about, given some of the issues with feedlot cattle and their health," Savell said.

The 2011 addition of instrument and camera grading enabled the analysis of nearly 4.5 million carcasses.

Savell said today's NBQA project has data from every week of the year and will start looking at month-to-month variation, then eventually day-to-day.

Deb VanOverbeke, Oklahoma State University meat scientist, spoke on details of the NMCBBQA audits conducted in 1994, 1999 and 2007 with similar strategies to the feeder-cattle model.

Quoting Tom Field in a 1999 workshop, VanOverbeke said, "Success is not doing one thing 100% better; it's doing 100 things 1% better. You really can make a huge impact on the marketability of cattle."

Improving quality, decreasing fat thickness, controlling weights — those are some of the successes tied to the NBQA, including the emphasis placed on eliminating injection-site blemishes.

Results from the 2016 NBQA and NMCBBQA will be available at NCBA's summer conference and the 2018 Cattle Industry Convention, respectively.

— Story & photos by Laura Conaway, Certified Angus Beef LLC

Training for a Taste Test

To passersby, it looked like people in a meeting room were taking shots of beef broth and pineapple juice. To those at the Cattlemen's College session that was part of the 2017 Cattle Industry Convention & NCBA Trade Show in Nashville, Tenn., Feb. 1-3, the samples were just part of becoming "trained" taste testers.

"Consumers of your product have very high expectations," said Bridget Wasser, executive director of meat science for NCBA. "That gives us a common goal to work toward."

Beef flavor includes 38 attributes.

During the session, "Beef's Taste Experience," she walked through one of the three main drivers of beef-eating satisfaction.

"Beef flavor is very complex. It's not one attribute, but many, many flavor notes," Wasser said. "There are a lot of things that can go right and there are a lot of things that can potentially go wrong."

Flavor is not as simple as a "pass/fail." Instead, each consumer views it differently.

"We have to make sure we find a way to give it to everyone, all the time, and so consistency of the product comes into play," Wasser said.

The beef community has made marked improvements on tenderness in the past few decades, "so the good news is that it allows us to focus on some of these other eating attributes," she said.

Lipids, carbohydrates and proteins that make up beef have the greatest influence on flavor. Lipids, or fats, are species-specific, differing in both amount and fatty-acid composition. That's why beef doesn't taste like pork or poultry.

"Marbling is something we hang our hat on as a beef industry," the meat scientist said, noting it gives the protein its "buttery, beef fat" notes. "That's a very positive flavor. It's something consumers respond very positively to and that's why it has a lot of credence in our quality-grading system and the valuation of our beef carcasses."

►"Beef flavor is very complex. It's not one attribute, but many, many flavor notes," said Bridget Wasser, NCBA executive director of meat science.

A beef checkoff project recently added a little more precision to sensory science by developing a beef lexicon, or a dictionary of sorts, for 38 attributes.

"How can you pick them out if you don't know what an individual flavor note is?" Wasser asked.

Researchers then train panels using this common terminology, and participants can be used as instruments in both discrimination and descriptive research.

Conference attendees experienced a crash course in taste-panel training. They got trays with six different samples ranging from beef broth representing "beef flavor" and little smokies to represent "beef fat" to canned pineapple juice that pointed out the "metallic" flavor.

After using many senses to evaluate each note, they tasted a final sample of a Choice strip steak.

"You would start by learning every one of those reference samples and really understanding their scale and intensity, and then you'd graduate to beef tasting," Wasser said. "That's kind of a 'day in the life' of a sensory panelist.

"Hopefully you got a little appreciation for beef flavor, beef sensory science and some of the work the beef checkoff is doing to work on this trait and make it more consistent and acceptable over time," she said.

— Story & photos by Miranda Reiman, Certified Angus Beef LLC