

21ST CENTURY GENETICS: RISING TO THE CHALLENGE SOUTHERN STYLE



Consumer Focus

Consumers were the focus of the opening general session of the 2006 Beef Improvement Federation (BIF) Annual Meeting and Research Symposium in Choctaw, Miss. The April 19 session was themed "Where do I, as a cow-calf producer, fit in retail and consumer targets?"

Speakers from various segments of the industry shared insights about consumer wants and needs and what their companies were doing to satisfy those demands. Visit the newsroom at www.bifconference.com to access the PowerPoint® presentations, proceedings and audio of the speaker summaries that follow in this section.

Kevin Murphy

Identifying the 21st Century Consumer

Kevin Murphy, representing Vance Publishing Corp. and its multiple agri-food industry publications, advised Wednesday's general session audience to focus on the wants and needs of consumers. It shouldn't be hard for cattle producers to put themselves in the shoes of their consumers, he said, because producers are

consumers, too.

"In the traditional supply chain, the consumer was a passive participant," Murphy said, noting how the beef industry offered whatever it thought it could produce and sell. "In the new demand chain, the consumer is king. Consumers say what

they want, and it is the responsibility of everyone in the supply chain to deliver."

In the new "age of the consumer," Murphy said, more people have higher incomes. There are more single adults and more couples without children. There are more single-parent households — many of which are headed by females. Increasingly, two-parent households depend on the income-earning ability of both parents.

The average age of the population is increasing, too, Murphy added. And while the beef industry has targeted its marketing efforts toward the 18- to 54-year-old age group, a large share of consumers are moving out of that group. A large portion of consumer buying power is in the hands of consumers aged 60 years and older. Maybe it's time, Murphy suggested, for the beef industry to adjust its focus.

In the right direction. The industry has taken steps in the right direction. Recognizing that modern consumers are starved for time, many of the nearly 2,200 new beef products developed between 1997 and 2003 offered greater convenience. Some products and marketing strategies also cater to increasing consumer health consciousness.

Murphy said 21st century consumers are better educated, though not necessarily better

informed. He recommends efforts to inform them about beef's nutritional benefits. And because consumers have a growing interest in how food is produced, beef producers have the opportunity to tell their story.

Murphy cited the growth of brand-name beef as evidence of increasing preferences for

products generated by production systems that emphasize consistent quality, safety and concern for animal welfare and the environment.

"A brand is more than a name on a product. Winning brands are carefully designed business systems. It is the total system that the consumer purchases, not just the product," Murphy stated.

"Keep your eye on the consumer and make sure your product changes with consumer wants and needs," he advised. "If the consumer changes, everyone in the supply chain has to change."

- by Troy Smith

— by Iroy Smit

To understand the 21st century consumer, Paul Heinrich of Sysco Corp. said, you must first define that consumer. In the group 60 years of

Consumer Satisfaction

age and older there are 45.8 billion

people. The 40- to 59-year-old category, the baby boomers, has 73.6 billion people. Generation X, ages 30-39, includes some 43.2 million people; and Generation Y, those 29 years old and younger, includes 118.8 million people.

Baby boomers hold a large portion of the country's wealth. On average, Heinrich said, baby boomers

spend \$123 per week on food. Generation Xers spend \$102; and those 60 years old and older spend \$75. No data has been collected to date on Generation Y.

"Baby boomers have more disposable income," Heinrich said, sharing that customers 50 and older have 70% of the wealth in the U.S. And with wealth comes buying power.

When a baby boomer talks, retailers and restaurateurs listen, Heinrich said. They are fueling the trend toward organic and natural products. Niches in the food industry — such as natural or organic products, diet items, and entertainment dining — are growing.

Today, two of every three women work outside of the home. This means more income and less time in the home in a world where food prices are rising, Heinrich noted. Consumers are demanding food be easy to prepare, nutritious and consistent.

Portion size. While niches in the food industry are quickly expanding, so are portion sizes. Beef portions in particular have increased due to a larger animal. And when portion sizes increase, costs increase, Heinrich said.

High-end restaurants have resolved to serve smaller portions and keep prices at the same level. Quick-serve restaurants have decided to increase both portion sizes and prices. Another tactic for handling prices and portion sizes has been to feature less-expensive cuts of meat at a restaurant, and leave the beef on the short-order menu.

"What we need from you in the beef industry, No. 1, is to increase the quality in product that you see," Heinrich said. "No. 2, we need to make the product more predictable."

In addition,
Heinrich recommended producers position themselves ahead of the curve to capture a better market share, increase financial margins for all parties in the beef supply chain and decrease production inefficiencies.

— by Micky Wilson



Paul Heinrich

A Cattle Feeder's Perspective

During Wednesday's general session, cattle feeder Tom Brink offered his company's strategy for satisfying the modern beef consumer. Brink is a senior vice president of Five Rivers Ranch Cattle Feeding LLC. Formed by merging the cattle feeding interests of ContiGroup and Smithfield Foods, Five Rivers Ranch operates 10 feedyards in Colorado, Kansas, Oklahoma, Texas and Idaho. The lots have a combined one-time capacity of 811,000 head.

Five Rivers Ranch still adheres to some commodity principles, including competitive procurement of cattle and corn, efficient operation, and effective risk management, Brink said. However, the company strategy involves segmenting cattle inventory and managing those segments to attain grid-marketing premiums, including premiums associated with a variety of branded-beef programs.

Address health issues. To satisfy the 21st century consumer while maintaining production efficiency, Brink said, the industry must address some major issues. Foremost is health and immune status of cattle entering feedvards.

Brink said the trend toward greater application of vaccination and preconditioning programs are helping, but feedyards still receive far too many cattle with naïve immune systems.

"Cattle that get sick don't make money for the feeder, and they produce inferior product," Brink said, noting how sickness hinders feedlot performance and negatively affects the quality of the end product. The effect on meat quality makes it more than a

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production matter - it's a consumer issue,

"It's an education problem," he continued. "Not enough producers are utilizing the technology that's available to

Genetic design. According to Brink, another problem exists in the fact that huge numbers of cattle are genetically

designed wrong. He says cattle feeders have skirted this issue for too long, afraid of offending cow-calf producers. While many cattle producers don't want to admit it, problems with breed composition are costing the industry a lot of money.

Five Rivers Ranch favors a genetic combination of 50%-75% Angus (black or red) and 25%-50% Continental breeding.

That combination, Brink said, offers good performance, good red-meat yield and desirable quality grade.

He acknowledged the advantage of heat-tolerant, Bos indicus genetics in the southern climate but warned against more than a 25% contribution in feeder cattle. Brink blamed chronically low percentages of Choice and Prime carcasses in Texas and Kansas packing

plants on cattle with too much ear.

Brink advised Southern producers to add Angus influence to their herds' genetics to



Tom Brink

increase quality grade.

He urged cow-calf producers to embrace individual animal ID, and implement age-, source- and processverification protocols that facilitate participation in value-added marketing programs. The foundation of nearly all of these programs is a complete, verifiable set of information on each calf crop, he explained.

"If we, as beef producers, are going to satisfy the consuming public, we need to work together and share information,' Brink added. "We have heard it before. What's different today is that there are real economic opportunities available to cowcalf producers who are willing to develop relationships with other segments of the industry - most notably with feedyards.

"Those who work at their genetics, manage their cattle well and link up with feedyards who can help them capture value-added premiums can realistically garner \$50 to \$80 per head over the commodity cattle market," he continued. "We see it happen all the time.

- by Troy Smith

Sneak peak from Thursday's general session

Thursday's general session of the 2006 Beef Improvement Federation (BIF) Annual Meeting and Research Symposium was themed, "Where Do I Fit With My Production Environment?" Speakers during the April 2006 meeting in Choctaw, Miss., focused on defining efficiency and matching cattle to their environments. Here's a summary of two presentations. Look for more in October or online.

Residual Feed Intake Explained

Many measures of efficiency have been described in the past 50 years — feed conversion being the most popular, said Denny Crews, research scientist at the Agriculture and Agri-Food Canada Research Centre in Lethbridge, Alberta, Crews pointed out that using feed conversion, the units of feed required to put on a unit of gain, has given producers a trait to



Denny Crews

select for, and the genetic trend has been positive. But some of the indirect consequences have not been good, as seen in the corresponding increase in mature weights.

Very little genetic improvement has occurred in improving efficiency of the entire beef production system as measured by reducing inputs per unit of output, he noted.

In fact, Crews said, selection for improved feed conversion ratio (FCR) would result in increased correlated genetic responses for growth rate, mature

size and, presumably, mature maintenance requirements. Crews said a measure of efficiency not related to other traits is needed.

RFI offers potential

Residual feed intake (RFI) is the difference between actual feed intake and that predicted by regression accounting for requirements of production and body weight maintenance. A more functional definition of RFI, Crews said, is "that portion of feed intake that is not accounted for by measurable factors."

There are several advantages to using RFI as a measure of efficiency, Crews said. Most agree that RFI is moderately heritable, and it can be measured independent of other traits. Preliminary research shows it is uncorrelated to mature size and highly correlated with mature cow efficiency.

Research has shown that selection for improved (decreased) RFI would result in cattle that eat less, but gain the same and produce similar carcasses.

– by Shauna Rose Hermel

Defining Feed Efficiency

Feed inputs and outputs are measured in targeted stages of the beef production cycle, said Gordon Carstens, Texas A&M University, in helping define feed efficiency. Since it is



Gordon Carstens

not practical to measure forage intake of mature cows, emphasis is placed on growing animals.

"Expectations are that appropriate use of a feed efficiency trait in growing cattle, which accounts for genetic variation in efficiency of feed utilization to support maintenance and growth requirements, will generate progeny that are efficient in all segments of the industry," he said.

Efficiency is a ratio of outputs

to inputs. Live-weight gain and daily dry-matter intake (DMI) are typically used to measure efficiency ratios.

"A phenotypic linear regression equation, computed using intake and performance data from a contemporary set of animals, is used to determine an animal's expected feed intake based on its weight and growth rate over a given test period," Carstens explained. "The animal's actual feed intake net (more or less) its expected intake is referred to as residual feed intake."

Animals that require less feed than expected to put on 1 pound (lb.) of gain are considered efficient and show a negative RFI number. On the other hand, inefficient animals require more feed than expected to put on 1 lb. of gain and show a positive RFI number.

"A notable feature that distinguishes RFI from other feed efficiency traits is that it is phenotypically independent of the production traits used to compute expected intake," Carstens

Through research field trials, Carstens observed that RFI is highly correlated phenotypically with FCR, even though FCR is negatively correlated with growth traits. Further, RFI has been shown to be moderately heritable, suggesting that selection for improved postweaning RFI has the potential to produce progeny that are efficient in all segments of the industry.

'Studies indicate that RFI is a trait that appears to reflect inherent variation in biologically relevant processes that are related to feed efficiency," Carstens said, "but not growth."

In closing, Carstens said considerable genetic variation exists in cattle feed intake that is unaccounted for in weight and growth rate. RFI provides opportunities to improve profitability through reductions in feed inputs, while having minimal effects on growth and mature size.

— by Micky Wilson

A Cattle Marketer's Perspective

Mark Harmon, Joplin Regional Stockyards marketing director, gave a marketer's perspective on how to satisfy the 21st century beef consumer during the opening general session.

With an average herd size of less than 50 head, Harmon's customers seek out a place that can help them effectively market their cattle and keep up with constant change in the industry.

"Agriculture's future will be driven by fast change in technology," Harmon said. "You've got to help people that want to help themselves.

Looking down the road, Harmon said he urges his customers to keep records to document management and health programs so cattle can be age-, source- and process-verified. This will help enhance profits for the entire beef production chain. Joplin Regional Stockyards offers cattlemen an economic incentive for the additional management by hosting source-specific sales. He urges producers to remember that "it's not always the price per pound, it's the amount of the check.'

Going into more detail, Harmon said, "verification is the means to provide claim to a product, but also a method of exchanging information with the ability to trace the product in the production distribution system to the end user.'

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When producers hear about verification, often the first thing to come to mind is ID.

"EID (electronic ID) and animal identification is not a problem, but an opportunity," Harmon stated. "Animal ID is not traceability; ID merely enables traceability."

Harmon said that while much of the value of the beef industry is currently concentrated in the cow-calf sector, he looks for this trend to shift as the industry nears the lower end of the cattle cycle. He urges cattlemen to incorporate management practices that improve communication, products and marketing.

"Management practices along with genetic choices ... will be the backbone of the calf crops sold in the future," Harmon said. "Those who produce and market beef should realize the end product they sell is simply not meat — it's taste, tenderness, safety and wholesomeness."

— by Micky Wilson

NBQA Reveals What's Right, Wrong

The National Beef Quality Audit (NBQA) serves as a grade card to benchmark, trait by trait, how well the industry is doing in meeting consumer demand for quality and value. Funded by the dollar-per-head beef checkoff, the third audit is under way.

Oklahoma State University's (OSU's) Brad Morgan presented a report during the opening general session. The results are preliminary, as Phase II of the study — which includes additional face-to-face interviews, in-plant audits and economic assessments — is still under way. Final results are expected to be released in fall 2006.

NBQA results. By surveying different sectors of the industry, the NBQA provides insight as to what each sector sees as the most challenging obstacles to beef quality. Morgan summarized the varying viewpoints of the production, packer, restaurateur/supermarket and government sectors. For detailed lists, see the proceedings posted in the www.bifconference.com newsroom.

The audit also includes summaries of actual industry statistics and a strategy workshop. At the workshop, industry representatives offered suggestions regarding strategies, tactics and goals for reducing quality defects and nonconformities. They ultimately identified the industry's top 10 quality challenges as:

- lack of traceability, individual animal ID, source and age verification, and chronological age;
- 2) low overall uniformity of cattle, carcasses and cuts;
- 3) need for implementation of instrument grading;
- 4) inappropriate market signals;
- 5) segmentation of groups within the beef industry;
- 6) carcass and cut weights that are too heavy;
- 7) yield grades that are too high (low cutability);
- 8) inappropriate ribeye size (too small and too large);
- 9) reduced quality grade and tenderness due to the use of implants; and
- 10) insufficient marbling.

On the other hand, the 2005 audit also pointed out several things the industry is doing right. Among them are developing "story" beef, reducing *E. coli* O157:H7, merchandising quick-to-prepare beef, merchandising new beef value cuts, reducing excess fat cover at the end-user level, developing brands, increasing beef demand and making the industry profitable.

- by Shauna Rose Hermel

