



In Committee

Committees address a multitude of issues at BIF annual meeting.

Committee meetings are a core feature of the Beef Improvement Federation (BIF) annual meeting. Here we recap four of the April 2006 committee meetings in Choctaw, Miss. To view the PowerPoint® presentations and read proceedings provided for these discussions,

visit the newsroom at www.bifconference.com. This Web site, compiled and maintained by Angus Productions Inc. (API), provides complete coverage of the 2006 event, as well as archived coverage of past meetings.

Live Animal, Carcass and End Point Committee



Janice Rumph



Rhonda Vann



Robert Weaber



James Reecy

Speakers addressed scrotal circumference (SC), temperament and health during the Live Animal, Carcass and End Point Committee meeting.

Taking SC measurements. Janice Rumph, Montana State University, started the meeting with a short presentation comparing bull SC measurements taken at a specific age or at a specific weight.

“For the most part,” she surmised, “it does not matter whether we adjust to a constant age or a constant weight.”

Temperament and carcass quality.

Rhonda Vann, Mississippi State University animal scientist, followed with a presentation comparing carcass quality and temperament. Subjective measurements of pen temperament and chute temperament scores, and objective measurements of chute exit velocity were established. The study correlated levels of cortisol, the stress hormone, to subsequent Warner-Bratzler shear force (WBSF) values.

Conclusions of the study revealed that when exit velocity and pen scores were high, WBSF values were also high. There was no link between temperament and breed of cattle. Data were collected over a three-year period.

“Cattle with wilder temperaments exhibit lower weight gain, produce tougher meat and yield increased amounts of bruise trim due to injuries acquired during transportation,” Vann concluded.

Temperament and gain. Robert Weaber, University of Missouri, also presented information pertaining to disposition, primarily correlating it to postweaning gains of calves.

Pen temperament scores and exit velocity were collected for this trial. Weaber found a chute exit velocity heritability of 0.4-0.5. He also found that cattle with faster exit velocities had poorer gains.

“Exit velocity was really the only significant source of variation that accounted for differences in weight gain,” Weaber said. Every 1-second increase in exit velocity correlated to 12 pounds (lb.) in reduced gain over the test period.

Health and healthfulness of beef. James Reecy, Iowa State University, concluded the committee meeting with words about health and healthfulness of beef.

Starting with disease resistance, Reecy talked about pinkeye. After looking for ways

to reduce the occurrence of the disease, Reecy said, genetic selection was flagged as a fix and studied. At the conclusion of the trial, it was revealed that pinkeye has low to moderate heritability, at 0.18-0.2. Animals exhibiting pinkeye weighed 33 lb. less than those not affected by the disease. The Hereford breed was shown to be most susceptible to pinkeye.

Reecy said it would appear that by selecting calves based on a scoring system for treatment or corneal scarring, producers could select for calves that have resistance to pinkeye, which should translate to improved weaning weights.

In the second part of his presentation, Reecy addressed the healthfulness of beef, explaining that there is a genetic component and an environmental component. The question is, how much does each component represent, and is that component contributing to obesity?

Ideally, Reecy said, people should increase their consumption of monounsaturated and polyunsaturated fats compared to other fats. But people must also be careful not to go over calorie requirements to attain those fats.

— by Micky Wilson

Producer Applications Committee

USDA-approved verification programs and feed-intake monitoring systems took center stage at the Producer Applications Committee meeting.

USDA verification programs. Iowa State University (ISU) Extension Educator Darrell Busby shared information regarding application of a USDA-approved Quality Systems Assessment (QSA) program to the Iowa-based Tri-County Steer Carcass Futurity. Busby explained that implementation of QSA is required to meet beef export verification (BEV) specifications for all foreign markets.

"It's all about documentation to ensure traceability," Busby stated. Requirements include documentation of procedures for meeting BEV for the specific country targeted for export sales. Steps taken to carry out those procedures must be documented, including training of owners and employees of feedlots where animals are fed and farms or ranches of origin.

According to Busby, USDA also requires that 10% of Futurity consignors be audited annually to monitor compliance with approved management procedures, verify documentation of birth dates of calves and ensure individual animal identification.

North Dakota State University Extension Beef Specialist Kris Ringwall reported on Calf-AID, a Process Verification Program (PVP) initiated by the North Dakota Beef Cattle Improvement Association to help producers qualify for value-added marketing opportunities.

"Most producers aren't ready for it. Maybe half of them, at most, have registered for premises identification, and that's a necessary first step," Ringwall said. "Many of them struggle with the idea of doing things differently and are reluctant to change from doing business as usual. They struggle with the concept of managing animals as individuals instead of in groups. Many don't

comply with documentation requirements and resist the notion of accountability."

Monitoring feed intake. ISU Beef Specialist Daryl Strohbehn discussed feed intake monitoring systems that have evolved over the years. The need to measure feed efficiency is desirable, Strohbehn said, when you consider that feed cost represents 60% of the total cost of finishing a steer, and at least 63% of the total cost of maintaining a beef cow.

"Selection for improved feed efficiency can lower production costs, but [it] also can impact the environment," Strohbehn added. "It will lower methane production (thought to contribute to global warming) and reduce levels of nitrogen, phosphorus and potassium in manure."

Strohbehn urged the audience to attend Thursday's general session to hear more in-depth presentations on genetic evaluation for feed efficiency.

— by Troy Smith

Cow Herd Efficiency and Adaptability Committee

Wade Shafer, American Simmental Association, kicked off the Cow Herd Efficiency and Adaptability Committee meeting by discussing the implementation of expected progeny differences (EPDs) for stayability. Shafer defined stayability as the probability daughters entering the herd would stay in production through 6 years of age. Traits affecting stayability, Shafer said, are fertility, survivability, structural soundness, disposition, productivity, polledness, color and color pattern.

"My best guess is that a good share of the differences we see in stayability are due to fertility," Shafer observed, adding that the most effective way to genetically improve stayability in cattle is by crossbreeding.

Shafer said he supports all-breed EPDs. Without EPDs, little — if any, progress can be made in low-heritability traits. Longevity, or stayability, has low heritability, with estimates running between 0.05-0.20. In addition, stayability is a trait expressed later in life.

"Technically, we don't have a record for longevity on a cow until she is gone," Shafer said. Current options for producers wanting to increase stayability in their cow herds, though sometimes tough since bulls are generally aged by the time their daughters reach a point when an EPD can be established, are to use an old, proven bull, or use several young, promising sires.

The Red Angus breed was the first to adopt stayability EPDs, doing so in 1993, shared Larry Keenan of the Red Angus Association of America. Keenan's definition of stayability coincided with Shafer's.

Ninety-five percent of Red Angus bulls are sold to commercial cattlemen, Keenan said.

These particular producers seek traits that lead to stayability, including fertility, udder quality, soundness, progeny performance, ease of maintenance/management and disposition.

After working with stayability EPDs for 10 years, Keenan said, some weaknesses have been identified. The extended timeframe to prove bulls is a big one. In addition, stayability EPDs don't account for reproduction each year, and reasons for culling females are not named.

Outweighing weaknesses, strengths of stayability EPDs are found in using it as a tool to increase profits, calculating EPDs using total herd records (THR), and using it as an indication of reproductive merit.

"Failure to reproduce," Keenan said, "is the number one reason for culling."

Colorado State University's Brian Brigham presented an alternative definition of stayability. Concerns arose with stayability EPDs, Brigham said, because sires remain low-accuracy until their daughters reach the 6-year-old benchmark. Producers have indicated that if a cow calves as a 4-year-old, she has a high probability of conceiving as a 5- and 6-year-old; and culling cows on the basis of nonreproductive reasons affects the interpretation of stayability.

"Snelling ... reported heritabilities for stayability for ages 3, 6, 9 and 12 years in two purebred herds," Brigham announced. Estimates revealed that, in fact, stayability to 6 years of age had a sufficiently high heritability and represented the breakeven price for a

cow. This led to its adoption as the general definition of stayability in many national cattle evaluations.

Still, Brigham said he looks for more research in the future. "A younger definition of stayability may alleviate some problems associated with current definitions," he said.

— by Micky Wilson

CONTINUED ON PAGE 228



Brian Brigham

Emerging Technology Committee

Discussion during the Emerging Technologies Committee meeting focused on validation of commercial gene marker tests. Features included a report by National Beef Cattle Evaluation Consortium (NBCEC) representative and Cornell University geneticist Richard Quass. Representatives of Igenity and Bovigen also discussed future genomic technologies under development.

Quass explained the NBCEC role in performing independent validation of DNA tests for the presence of genes related to



beef tenderness or marbling. He noted success in replicating the original results, particularly for specific tenderness marker tests.

Quass said that while the validated tests for tenderness are effective, there

presently is little economic return to producers. And while there is potential for huge economic return from quality and yield grade tests, those procedures appear to be only modestly effective.

It was reported that NBCEC favors incorporating successfully validated gene marker technology, with phenotypic information, for calculation of national EPDs. However, that will require submission of all test results to breeders' respective breed associations for central database entry.

More information on the consortium's validation process and a list of tests that have been validated is available on the organization's Web site at www.nbcec.org/nbcec.

Genomic test marketers predicted that a national animal identification system would enable application of the technologies to add value to cattle, as a result of beef product enhancement. They also expect greater use among commercial producers for parentage

identification and development of in-herd EPDs.

Costs of specific tests have come down, but return on producer investment is expected as consumer demand creates market premiums for tenderness as well as quality and yield grade.

Assuming marker-assisted selection (MAS) can be incorporated in an EPD format, purebred breeders should gain the ability to "fix" favorable genes in their cattle populations while eliminating less desirable genes, confirm parentage on all registered animals and execute breeding plans to achieve a desired genetic profile.

In commercial cow-calf herds and feedlots, new and enhanced tests for gene markers should allow commercial producers and feedlot managers to sort animals of different genetic profiles into management groups for targeted markets.

— by Troy Smith

