



# MISSISSIPPI

## Hosts BIF Meeting

by **Troy Smith**

Mississippi extended its Southern hospitality to more than 500 cattle producers attending the 2006 Beef Improvement Federation (BIF) Annual Meeting and Research Symposium April 18-21. Catfish and crawdads joined beef on the menu, as conferees representing 30 states, a couple of Canadian provinces and the country of South Africa gathered at Choctaw's Pearl River Resort. Hosting the 38th annual BIF conference were members of the Mississippi Cattlemen's Association, Mississippi Beef Cattle Improvement Association and Mississippi State University Extension Service.

Formed in 1967 as a federation of 40 state and national beef organizations, BIF promotes research and education related to development and application of objective concepts for the evaluation and genetic selection of beef cattle. In addition to business meetings, the annual conference includes a research symposium where animal scientists offer findings from recent beef production research, and active producers share their experience with practical application of production concepts. The meetings continue to gain popularity among

commercial cattle producers, as well as seedstock breeders interested in improved cattle performance and increased profitability.

The 2006 conference opened with a discussion of the advantages and challenges associated with application of ultrasound

technology as a tool for genetic selection.

Conferees also heard suggestions for cow-calf producers,

recommending a stronger focus on satisfying the demands of 21st century beef consumers. Feed efficiency and the need for tools to select for more efficient cattle were discussed repeatedly. Speakers also reminded the audience of the need to match management practices and genetics to production environments. More specifically, planned crossbreeding was held up as a tool that has been too often forgotten or ignored.

### **A Hereford highlight**

BIF recognizes the achievements and industry service of individuals and cattle operations through its annual awards program. Among the nominees for outstanding seedstock producer was EE Ranches Inc., which runs registered Herefords near Winona, Miss. The operation was one of those visited during a tour of MSU research facilities and area farms and ranches.

EE Ranches, owned by Bill and Jo Ellard and managed by Jack and Cheryl Evans, also maintains herds of registered Angus and commercial crossbred cows. The operation features both spring and fall calving seasons, with the majority

of females bred to calve during a 50-day period in the fall.

Applying artificial insemination (AI) and embryo transfer (ET) technologies, Jack Evans has developed an intensely linebred Hereford herd utilizing L1 Domino genetics. Forty to 50 Hereford bulls and a similar number of Angus bulls are merchandised privately each year. Repeat customers purchase up to two-thirds of each offering prior to weaning. EE Ranches also markets cattle through branded beef programs and retrieves feedlot performance and carcass information on customers' calves sired by EE bulls.

Evans advises customers to use available technology, including ultrasound data and expected progeny differences (EPDs), for balanced-trait selection, rather than pushing for ever-increasing performance. The advice reflects the evolution of Evans' own management philosophy, which now emphasizes profitability through optimum production from cattle selected for suitability to the operation's available resources.

### **What consumers want**

During the conference general session, speaker Kevin Murphy advised beef producers to "keep your eye on the consumer." Murphy is associated with Vance Publishing Corporation, which produces *Drovers* magazine and several other food industry related publications. In this "age of the consumer," he warned, beef producers and all food supply chain participants must focus on the wants and needs of the end user.

Murphy said the beef industry might want to adjust its marketing and promotion focus to better fit the 21st century consumer profile.

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BIF 2006

Among the nominees for the Outstanding Seedstock Producer Award was EE Ranches Inc., Winona, Miss. Pictured with Beef Improvement Federation (BIF) President Lynn Pelton (left) are Cheryl and Jack Evans, managers of EE Ranches' Mississippi ranch.



For example, today's buying public includes more single adults and more couples without children. There are more single-parent households and many of those are headed by females. In two-parent households, Murphy added, families increasingly depend on the income earning ability of both parents.

"Generally consumers are better educated," Murphy said, "but they're not necessarily better informed."

According to Murphy, the beef industry will benefit from stepping up efforts to make consumers more aware of beef's nutritional benefits and the added convenience of new beef products. Additionally, consumers are becoming more concerned about where their food comes from and how it is produced. This presents the opportunity to "tell your story and sell that too," he suggests.

Murphy said the growth in brand-name beef is evidence of consumer preference for products perceived to represent uniform and consistent quality and safety, as well as producer concern for animal welfare and the environment. The growth of "natural" beef products illustrates growing interest in how food animals are raised.

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

Murphy pointed to the advancing age of the "average" consumer, which means more buying power is in the hands of older Americans. Paul Heinrich, Sysco Corporation, agreed, noting that U.S. consumers age 50 and older possess 70% of the nation's wealth.

Sysco is the country's largest purveyor of beef and other food products to restaurants. Heinrich said consumers want to eat out a certain amount of the time, even though they have less disposable income in their pockets. Baby-boomers (age 40-59), on average, spend \$123 per week on food, which includes restaurant dining.



The EE Ranches tour stop on Friday afternoon featured Certified Hereford Beef® (CHB) and Hereford genetics. AHA and CHB LLC staff members assisted with the lunch.

Pictured (l to r) are: Jim Williams, CHB LLC vice president of supply; Jack Ward, AHA chief operating officer and director of breed improvement; Jack & Cheryl Evans, EE Ranches; Craig Huffhines, AHA executive vice president; and Stacy Sanders, AHA director of records department.



BIF tour participants enjoyed CHB steak during a lunch hosted by EE Ranches.



Explaining the operation to interested visitors, EE Ranches' manager Jack Evans (left) said the primary focus is profitability in terms of return per acre. Fescue, ryegrass and Bermuda grass provide forage for grazing, haylage and dry-hay production.



EE Ranches markets 40-50 bulls per year private treaty. Most are spoken for prior to weaning, but are further developed on the ranch before delivery to their new owners.



Hereford females grazing lush grass at EE Ranches.

And when they talk about dining preferences, said Heinrich, restaurateurs listen.

He says restaurateurs are echoing a call for beef with increased eating quality and consistency. They want reinforced safety measures and smaller portion sizes.

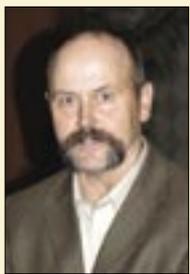
"What we need most from the beef industry is to increase the quality of the product and make the product more predictable," Heinrich said.

### Feed efficiency

Feed efficiency was a popular topic of discussion during the conference. This wasn't surprising, since feed expense generally represents the largest portion of beef production costs. During his presentation, Dorian Garrick, Colorado State University geneticist, catered to the longing of many in the audience when he

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**Dave Daley, California State University-Chico animal scientist, said university educators and industry leaders are partially to blame for the underutilization of heterosis. Even after talking about it for 50 years, said Daley, they haven't done a good job of communicating the benefits of heterosis.**



asked, "Wouldn't it be great to have a feed efficiency EPD?" But Garrick surprised many conferees with the answer to his own question. "No," he said, "we don't need a feed efficiency EPD."

Garrick explained that feed efficiency is a function of the relationship between inputs (pounds of feed consumed) and outputs (live weight gain). Typically it is expressed as a feed conversion ratio. However, suppose a certain animal doesn't eat very much and doesn't gain much weight either. It might gain enough to appear to be efficient, based on a feed conversion ratio, but never be profitable. Garrick argued that genetic selection using an EPD based on a ratio of inputs and outputs would not be useful to increase producer profitability. It is not the actual values of feed or beef produced that matter to profitability, but the price-cost relativity.

Rather than strive for a feed efficiency EPD, Garrick advocates generation of EPDs to predict inputs and outputs, respectively. These EPDs could then be incorporated into a selection index to rank animals on the basis of profitability. Garrick, also a director for the National Beef Cattle Evaluation Consortium, says the consortium has no plans to pursue development of an EPD based on feed efficiency.

According to Denny Crews, Agriculture and Agri-Food Canada Research Centre, Lethbridge, Alberta, cattle producers have practiced selection for an improved feed conversion ratio. However, indirect consequences have included increased mature size and increased mature maintenance requirements. "We need a measure of efficiency that is not related to these traits," said Crews.

Residual feed intake (RFI) may be the answer. Crews called RFI an indirect measurement of metabolism, which combines both maintenance and gain. It has been defined as the difference between an animal's actual feed intake and its expected feed requirements for maintenance and growth. A negative RFI is desirable, suggesting the animal is eating less than predicted or it needs less feed to meet its requirements. Selection for negative RFI should result in cattle that gain the same with less feed.

Crews said RFI is moderately heritable. Preliminary research suggests it is not related to mature size, but is highly correlated to mature cow efficiency.

#### **Suited to the environment**

Tom Jenkins, U.S. Meat Animal Research Center (MARC) scientist, lamented the tendency for some beef producers to strive for increased animal performance through modification of the environment — usually through enhanced nutrition. Enhancing the environment to maximize performance generally increases production costs, but may not improve profitability. Too often, returns don't justify the added expense. And cushioning the environment under which young animals are developed may cause problems for the future.

"Are we training animals to have higher maintenance requirements when they are developed in a most-favorable environment?" asked Jenkins.

Matching a production herd to the local environment through genetic selection minimizes the need to modify the environment, he insisted. The goal should be to create progeny acceptable for the market while producing replacement females genetically suited to the local environment.

As the first step toward matching a production herd to a specific environment, Jenkins recommended identification of a merchandising plan. A producer also must identify the

specific environment's most limiting factor, then identify cattle phenotypes and, ultimately, breeds that provide advantages for overcoming limiting factors.

Producers should then define an objective measure of traits that overcome limiting factors, and determine if traits are under genetic control. Jenkins advised producers to design and implement a breeding program to increase the frequency of desired genotypes, while sustaining genetic diversity.

According to Dave Daley, California State University-Chico animal scientist, "It's not the ranch's job to produce what the cow needs to perform. It's the cow's job to perform on what the ranch produces."

A penchant for modifying the environment to get heavier calves, higher percent calf crop and more total pounds is one reason that heterosis may be the most neglected tool for beef improvement, Daley explained.

"Heterosis provides some improvement in traits at relatively little cost. However, we have obscured the opportunity for producers to focus on those traits, because they are so busy masking the differences with artificial environments," Daley said.

Heterosis, or hybrid vigor, is the amount by which performance, for a measured trait, of a crossbred animal exceeds the average of its two parents. From an economic perspective, said Daley, the most important gains are made in lowly heritable traits that often are difficult to measure. Traits like calf livability, survival to weaning, conception rate and age at puberty benefit most from heterosis. The individual change in each trait may be small, said Daley, but the cumulative effect on total productivity is tremendous. Lifetime productivity of crossbred cows, for example, can be increased by more than 20%.

Other reasons that crossbreeding is underutilized, claimed Daley, include cultural bias suggesting purebred is better and the desire for uniform phenotypes to qualify for

specific marketing programs. Crossbreeding systems also may seem too complicated for real-world application, especially in small breeding herds. Daley said university systems are at least partly to blame for allowing misconceptions to prevail.

"It is time for many producers to design long-term, simplistic plans that capture maternal heterosis. I would not want to manage cattle in any environment without that incredible value. And the tougher the environment, the more critical hybrid vigor becomes," Daley said.

"For those of us who are educators, we need to work more effectively in presenting straightforward, workable solutions. We need to renew our efforts in educating producers that selection is not about maximums — other than sustained profit. Animal breeders do not need to give us one more individual EPD that measures outputs. We need to measure inputs."

#### Award winners

During the conference awards presentation, a pair of Illinois-based operations received recognition as the outstanding seedstock and commercial producers for 2006. Sauk Valley Angus, Rock Falls, Ill., topped the seedstock producer nominees. Owned by Gary and Kathy Sandrock, the integrated cattle and row-crop operation is managed by Jay King, Ben Sandrock and Matt Sandrock.

Sauk Valley Angus was praised for its computerized recordkeeping program, which has been customized to utilize extensive herd information for more efficient genetic selection. The firm also partners with new producers as a means of expansion and provides incentives to youth who purchase females through one of its two annual production sales.

Named Outstanding Commercial Producer was Pitchfork Farm, located near Stronghurst, Ill. Owners Ken and Sara Nimrick strive for a low-input operation by controlling costs through planned pasture rotation to implement an extended grazing season and minimal investment in machinery. Genetic selection is

geared toward improving convenience and carcass traits while maintaining satisfactory reproductive and growth rates.

A trio of industry leaders received BIF Pioneer Awards. Among them was John Brethour, Kansas State University beef cattle research scientist, who was cited for his work in developing implant strategies to avoid adverse effects on carcass quality grade. During his career, Brethour also demonstrated the advantages of sorting feedlot cattle into outcome groups for more effective marketing. In addition, Brethour was instrumental in developing the use of ultrasound technology for predicting carcass quality.

Also honored were longtime Collins, Miss., Charolais producers Harlan and Dorthemann Rogers. In addition to their seedstock enterprise, the Rogers family maintains a stocker operation, feeds close to 10,000 cattle annually through custom feedlots and develops several hundred replacement females each year.

The third Pioneer Award was given posthumously to Dave Pingrey, former executive secretary for the Mississippi Cattlemen's Association and seedstock producer from Pickens, Miss.

Journalist Belinda Ary received the 2006 Ambassador Award. Given annually to a member of the media, the award honors that individual's efforts to further producer awareness of cattle performance testing and genetic prediction tools. Ary serves as editor of *Cattle Today* magazine, which serves 14,000 subscribers across the southeastern U.S.

A Continuing Service Award winner was Lisa Kriese-Anderson, Auburn University geneticist. For 12 years, Kriese-Anderson has fulfilled teaching, research and Extension appointments, helping design breeding programs for Alabama producers, and evaluating application of EPD and ultrasound technology for predicting beef carcass traits. Kriese-Anderson also supervises the Auburn University Bull Test, serves as advisor and



BIF tour participants viewed Hereford bulls from the Mississippi State University (MSU) herd. MSU Extension personnel explained ongoing research related to cattle temperament and forage management.

data analyst for the Alabama Beef Cattle Improvement Association, and coordinates the state's Ranch to Rail program.

Also honored for continuing service was Auburn's Jimmy Holliman, superintendent of Black Belt Research Center at Marion Junction. Holliman also operates his own seedstock operation and is a past president of BIF.

The third Continuing Service Award winner was Dave Notter, a professor of animal and poultry sciences at Virginia Tech. Notter's notable research area involves application of quantitative and statistical theory to genetic improvement. Recognized as an international expert on management of animal genetic resources, Notter also assisted in development of across-breed EPDs.

Two BIF scholarships were presented during the awards program to recognize outstanding research conducted by graduate students. The scholarships are presented in honor of BIF Founder Frank Baker. Colorado State University graduate student Jamie Williams won for her paper titled *Selection for Improved Performance in Subtropical Regions Using Heat Tolerant EPD*. Also honored was Amy Kelly, Montana State University, for research on the *Relationship of Genetics and Nutrition and Influences on Animal Performance*.

Visit [www.bifconference.com](http://www.bifconference.com) for synopses, PowerPoint® presentations and audio recordings of the general sessions, as well as coverage of the committee meetings and proceeding papers. The 2007 BIF Annual Meeting is scheduled for June 6-9 in Ft. Collins, Colo. **HW**