Illinois hosts 2007 National Angus Conference & Tour.

Heartland

by ***Barb Baylor Anderson, Shauna Rose Hermel*** *&* ***Troy Smith***

►**Above:** Approximately 300 Angus enthusiasts registered for the 2007 National Angus Conference & Tour.

►**Right:** Participants were welcomed with a reception Tuesday evening.

►**Below:** American Angus Association President Jot Hartley welcomed participants to the National Angus Conference & Tour.

Angus enthusiasts gathered in Peoria, Ill., Aug. 28 for the kickoff of the Heartland Homecoming 2007 National Angus Conference & Tour. Sponsored by Purina Mills, LLC, and Alpharma Animal Health, the conference was conducted at the Holiday Inn City Centre.

About 30 early arrivers participated in Tuesday evening's National Animal Identification System (NAIS) Premises Registration Workshop. Jim Shirley, American Angus Association vice president of industry relations, conducted the workshop to explain NAIS and encourage producers to enroll their premises.

Conducting such workshops is part of the agreement the Association, together with ABG Inc., signed with the U.S. Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) in early August. In return for assisting APHIS in educating producers about NAIS and premises registration, the Association and ABG will share a grant amounting to nearly $600,000. For more information see page 125 of the September 2007 *Angus Journal.*

Conference attendees were welcomed with a reception Tuesday evening.

The conference

Association president Jot Hartley of Vinita, Okla., welcomed producers to the conference Wednesday morning. A full slate of speakers tackled topics of reproduction, customer service, beef cattle efficiency and carcass end product.

Homecoming

Bill Beal of Virginia Tech explained the estrous cycle and provided an understanding of the components that lead to breeding success.

In tag-team fashion, Sally Northcutt, Association director of genetic research, explained the Association's new heifer pregnancy (HP) expected progeny difference (EPD). Beal followed with comments about application of the EPD and offered some cautions to its overuse. Northcutt; Beal; and Bill Bowman, Association director of performance programs, then opened the floor to questions from the audience.

Regional Manager Jerry Cassady provided ideas for customer service.

The University of Illinois' Doug Parrett discussed cow-herd efficiency. Larry Berger explained the difference between feed conversion and residual feed intake (RFI).

Tom Carr of the University of Illinois presented the basics of carcass grading and instrument grading. Afterward, Mark Polzer of Certified Angus Beef LLC (CAB) presented ideas for how producers could supply the *Certified Angus Beef*® (CAB®) brand with a higher percentage of cattle.

Representing conference sponsor Purina Mills, Marketing Manager Rod Nulik shared reasons for their now three-year partnership with the American Angus Association's national conference and ways Purina Mills is helping increase producer efficiency.

Summaries of the presentations are presented here and will be available on the news/audio page of *www.nationalangusconference.com,* along with the accompanying audio files and PowerPoints if available.

The tour

A trip to Weaver Angus Farm, Peoria, kicked off the tour Wednesday evening. The tour was planned and hosted by the Illinois Angus Association.

Thursday tour stops included Keystone Steel & Wire, Caterpillar Inc., Kickapoo Creek Winery, the Woodford County Fairgrounds in Eureka and Werner Angus. Friday's tour stops included Dameron Angus, near Lexington; Prairie View Farm, north of Gridley; and Sauk Valley Angus, near Rock Falls.

See page 94 for photo coverage of the tour. Brief descriptions and more comprehensive photo galleries of the stops are available on the tour schedule page of the conference web site, *www.nationalangusconference.com.*

Sally Northcutt

Bill Bowman

Following are summaries of the presentations written by field editors Barb Baylor Anderson and Troy Smith. Photo coverage is by assistant editor Mathew Elliott, Angus Productions Inc. (API) assistant editor.

— by Shauna Rose Hermel

Conference summaries

Reproductive strategies

Providing service to commercial cattle producers is an important objective of the American Angus Association, according to Bill Bowman, the Association's vice president of information and data programs. In his remarks during the 2007 National Angus Conference, Bowman said the "drive" behind research and performance programs is the goal of helping commercial cow-calf operators better utilize Angus genetics.

Toward that end, Bowman says, decision-making tools were developed to apply balanced genetic selection processes based on expected progeny difference (EPD) values. The $Value indexes were designed specifically for commercial breeders to aid selection for growth, performance and carcass merit. Now, Bowman adds, particular emphasis is focused on developing EPDs and selection indexes to aid selection for reproductive traits.

A new selection tool was introduced in July, with the release of the first heifer pregnancy (HP) EPDs for Angus sires. According to Sally Northcutt, director of genetic research, the new EPD value will serve as a tool for estimating the chances that one bull, when compared to another, will sire more daughters that become pregnant as yearling heifers. Compared to highly heritable carcass traits and moderately heritable growth traits, the heritability of "heifer pregnancy" is low.

"It's just 0.13, so only 13% [is] due to genetics," Northcutt explains. "That makes genetic change challenging, but achievable using this selection tool."

Producers are reminded that 87% of the variation in heifer pregnancy is due to environmental factors and, therefore, influenced to a great extent by management.

HP EPDs are available for 429 sires, through the Association's web site, *www.angus.org.* The report is limited to those sires for which heifer pregnancy

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accuracy was at least 0.30, Northcutt says. The report also features a percentile breakdown of listed sires and a background report on the research behind the new EPD.

Bowman said more data is needed to extend reporting to more sires and to increase accuracy. Initial HP EPDs are based on 16,000 records, compared to weaning weight EPDs, for example, with more than 4 million records.

"We come to you with a plea for more data," Bowman says. "We need information on yearling heifers; then a résumé of their entire reproductive life, including disposal information."

Data entry forms may be downloaded from the Association web site. Paper forms also may be obtained by contacting the American Angus Association office.

— by Troy Smith

Understand the estrous cycle

One of the more entertaining, but certainly educational, presentations of the conference was the visual refresher on the estrous cycle offered by Bill Beal, Virginia Tech University professor. Using volunteers from the audience, Beal presented the days of the estrous cycle to emphasize how it works and the value it has in helping Angus producers manage reproduction.

"Reproduction is a dynamic event. You need to be grounded and understand physiologically what is going on," he says. "When you are familiar with the reproductive tract and the estrous cycle, it helps you manage your reproductive tool decisions."

One of those decisions may someday be whether or not to use HP EPDs in breeding selection. Reproduction is a lowly heritable trait — less than 20% heritable — and heifer pregnancy is even lower, at about 13% heritability. The other 87% is explained by environmental factors, including management and nutrition.

He encourages Angus producers to evaluate the possible answers to three questions related to HP EPDs as decisions are made about their value to the industry.

1. Do the EPDs predict the fertility of a bull's daughters? Beal says if fertility is defined as the heifer's ability to conceive and become pregnant, the EPD may not be a very powerful tool for improving fertility. Heritability of first-service conception is not just about conception, he says, and it is not going to necessarily improve with EPD selection.

2. What is being measured by the EPD, or what causes one animal to have a higher EPD than another? Beal says the answer is unclear. He breaks down the cycle from birth to first calf to answer this question.

The first period includes heifer birth and puberty. He notes some areas of heifer development in the EPD are not known during this period, such as age at puberty, making measurement difficult.

The second period, which is breeding time, includes fertility factors; and the third period, from pregnancy to first calf, is pregnancy recognition and embryonic/fetal mortality.

"Heifer pregnancy EPDs span from birth to first calf, and that all helps determine the value of the EPD. It does not define one or two biological events," he explains.

3. Finally, if sire selection is based on heifer pregnancy EPDs, how much improvement can be made in pregnancy rates? Again, 87% of the variation is explained by the environment, so Beal questions whether the tool at this point is a valid tool for selection.

"Like any new EPD, we have a tendency to take it and run with it," Beal says. "I am afraid producers may want to do that here, but we need to put it in the proper perspective first."

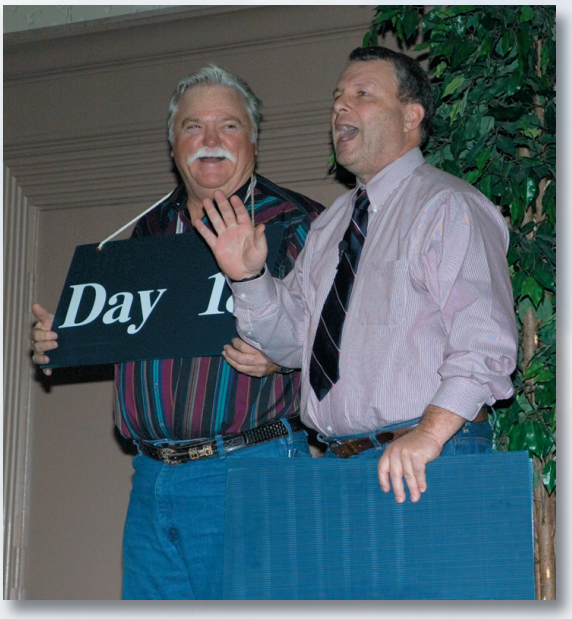
— by Barb Baylor Anderson

New opportunities to measure feed efficiency

Maximizing feed efficiency (FE) is important to your profitability. The good news, says Larry Berger, University of Illinois (U of I) animal science professor, is that the chances to improve feed efficiency are greater now than ever before, along with opportunities to measure it.

"We are learning how technology and the use of net feed efficiency tools and genetic markers may better measure feed efficiency now and in the future," Berger notes. "Feed costs represent 65%-70% of all costs. A 1% improvement in feed efficiency is a 3% improvement in average daily gain, so you can see why this has economic value."

►Virginia Tech's Bill Beal explains the estrous cycle with the help of members of the audience.



Bill Beal

Doug Parrett

Larry Berger

Berger pointed out that on a feed-to-gain basis, beef cattle are the least efficient of livestock species. That's because beef producers feed higher-fiber diets, and fermentation in the rumen produces volatile fatty acids (VFAs) and methane. In addition, beef cattle use 50% of feed intake for maintenance, and producers do not select for feed efficiency.

"Selecting for feed efficiency requires individual feeding and facilities to keep cattle separate. There is a high labor requirement, and the lack of social interaction can decrease feed intake. It is also difficult to compare at similar body compositions," he says.

U of I researchers have GrowSafe units in place to study feed efficiency management. The units are wireless and use a radio frequency ID with the cattle and the feedbunk to measure feed intake. The program's software has a record of less than 2% error in measuring feed intake.

"We also use ultrasound technology to make monthly measurements of 12th-rib backfat, marbling, ribeye and other quality factors," he says. "Combining GrowSafe and ultrasound is even better, because we can compare feed efficiencies at various end points."

In the past, selecting for feed-to-gain conversion resulted in increased cow size, leanness and feed intake, which results in decreased digestibility, increased organ weights and increased heat increment. Berger says research is showing now that selecting for residual feed intake (RFI) instead has no effect on the rate of gain or on animal size.

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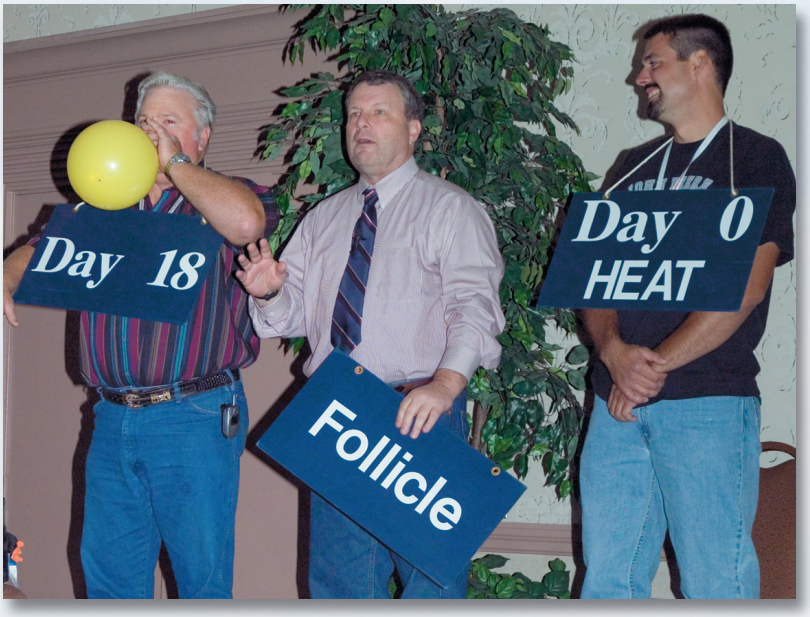

"RFI is the difference between an animal's actual feed intake and its expected feed intake based on its size and growth over a specific test period," he explains. "RFI is moderately heritable (0.30-0.45) and may reflect an animal's maintenance energy requirement. RFI appears to be independent of body size and growth rate."

RFI research is still relatively new, but Berger says research in Australia and Canada suggests variation does occur within cattle populations and can be identified. RFI has been shown to reduce feed intake by 10%-12%, improve feed conversion by 9%-15% and lower heat production by 9%-10%. RFI can lower methane emission by 9%-12%, reduce manure emissions per unit of gain by 15%-17% and reduce non-quality factor carcass fat by 5% with no reduction in marbling or backfat.

— by Barb Baylor Anderson

Squeeze out more profits with better production efficiency

Sound cow-calf producer efficiency is defined as squeezing more profit out of the same resources while facing higher costs. It's a sensible idea given rising feed costs, says Doug Parrett, U of I animal science professor. He stressed the need for better production efficiency during the 2007 national conference.

"Keep in mind feed costs account for 60%-80% of the cost of beef production, and feed costs are rising, so improvements in efficiency are now more important," he says.

"Efficiency is also important because it impacts unit cost of production, having potential to improve producer and industry profitability and increase beef's competitiveness in both the domestic and global marketplace," Parrett adds, quoting Colorado State University animal scientist Tom Field. "A reasonable goal is to produce low-cost, high-profit cattle that yield competitively priced, highly palatable, lean products; while conserving and improving the resources utilized."

To improve efficiency, Parrett says, producers must consider both economical and biological efficiencies. On the economical side, eight financial measures are capable of explaining more than 82% of farm-to-farm variation in return to unpaid labor and management (RLM). Cost factors were far more influential in driving RLM than production, reproduction or producer-controlled marketing factors, he says.

On the biological side, Parrett says, research shows Angus cattle do well in a limited feed environment vs. other breeds, but not as well in an unrestrained environment. In addition, straightbred cows do not compete as well against crossbreds, he adds.

"We made cattle bigger, and when we selected for size, it impacted calving ease, maintenance, feedlot performance and market product yield," Parrett says. "A weaned calf is not the finished product. Dallas Horton, Greeley, Colo., says cattle that invariably make the most money … are those that gain the most weight in a short period of time."

U of I researchers are focused on ways Angus producers could improve both economical and biological efficiencies, including early weaning strategies, a new feed efficiency testing system on their research farm and coproduct utilization in feed.

"Information is power and increases the accuracy of selection. Those who use and balance the information will stay in the lead in the industry," he says.

— by Barb Baylor Anderson

Produce predictable genetics

Doug Parrett of the University of Illinois, says purebred producers need to produce predictable, reliable genetics. He offers these tips:

- **Commercial customers are expecting more.**
- **Run your operation like a business.**
- **Make obvious changes that control cost without jeopardizing herd productivity or gross income.**
- **Define your production system as to input limitations and target markets.**
- **Utilize all of the genetic information available.**
- **Remember that optimum is rarely maximum production.**
- **Cattle breeding is a marathon, not a sprint.**
- **Be willing to change.**

Table 1: Characteristics of profitable herds

	Top 15%	Average	Bottom 15%
Net profit, $	21,701	-4,373	-34,007
Herd size, no. hd.	202	119	185
Return on investment, %	22.2	3.7	-16.7
Lb. of calf sold/cow	506	454	427
Feeder calf price, $/cwt.	103.14	97.39	99.69
Total annual cow cost, $/cow	267.35	332.33	480.37
Annual feed cost, $/hd.	168.51	212.76	280.43

Source: University of Illinois at Urbana-Champaign.

Basics of carcass, instrument grading

After 34 years at the University of Illinois, animal scientist and meats judging coach Tom Carr knows something about carcass quality and yield grades. During the national conference, Carr reviewed the evolution of U.S. carcass grading standards, from the initiation of dressed beef quality grades in 1916 to the current system for assigning quality and yield grades.

Today, Carr says, about 65% of beef carcasses are graded by USDA. To keep up with the speed at which modern packing plants operate, graders make determinations for both quality and yield grades at the rate of one carcass every 15 seconds. It's a subjective evaluation made under pressure. And it's expensive, Carr says, costing packers between $61 and $71 per hour for each USDA grader.

For most of 30 years, the beef industry has searched for a machine that would efficiently, accurately, and objectively measure carcass quality and yield attributes. Carr says researchers have attempted to

Tom Carr

Jerry Cassady

Rod Nulik

evaluate carcasses with ultrasound, electromagnetic devices and optical probes that measure differences in light reflectance. Ultimately, USDA approved electronic grading technology applying video image analysis.

Employing computerized cameras, the technology was first approved to augment determination of yield grade. More recently it has been applied to measure marbling, the primary indicator of quality grade.

"The advantages of instrument grading include reduced variation within plants and between plants," Carr says, noting that yield grade can be determined more precisely (to 0.1 of a yield grade) and marbling can be measured more accurately — even at rapid chain speeds.

"The bottom line is that instrument grading enhances grading accuracy and consistency," Carr says. "It should improve producer and packer confidence and increase efficiency. For the producer, it should provide a stronger foundation for value-based grid marketing and stronger market signals."

Carr reminded producers that video image analysis does not determine maturity, an attribute that influences quality grade. As yet, not all subjectivity has been removed from the carcass grading system.

— by Troy Smith

Supplying the brand

The American Angus Association founded the Certified Angus Beef (CAB) Program in 1978 to promote the value of the Angus breed as a source of high-quality beef and to address the problem of quality inconsistencies. It became the largest and most successful specification-based, branded beef program in the world. Yet, among some consumers, there is not a clear understanding of what CAB is.

During the National Angus Conference, CAB Vice President of Business Development Mark Polzer explained that while CAB was founded first, more than 60 branded beef programs currently exist. Among those, 46 programs source beef from cattle of Angus influence and proclaim "Angus" on their labels.

Mark Polzer

"So we face the challenge of Angus confusion," Polzer says.

However, CAB represents annual sales in excess of 570 million pounds per year, accounting for more than 86% of high-quality (Modest or higher marbling) Angus-influenced beef. Consumers who try it do recognize the difference, Polzer says, citing an 86% call for more among those exposed to the brand. Consumer dissatisfaction with CAB product is limited to one in 50 eating experiences, compared to one in 13 for commodity Choice and one in six for commodity Select beef.

The CAB brand boasts the greatest availability, being produced in 29 licensed packing facilities. Among the more than 13,000 CAB business partners are distributors, retailers, foodservice companies and restaurants that provide product to consumers in more than 30 countries.

Polzer says the recipe for success is the program's science-based specifications. Currently, about 17% of carcasses from Angus-influence cattle are accepted. The goal is to achieve a 20% acceptance rate while adhering to strict specifications.

"Another challenge is the need for more supply," Polzer states.

People are surprised to learn that CAB is a nonprofit organization, funded through collection of a 2% commission packers pay on pounds of branded product sold.

"We really have a tiny budget, so we focus our marketing efforts on target areas; usually two per year," Polzer says.

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Along with regional advertising, CAB personnel provide chef demonstrations and cooking classes at food shows, along with other educational programs through the annual CAB conference and special workshops. Design services, including signage and menu design, are provided to licensed retailers and restaurants. Educational information is also made available through the CAB web site, *www.certifiedangusbeef.com.*

— by Troy Smith

Customer service is key

What sets seedstock producers apart? Certainly their operations vary according to environment, and certain management practices differ. And there are differences in the ways they do business. Traveling throughout the states of Illinois, Indiana, Michigan and Wisconsin, Association Regional Manager Jerry Cassady has seen big differences in the kinds of services provided to customers.

"Customer service is what separates the really successful programs from those that aren't," stated Cassady during the 2007 National Angus Conference.

"They all put on their "game face" on sale day or when a potential customer comes to visit, but it's what (breeders) do after the sale that makes the difference," Cassady says. "This is where many of them drop the ball."

Providing more than genetics, Cassady says service-savvy seedstock suppliers also mentor customers with regard to production management and marketing options. They offer customer incentives and follow up after the sale, maintaining regular contact with seedstock buyers through mailings and direct contact.

Cassady reminds seedstock producers that he and 12 other regional managers can help provide customer service. While regional managers are responsible for selling advertising for *Angus Journal* and *Angus Beef Bulletin,* they also travel extensively within their respective regions, working directly with producers. They assist commercial cow-calf operators with identification of seedstock sources. They also help commercial producers develop marketing goals and assist with application of Association programs, including AngusSource.®

Regional managers help new seedstock breeders define goals, help identify and implement Association programs that can further business objectives and help establish a network of contacts representing various segments of the beef production chain. They also work with established breeders to expand markets and assist with web site navigation.

Regional managers also provide assistance with special services available through Angus Productions Inc., including printing of sale books, brochures and targeted mailing lists.

— by Troy Smith

Focusing on a long-term partnership

As part of its continued effort to build long-term partnerships with Angus producers, Purina Mills, LLC, served as the major sponsor of the 2007 National Angus Conference & Tour for the third year in a row. Rod Nulik, Purina Mills marketing manager, told participants that the company shares their vision for a rich future for the industry, and invests in various tactics to help Angus producers reach those goals.

"With unsurpassed research and technical support, we lead the industry in providing America's cattlemen with innovative products and programs to help you make more efficient use of your resources of land, labor, capital and management," Nulik says.

To that end, Purina Mills is sharing data with the American Angus Association and other groups. By exchanging information about bull development, for example, Purina Mills can show how to improve bull efficiency based on that data.

Purina Mills' IM Technology™ (Intake Modifying Technology), found in such products as Accuration® Cattle Limiters, can help producers meet efficiency goals, Nulik adds. IM Technology creates the right balance of nutrients, ingredients and manufacturing techniques to develop products ideally suited to each animal's life stage and existing forage quality. Cattle consume multiple small snacks of the supplement, which optimizes nutrient flow to the digestive system. Cattle increase forage intake, overall utilization and performance.

Nulik says Purina Mills also sponsors such events as Cattlemen's Boot Camp with the American Angus Association, the Black Ink Basics Tour and Feeding Quality Forum with Certified Angus Beef LLC (CAB), and the Youth Beef Industry Congress (YBIC) as other routes toward helping Angus producers reach collective goals.

"We build long-term relationships based on several factors; we want our programs to have value for you, along with the knowledge/information we are sharing. We want trust and confidence in the Checkerboard brand," he says. "Our mission includes customer profitability, [wise] use of your resources, industry and future beef production viability."

Purina Mills is working in new areas as well, including nutritional marbling and the critical marbling window, using Accuration to get starch in calves to satisfy that marbling window, Natural Beef Accuration, additional products and sound advice.

"Our efforts are about the cattle and the passion you have for them, the land and how to get more from it, and the next generation," Nulik says.

— by Barb Baylor Anderson