



# Symposium Features Ultrasound

UGC provides overview, tips for success at 2006 BIF meeting.

**I**ncreasing concentration on end products contributed to greater demand for genetic evaluation of carcass traits and a surge in the popularity of ultrasound in the 1980s. As the idea of expanding ultrasound surfaced, so did concern for consistency in hardware, software, procedures, accuracy, technology, animal age, technician certification and data validation, explained Loren Jackson while presenting an overview of the Ultrasound Guidelines Council (UGC).

Jackson made his comments during an April 18 symposium preceding the 2006 Beef Improvement Federation (BIF) Annual Meeting and Research Symposium in Choctaw, Miss. The director of research and program development for the International Brangus Breeders Association (IBBA) also serves on the UGC board.

The purpose of the UGC, Jackson said, "is to develop and maintain a covered



PHOTOS BY SHAUNA ROSE HERMEL

►IBBA's Loren Jackson explained the purpose of the UGC during the ultrasound symposium that kicked off the 2006 BIF annual meeting.

structure and protocol for annual proficiency testing and certification for technicians involved in ultrasound scanning of beef cattle for composition traits and interpreting images used in national cattle evaluation programs."

A committee consisting of four beef breed representatives, three university individuals

involved directly with ultrasound technology, one active field practitioner and three representatives from centralized ultrasound labs carry out the UGC purpose.

Responsibilities of the UGC include technician certification, protocol standards, processing ultrasound data results, financial management, and maintenance of new and enhanced hardware and software, Jackson

explained. The UGC also maintains a Web site, [www.aptcbeef.org](http://www.aptcbeef.org), which lists certified field and lab technicians, processing labs, certification guidelines, and an ultrasound study guide.

The UGC offers certification opportunities twice a year, once in the spring and once in the fall, Jackson explained. Certification includes proficiency testing and can be field certification, lab certification or both.

For field certification, applicants must pass a written exam, and have a certain percent of acceptable images and image quality showing ribeye area, rib fat and percent intramuscular fat. Standard error for prediction and repeatability, bias and correlation are also taken into consideration.

For lab certification, applicants must also pass a written exam, assess quality and take measurements for ultrasound data reported.

"Those qualifying technicians that go out ... do a good job and certainly meet these standards," Jackson said in closing. "I think over the years, with the technology and the program that BIF [has developed with the] Ultrasound Guidelines Council, we've done a pretty good job of taking this technology to the next level."

— by Micky Wilson

## Ultrasound Made Easy

There are several things producers can do to ensure a successful experience when scheduling an ultrasound appointment. Ultrasound technician Andy Meadows of the Springwood Livestock Management Service, Buchanan, Va., shared pointers with symposium participants.

### Schedule early

When scheduling a scan appointment, producers should consider age windows established by their breed associations, any deadlines they might have in obtaining the information, the turnaround time and technician availability.

Age windows for which the data will be

**"If we don't have good, accurate information, it's worthless." — Andy Meadows**

accepted for inclusion in national cattle evaluations vary by breed and by sex of the animal, Meadows explained. The American Angus Association requires ultrasound data to be collected between 320 and 440 days of age for bulls and between 320 and 460 days of age for heifers. Deadlines to consider may include advertising deadlines, sale book deadlines or a sale day.

Meadows said the turnaround time on processing the data will vary by the technician, image-processing lab and breed

association. Expect it to take two to four weeks to get your information back.

Book your date early. Technician availability will be affected by season, geographic location and travel distance. Many seedstock operations calve about the same time of year, so the demand for technicians is very seasonal.

Recordkeeping is critical, Meadows said. "If we don't have good, accurate information, it's worthless."

Meadows recommended starting the process by enrolling calves in your breed

improvement program. Enrollment generally means providing the animal's birth date, birth weight, weaning weight and yearling weight. Yearling weight is not the same as scan weight, Meadows explained. So don't fail to turn in a yearling weight assuming that your scan weight will suffice.

### Barnsheets

Barnsheets help ensure appropriate contemporary grouping, which is critical to making any genetic information viable, Meadows

emphasized. Most breed associations provide barnsheets to their members, providing the animal identification (ID) number, registration number, birth date, and sire and dam information.

Information to be filled out scan day includes scan weight, weigh date, scan date, group code, test type, scan sex and diet code. Meadows explained that the scan weight should be a shrunk weight, taken after the animals have been held off feed and water for 12 hours. And, while the sex generally agrees

with the registration information, it may differ in the case of steers.



►Ultrasound technician Andy Meadows provided breeder tips for setting up a successful scan day.

### Other tips

Other things vital to a successful scan experience include taking an inventory and cross-checking it with the barnsheets. Meadows said resolving any discrepancies before scan day will speed information return.

Check all animals for ID. Technicians generally use the tag number, so it helps if that number agrees with the registration papers. It is impractical to try to read tattoos to obtain an ID on

scan day, Meadows said.

Duplicate IDs can occur with the purchase of animals or if errors were made in recording, he added. Those have to be resolved. Animals can be differentiated by scan weight, member code, sex or breed.

Facilities also contribute to a successful scan date. The ideal power source is a power line, he said. Generators can also be used, but he discouraged the use of inverters.

Proper shelter to prevent glare on the computer screen and to shield the animals

and technician from the elements will assist in the accurate collection of data, Meadows said. If you're scanning large groups of cattle, having an area to house 30 head out of the rain will ensure the animals have time to dry before scanning.

A squeeze chute is necessary to immobilize the animal in order to get an accurate reading, Meadows said. The chute should have an adequate headcatch with either a neck rope or chest support to prevent the animal from going down on its knees. The chute should also provide access to the animal by means of drop panels or swing doors.

Meadows said safety is paramount. Consider the safety of the animal, the technician and the probe.

Tips for speeding up scan day include pre-weighing the animals and cross-checking your inventory with the barnsheets, clipping the animals ahead of time, sorting animals ahead of time and minimizing any cattle handling stress. The more agitated the animals are, the harder it becomes to get an accurate reading on them, he added.

If your facilities are inadequate or you have a small group, hauling your cattle to a better-equipped facility may be a good option.

— by Shauna Rose Hermel

## Contemporary Groups to EPDs

Ultrasound data is most useful to seedstock producers and their customers when submitted to a breed association for the calculation of expected progeny differences (EPDs), Auburn University's (AU's) Lisa Kriese-Anderson told BIF attendees.

EPDs are a legitimate tool for comparing individuals, she said. However, she warned against using the raw data for making broad comparisons or as a marketing aid.

At seedstock auctions, Kriese-Anderson said, it's common for an auctioneer to brag



►AU's Lisa Kriese-Anderson discussed the limitations of raw data compared to ratios and EPDs.

up an individual whose ultrasound ribeye measurement is 14 square inches (in.) or more. Or maybe the auctioneer prompts another bid by calling attention to the animal's 6% intramuscular fat (IMF) reading. Such tactics, she said, represent the incorrect use of raw ultrasound data.

"Individual ultrasound measurements are as useful as weights and measures, but only for comparison within a contemporary group.

Knowing an animal's ribeye area or percent IMF doesn't mean much if the animals being

compared did not come from the same group," Kriese-Anderson explained. "Treat ultrasound data like any other actual data, and use it correctly."

### Ensure accuracy

Kriese-Anderson said ultrasound carcass EPDs will be more accurate if seedstock breeders provide the best ultrasound data possible by measuring and submitting data from every member of a contemporary group. Omitting data from a calf the breeder may not like will distort average trait values for the group, resulting in incorrect sire rankings.

Another costly mistake occurs if breeders mix data from different contemporary groups. This results in distorted breeding values and unrealistic sire comparisons.

— by Troy Smith

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## Producers Share Ultrasound Experiences

**Seedstock producers see benefit to including ultrasound in genetic selection process.**

Evaluation of carcass traits through ultrasound evaluation is resulting in more rapid progress in genetic selection, a panel of seedstock producers at the UGC ultrasound symposium agreed.

“We’ve been collecting actual carcass data on all of our steers since 1970, but we didn’t make any real selection progress until after we had ultrasound,” Kansas Angus breeder Mark Gardiner said.

Progeny testing is slow, Gardiner lamented, and sufficient information about a sire’s ability to pass on superior traits may be realized only after that sire is deceased.

Tommy Brown, who produces Simmental-Angus composite cattle in Alabama, said he has applied ultrasound to measure traits since 1994. Brown has applied the information to

the selection of sires, but also to evaluate and select females from specific cow families.

“We put all the ultrasound information we can in the catalog. Buyers have been paying attention,” Brown said, noting how bulls ranking in the upper one-third for multiple carcass traits bring, on average, \$1,000 more than lower-ranking bulls.

Mark Cowan said 20 years of using ultrasound to influence genetic selection on the Texas-based Camp Cooley Ranch has

resulted in an upward trend in both ribeye area and marbling among cattle produced by the ranch’s Angus and Brangus herds.

“Customers know us for the integrity of the data. That translates to trust and willingness to pay more for progressive genetics,” Cowan said.

— by Troy Smith



**Editor’s Note:** To listen to these presentations and view the accompanying PowerPoints® visit the online newsroom at [www.bifconference.com](http://www.bifconference.com).



►A panel of producers described how they utilize ultrasound information in their respective herds. Pictured are (from left) Mark Gardiner, Gardiner Angus Ranch, Ashland, Kan.; Tommy Brown, Sunshine Farms, Clanton, Ala.; Mark Cowan, Camp Cooley Ranch, Franklin, Texas; and panel moderator Dan Moser, Kansas State University.