



Avoid Misuse of Ultrasound Data

by **Troy Smith**

With the 2006 spring bull sale season still fresh in your mind, stop and think about how beef bulls are marketed. Think about the newspaper and magazine advertisements for bull sales. Think about the sale bills posted at the local feed store.

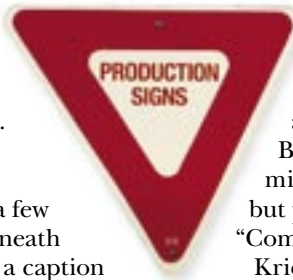
Those print ads and posters usually feature pictures of a few individual bulls. Beneath each photograph is a caption describing the pictured animal. A description might state, "This top son of 'Superbull' had a weaning weight of 636 lb." Another

sale bull might be described as "an exceptional prospect with a scrotal circumference of 35 centimeters."

According to Auburn University Animal Scientist Lisa Kriese-Anderson, potential bull buyers are frequently lured by tempting descriptions based on individual weights and measurements.

Big numbers, she warns, might seem impressive but producers need to ask, "Compared to what?"

Kriese-Anderson says the same warning applies to the individual ultrasound carcass measurements frequently featured in bull sale



advertisements or catalogs. As marketing programs that reward beef quality have developed, many producers have sharpened their focus on genetic selection for carcass merit. Many seedstock breeders have adopted the use of ultrasound technology to measure carcass composition traits — ribeye area (REA), fat thickness (FT) and % intramuscular fat (IMF) — of sire progeny. These live animal measurements, as predictors of carcass merit, are used with actual carcass trait measurements from fed and harvested progeny to create the expected progeny difference (EPD) values used in genetic selection of seedstock.

Kriese-Anderson says too many seedstock breeders, sale managers and consultants are misusing ultrasound data in their marketing efforts. Individual ultrasound measurements are touted in the advertising and emphasized during a sale. The auctioneer may boast about a certain individual's 14-inch REA, or rave about another bull's 4% IMF measurement. Some breeders and marketers probably don't realize they are doing their customers and themselves a disservice.

"The raw data is often used for marketing, but it shouldn't be," explains Kriese-Anderson. "Individual ultrasound measurements are useful, but only for comparisons within the group the animal came from. Individual values offer no comparison to an

animal's contemporary group or the breed."

According to Kriese-Anderson, every weight or measurement of an animal is an observation of its phenotype. However, phenotypic traits are the result of genetics and environment.

Proper genetic evaluation requires consideration of how well animals performed in comparison to their

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herdmates raised under the same environmental conditions. Proper contemporary groups should be of the same breed composition, sex and similar age, but they should also be raised under the same management.

Ultrasound data is most useful for helping rank sires or bloodlines with regard to particular carcass traits. "But it must be put in a comparison mode," says Kriese-Anderson, "as a ratio or EPD."

When the data is submitted to a breed association, it contributes to the calculation of carcass trait EPDs. The various EPDs presented by breed associations are the best tools for basing seedstock selection decisions, insists Kriese-Anderson. Carcass EPDs for yearling cattle take into consideration the individual animal's ultrasound performance

and its pedigree (parents' performance). EPDs, for all traits, offer the best overall comparison of animals within a breed.

If carcass EPDs are not available, in-herd ratios for carcass traits are the next best thing. They create a ranking of individuals within a contemporary group. However, ratios from one contemporary group cannot be compared with those of another group. Ratios are better than nothing, but EPDs are best.

Kriese-Anderson says seedstock breeders can help maximize the accuracy of ultrasound carcass EPDs by following these recommendations:

- 1) Take ultrasound measurements at the same time yearling weights are recorded. Beef Improvement Federation (BIF) guidelines recommend taking weights

and scanned measurements at 335-395 days of age.

- 2) Measure the entire contemporary group, using a certified ultrasound technician.
- 3) Report all data, or average values for the group will be incorrect and distort rankings.

When attending a sale where both actual ultrasound measurements and carcass EPDs are provided, Kriese-Anderson advises potential bull buyers to compare both forms of information. Close similarity suggests accuracy.

The bottom line, says Kriese-Anderson, is that ultrasound data is like any data. It must be used correctly. **HW**