Scanning Our Way into the Future…Finding Out What's Really Underneath It All

By Shari Beamish
UltraBeef
Certified Ultrasound CUP Technician

Beef cattle ultrasound uses the technology of high frequency sound waves to connect with what's really under the animal's hide, and how it correlates into numbers and data that can be used to determine the carcass merits of that animal. OK…so I realize that most of you probably know the basics of carcass ultrasound, so I'll skip the boring stuff and get to what we all really want to know…the bottom line of ultrasound. The first important aspect of ultrasounding is understanding how we, the purebred and commercial producer benefit from it, why we do it, the importance of scanning breeding females, and differences between *"CUP"* ultrasound and *"chute-side"* scanning.

Why Use Ultrasound Data?

First and foremost, ultrasound data is a reliable, accurate, and cost-effective way to help come closer to that final product the end consumer desires. The demand for carcass data is something that has and will continue to change the future of the cattle industry, knowing that it is that much easier to get a larger percentage of Prime's and Triple A's.

Using this data to select and cull within our own herds and to select breeding bulls will quickly bring us giant steps closer to improving carcass genetics in both British and Continental breeds, as well as more predictability in the outcome of carcass quality of feedlot cattle.

The available incentives and grid premiums are also something that can't be forgotten. Acquiring a set of ultrasound data is something I like to call *value-adding*. You are gaining more of your own insight into the cattle you raise, and offering a heritable characteristic that is gaining more popularity and understanding amongst the cattle industry.

Why Scan Replacement Females?

The importance of scanning replacement heifers is often underestimated. Primarily, breeders who scan their heifers can use their carcass merits as a selection tool, and have it assist them in making important culling decisions. This evidently leads to more availability of beef breeding stock with more desirable carcass characteristics, ultimately improving beef quality from breed to breed, for the country, and most importantly the end consumer.

When explaining the importance of ultrasounding yearling heifers, no one sums it up better than Sean McGrath, "While many producers scan bulls for marketing reasons, scanning

potential replacement females rapidly provides an assessment of carcass merit for the entire breeding unit. Not only do females entering the herd have their own performance record, but it also means that many of the producing females will have progeny records. By mapping out the carcass profile of the entire cowherd, selective mating can be directly targeted to breeding program goals. As well, heifers tend to express greater differences in marbling than bulls and can provide some very informative information for genetic evaluation." (*Ultra Sound And Not So Sound Investments.* 1 March 2006. <http://www.cuplab.com/)

<u>*CUP Ultrasound* vs. *Chute-Side*</u>

CUP stands for *Certified Ultrasound Processing*. *The National CUP Lab and Technology Center* prides itself in being the "unbiased third party" and is based out of Ames, Iowa. *CUP* trains and certifies field technicians to capture images on three areas of the animal. The four carcass measurements include Rump Fat, Ribeye Area, 12th-13th Rib Fat Thickness, and Percent Intramuscular Fat. After the scan session, the images are sent to the lab in Ames where they are interpreted and cross-referenced by experienced employees in the lab. They guarantee interpretation to be finished in 7 working days but usually average only 2-3 days turn-around time. The results can then be sent back to the producer, or to the appropriate breed association for further analyzing.

CUP Field Technicians must be re-certified every two years to ensure consistent, high-quality images. *CUP Lab* has the right to reject any image they feel is insufficient, or is *cheating* the animal from more true results. Images sent to *CUP Lab* must be from clipped cattle, that is, cattle that have been clipped in the areas to scan. Hair and dirt can affect the quality of an image immensely, as clipping these areas allows for much more clear and accurate reading. If an image happens to be rejected, the breeder can then make the decision to do a re-scan if so desired. Rejected images are something technicians will obviously want to avoid, as too many rejects will result in a probationary status with *CUP Lab.*

Chute-side scanning is a method of carcass ultrasound where the technician captures the images and interprets the images themselves. Over the last year and a half, I have discussed this method with fellow technicians and cattle producers in regards to the advantages and disadvantages that come along with *chute-side* scanning. Advantages that some cattle producers feel they benefit from are quicker turn-around time, not necessarily having to clip their cattle, and likely no rejected images.

Through my understanding of it all, I along with many other CUP Technicians share concerns with the *chute-side* method. Results from this type of ultrasound can't be compared properly from herd to herd or breed to breed. Each technician is going to trace images a bit differently from one another and do not always have the ability to have the images cross-checked and interpreted by a third-party. Taking the risk of scanning unclipped cattle can

really hinder the image and produce less-accurate results. We know rejected images are not a good thing, but they do help to keep the technician on their toes with consistent, high-quality images that are not underestimating what that animal has under its hide.

Each breed association has their own set of scanning age ranges for bulls and heifers that the producer and technician must comply with to enable the data to be further analyzed by the breed associations for EPD values. It is also important to note that no major breed association in Canada at this time will accept carcass data from any other method but *CUP Ultrasound*, from certified *CUP Technicians*. Although it should be understood that *chute-side* scanning is more beneficial to feedlot cattle for the reason that they are more time sensitive and need a fast turn-around time, and really only require one main measurement, back fat.

From a technician's standpoint, I will not guarantee my customer's an instant dollar-value increase in the breeding bulls or heifers they sell. Any avid cattle producer that truly believes in ultrasound data will tell you that it takes time to build a reputable herd with consistent, sought-after carcass characteristics. Scanning yearling bulls and heifers year after year, and knowing how to market this selection tool, adding to your breed association's EPD database, will and can ultimately provide a *value-added* resource to your herd, and with success, can increase the dollars in your pocket.

Scanning our way into the future…finding out what's really underneath it all…