

Ultrasound and Not So Sound Investments

By Sean McGrath

This article could also be titled Good and Bad Ways to Spend Your Money. In most operations, time and money are limiting factors. While there are great potential rewards from ultrasound, it is still important to try to maximize the value received from the investment in scanning.

Good Investments:

1. **Collecting UGC data on cattle between 300 and 450 days of age**
In order to use data in genetic evaluation (carcass EPD) cattle must be scanned and the images read by appropriate UGC certified technicians. Your scanning technician can help you out with this process. This requirement helps to ensure that data is collected appropriately, is of high quality and can be used for evaluation. Because of the relationship between ultrasound and carcass characteristics of fed cattle, it is important that scanning be performed within an appropriate age range as well. Some guidelines are shown in Table 1.
2. **Reporting performance data to the CLA**
Ultrasound data builds off of existing performance data including pedigree, birthdate, and weaning information. It is important that cattle to be scanned also have as complete a performance record on file as possible. It is also important that other calves in the herd, which may have been culled at weaning, are reported to the CSA, so that ultrasound results can be put into context of the entire herd.
3. **Scanning complete groups of cattle**
Scanning full groups of cattle is an excellent investment. It provides the most useful data for evaluation and comparative purposes and also begins to provide a carcass map of the entire herd.
4. **Scanning replacement females**
This is a great investment that is often overlooked. 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.
5. **Promoting that you scan**
Promotion of your efforts is a good investment. Many commercial producers may not ask for scan data, they just won't go to your sale. There are significant price rewards for commercial producers who can provide high quality carcass genetics and many producers are aware of it. UGC clip marks are marks of excellence for your cattle and your program.

Not So Good Investments:

1. Scanning herdsires / two year old bulls / weaned calves
It is not uncommon to see cattle scanned outside of the recommended age ranges. The value of ultrasound is in its' relationship to carcass characteristics of finished cattle. That is why the age range is important. In other words, scanning a 7 year old herdsire to determine his carcass merit is useless and a waste of money. There are not a lot of 7 year old feeder cattle.
2. Scanning a few selected calves
Scanning selected calves may seem like a good idea to help conserve the pocketbook. It is probably a better investment to forgo ultrasound altogether, than to cherry pick the cattle that will be scanned. Scanning incomplete groups of cattle does not provide a good basis for comparison and may result in selection bias. It is also for this reason that complete reporting of calves at weaning is important. With complete weaning information preliminary selection such as castrating calves post-weaning can be accounted for during genetic evaluation. Another pitfall of scanning selected groups is that it does not build the database for the future. A good example of this would be scanning only your bull calves. This approach does not provide the same future benefit as scanning all of your calves. If a cow produces a heifer calf with a scan record this year, she will in all likelihood receive a carcass evaluation from her progeny record. This data can be used in genetic prediction next year when she may have a bull calf. We have seen situations where even though the breeder has been scanning his bull calves there are still sale bulls without carcass EPD.
3. Not reporting performance data to the CLA
Ultrasound data is built on top of performance data. Not reporting birth, pedigree or performance information means that the ultrasound record can't be used, not only for genetic evaluation, but also for production of age adjusted scan values, ranks, indexes, sire summary reports, etc.
Reporting of performance data on complete groups of cattle is key to getting the most bang for your ultrasound buck.
4. Using Chute Side Ultrasound (non-UGC)
The use of chute side ultrasound greatly limits the options with scan data. Data that is not collected through UGC certified processes cannot be used in genetic evaluation. In other words, no carcass EPD can be produced from this data. In addition, it also means no reports with age adjusted scan values, ranks, indexes, or sire summary reports. UGC data collection requires a few extra steps, but it is a good investment of time and money for those who choose to ultrasound. Your technician can assist you with the process, and the steps are outlined below.

Table 1. Optimal Scan Date Table		
Birthdate	300 Days	450 Days
January 1, 2005	November 27, 2005	March 27, 2006
February 1, 2005	December 28, 2005	April 27, 2006
March 1, 2005	January 25, 2006	May 25, 2006
April 1, 2005	February 25, 2006	June 25, 2006
May 1, 2005	March 27, 2006	July 25, 2006
June 1, 2005	April 27, 2006	August 25, 2006
July 1, 2005	May 27, 2006	September 24, 2006

To use the table, start from the birth date of the first calf born and select 450 Days. This represents the latest date you can ultrasound if you want to have this calf included in genetic evaluation. Select the date of the last calf born and select 300 Days. This represents the earliest date that you can ultrasound if you want this calf included in the evaluation. If the 300 Days occurs after the 450 Days, then you must either run 2 scan dates, or select which calves are most important to for you to scan.

Example: Joe has his first calf born January 1st, 2005 and his last calf born on May 1st, 2005. To include the oldest calf he must scan on or before March 27th, 2006. To include the youngest calf he must scan on or after March 27th, 2006. Joe calls the technician and organized a scan date of March 27th.

How to Scan

1. Contact a technician and schedule a scanning session (technicians are busy so book early)
2. Contact the CLA and obtain a barn sheet
3. Scan the cattle
4. Submit completed barn sheet and images to an approved laboratory (most technicians have a lab that they work with and will direct you to)
5. Reports are returned through the CLA and will contain age adjusted scan information as well as ranks/indexes on the calves