

HEREFORD INFLUENCE

Fact Sheet #2006-03

Ultrasound Data for Seedstock Cattle

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Ultrasound for carcass evaluation provides us an insightful tool to assess relative carcass merit of potential seedstock animals. Ultrasound records from seedstock are highly related to carcass characteristics of feedlot progeny. The table shows the strong association between scan traits and their corresponding carcass trait (diagonal - **bold**).

Relationship of Hereford seedstock ultrasound and harvest progeny carcass characteristics			
	CRIB	CREA	CIMF
URIB	0.87	-0.09	0.38
UREA	-0.15	0.93	0.02
UIMF	0.65	-0.16	0.82

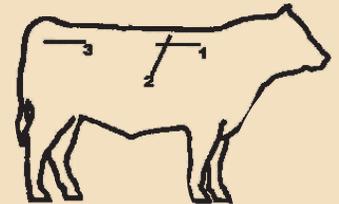
In order to collect ultrasound that is useful for genetic evaluation, it is important that several steps be followed.

1. Breeder decides they wish to ultrasound
2. Breeder contacts Technician and schedules scanning session
3. Breeder obtains barn sheets from CHA - either via the internet or from the office
4. Technician scans the cattle (Cattle must be clipped prior to scanning)
5. Images and barnsheet are sent to the LAB
6. Images are read
7. Results are emailed to the CHA
8. CHA provides a report to the breeder

Clipping Locations and Transducer Position

1. Marbling (Intra-muscular Fat)
2. Rib-Eye Area and Rib Fat
3. Rump Fat

Picture from BIF
Guidelines for Uniform
Beef Improvement
Programs Eighth Edition.



Accepted Age Range – 300 to 530 Days of Age

Data - Breeders will be provided with actual and age adjusted values for rib fat, rump fat, rib-eye area and percent intramuscular fat. As well, indexes are calculated for those animals that are scanned in valid contemporary groups.

Scanning Heifers

Scanning of heifers deserves special mention, as many producers scan sale bulls for marketing reasons and overlook the value of scanning heifers. Heifers often express greater differences in %IMF than young bulls due to lower testosterone levels.

Heifers also provide the bonus of both a progeny and a replacement record. By scanning heifers, existing cows collect a progeny record, and replacement females will start with their own performance record. This is a good way to rapidly increase the overall information on your existing and future cowherd.

How to Use Ultrasound Information

Ultrasound data cannot be directly compared between herds. Raw ultrasound data on individual seedstock animals is not informative. Seedstock animals are not generally raised on the same rations or the same management as feeder cattle, and thus the expression of traits such as rib fat and intramuscular fat are quite different between these different classes of cattle.

Canadian Quality Grade	% IMF
Prime	9.8 +
AAA	5.0 – 9.7
AA	4.0 – 4.9
A	< 3.9

Within Herd:

Age adjusted ultrasound measures and the corresponding within group ranks and indexes are very informative. These values indicate the relative performance of animals within your operation and management system. As the heritability of ultrasound and carcass traits is quite high, this information is quite informative. For example, selection for animals with higher REA indexes in your herd, will ultimately result in increases in REA. These within herd values cannot be meaningfully compared across herds.

Across Herds:

Ultrasound data contributes to the calculation of carcass EPD. These EPD are the only reliable way to compare the genetic merit of animals across herds and environments. Carcass EPD are provided for Rib-Eye Area (in²), Fat Thickness (inches) and % Intramuscular Fat (marbling). Markets and seedstock use will greatly impact the type of EPD and the emphasis that carcass EPD should receive in a selection

Spring 2006 EPD (Current Population)

	REA (in ²)	FAT (in)	IMF (%)
Max	0.83	-0.051	0.68
25%	0.17	-0.004	0.03
Avg	0.09	0.001	0.00
75%	0.00	0.005	-0.05
Min	-0.48	0.061	-0.34

program. Sires being used in a terminal role (all progeny are fed and harvested) should place significant emphasis on carcass traits. Sires being used to produce replacement females will have less emphasis on carcass merit.

Relationship of EPD with Carcass Traits

EPD		Carcass	
REA	↑	Lean Yield	↑
Fat	↑	Lean Yield	↓
IMF	↑	Quality Grade	↑

As well, the resulting breed combination of harvest progeny is important. For mainstream markets that reward marbling and yield, continental types of cattle will provide yield, and focus can be shifted towards higher levels of IMF. For British crosses, more emphasis should be focused on REA and Fat. For lean markets, emphasis should focus on increased REA and reduced Fat.

Carcass and ultrasound data is growing in importance and sire selection using carcass EPD represents an opportunity for producers who either market their cattle on the rail, or are looking at retained ownership in the future, to improve income and reduce potential risk.

UGC Certified Canadian Ultrasound Technicians

Service Provider	Location	Contact Phone #:
Windy Ridge Ultrasound	Lethbridge, AB	(403) 752-4066
Beef Improvement Ontario	Guelph, ON	(519) 767-2665
Fox Technologies	St. Lazare, MB	(405) 624-3697
UltraBeef	Hamiota, MB	(204) 764-2015