



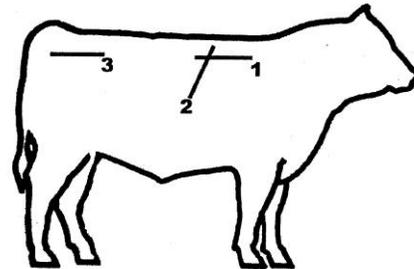
Ultrasound – A Canadian Limousin Association Fact Sheet

Ultrasound data is a low cost and highly effective method to obtain information on carcass merit of breeding stock. Ultrasound on young seedstock is highly related to carcass characteristics of their progeny. Ultrasound measurements are collected on the locations shown in the diagram below.

1. Intramuscular Fat
2. Rib-Eye Area, Rib Fat
3. Rump Fat

(Picture from BIF Guidelines for Uniform Beef Improvement Programs Eighth Edition)

There are a variety of things that you as a breeder can do to ensure the most accurate evaluation and highest quality images possible.



Use a Certified Technician

Certified scanning technicians undergo an extensive testing process to ensure that they are producing quality images. A list of certified technician is available on the CLA website. Remember to book early, as technicians are often extremely busy during the early part of the year.

Use a Certified Lab

In order to include ultrasound data in the North American genetic evaluation, it is essential that the images are interpreted by a UGC certified laboratory. This service usually costs an additional \$5 to \$6, however without being processed by a certified lab ultrasound information cannot be included in the genetic evaluation. Your scanning technician will likely work with a lab and can provide you with additional details. A list of certified labs is available on the CLA website. Also, it is important to contact the CLA office, so that additional information can be forwarded to the lab, and images are processed quickly.

Age Ranges and Contemporary Groups

Calves should be scanned between 320 and 430 days of age. It is important that if scanning is to be done, that entire groups of cattle are scanned. It is important to measure all bulls, and/or all heifers if scanning is done, rather than a select few animals. This prevents data bias and ensures an accurate genetic evaluation. It is recommended that heifers are scanned as well, as they often provide more information on traits such as marbling, than young bulls do.

Things You Can Do

In order to ensure that data collected is accurate and the images are of good quality there are several things that a breeder can do. These include:

- ✓ Using a squeeze chute with side panels that adequately restrains the animal yet allows good access to the area of scanning
- ✓ Ensuring the scanning area is dry, clean and out of direct or bright sunlight (assists technician in seeing images)
- ✓ Ensuring a good source of electricity is available
- ✓ Ensuring cattle are clipped and clean in the area of scanning (½ inch hair length)
- ✓ Weigh cattle within 7 days of scanning
- ✓ Scan cattle in the correct age range
- ✓ Ensuring an additional heat source is available to keep the scanning oil and equipment working effectively
- ✓ Contact the CLA in advance so they can send the required information to the lab and your technician
- ✓ Send payment to the lab with the images to avoid any potential processing delays

This benefits the breeder as it helps to ensure image quality, avoids the need for rescanning cattle to get useful images and produces expedient scan results.

Interpreting the Results

Reports will be returned with actual and age adjusted values for fat thickness (FAT), rib-eye area (REA) and % intramuscular fat (IMF). It is important to realize that results from seedstock are not directly comparable to carcasses from fed cattle. Fat levels and IMF will tend to be lower in seedstock cattle due to lower energy diets and testosterone effects in bulls. REA may be larger due to testosterone effects as well.

Scan results can be used to compare animals within contemporary groups. Cattle with larger REA and lower Fat will tend to be higher yielding. IMF relates to marbling, as is shown in Table 1.

Table 1. The relationship between % Intramuscular Fat, Canadian Grade, USDA Grade and Marbling Description

% IMF	CBGA Grade	USDA Grade	Description
9.9 +	Prime	Prime	Slightly Abundant
4.0 – 9.7	AAA	Choice	Small
2.3 – 3.9	AA	Select	Slight
<2.3	A	Standard	Traces

Raw scan data should not be used in direct comparisons between herds. Comparison of results between herds and/or contemporary groups is optimally achieved by using carcass EPD.

Average Carcass EPD for Yearling and Two Year Old Limousin Bulls

CW – carcass weight (pounds) – A higher value indicates heavier carcasses.

REA – rib-eye area (square inches) – A larger value indicates larger rib-eye muscle.

YG – Yield Grade – a smaller yield grade EPD means more cattle will reach Yield Grade 1. Thus a smaller number indicates more lean meat in the carcass.

Marb – marbling (marbling score units) – A higher number means that a bull's offspring will have more marbling (more AAA)

Table 2. Average Carcass EPD for Current Population

CW	REA	YG	Marb
13.4	0.16	-0.01	-0.02

Cowherds must obtain carcass information to establish a baseline. Once a baseline is established for carcass performance, herds can then decide if they require more/less marbling, more/less yield and work to select combinations of genetics to help them achieve optimal carcass endpoints based on their specific markets.

Ultrasound Rebate Program

The CLA offers a rebate program that pays \$5 for each valid ultrasound record collected by CLA members. Records must meet UGC criteria and be in valid contemporary groups to qualify for the rebate.

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