

HEREFORD INFLUENCE

Fact Sheet #2006-04

Carcass Data Collection for Genetic Evaluation

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End product or carcass merit is the ultimate driver of value in the beef industry. Carcass traits are moderately to highly heritable. This means that seedstock breeders can rapidly and effectively make changes to carcass characteristics.

In order to accurately assess the relative genetic merit of carcass genetics it is important to measure carcass traits on cattle. This exercise requires additional information over and above standard grading information such as quality and yield grade.

The key principles behind evaluation are:

- Accurate Pedigree / Breed Composition Information
- Complete reporting of groups of cattle

There are many options available to producers interested in collecting carcass data. These include, but are not limited to...

1. Producer organized progeny test
2. Carcass data collection on non-select animals
3. Carcass data collection on commercial progeny of a purebred sire

Option #1 is the most involved and provides the most detailed carcass information. In this option, producers work with a participating herd and use random AI to produce calves from a cross section of sires. This option is similar to option #3, with more supervision and structure to the mating program. Ideally a sire with high carcass EOD accuracy (> 0.70) will be used to tie the data into the general Hereford population.

Option #2 involves feeding out cattle that do not meet the selection criteria in your seedstock

Direct genetic heritabilities (diagonal in **bold**) and correlations (off-diagonal)

	CWT	RIB FAT	REA	MARB
CWT	0.18	0.09	0.32	0.09
RIB FAT		0.30	-0.41	0.43
REA			0.36	-0.10
MARB				0.53

herd. It is important, if this option is selected, that complete reporting of select and non-select animals is made at weaning and yearling, as this helps to account for any potential selection bias. Additionally, the use of ultrasound in selected animals is highly recommended. Data collected through this option is highly useful for genetic evaluation.

It may be possible for breeders with smaller numbers of non-select animals to work together to feed larger groups of animals.

Option #3 may require the least effort. This option involves collection of data from commercial calves. It is important that if this option is selected, that dam breed composition and age, and sire identification can be established. Breeders may wish to use DNA to achieve this goal. Often the value of this information is limited due to lack of ties with the overall Hereford population. The value of the data for benchmarking and assessing overall herd performance is very valuable.

Information required for genetic evaluation includes:

Sire Identification (CHA Registration)
Dam Identification (can be commercial female)
Breed Composition of Dam
Birth Year (Age) of Dam
Birth Date of Calf
Sex of Calf
Calf ID (Herd, Feedlot, CCIA #, Carcass #)
Weaning Date (Weaning Group)
Weaning Weight
Harvest Date
Grading Date
Harvest Weight (live)
Hot Carcass Weight
Rib-Eye Area
Average Fat Thickness (3 measures around rib-eye)
Grade Fat
Marbling Grade / Score
Muscle Score

Carcass data provides valuable information and in combination with an ultrasound data collection program can allow for rapid improvement of carcass characteristics.

Suggested Calendar for Carcass Data Collection

Date	Action
Prior to Weaning	- explore marketing and feeding options, trying to select a feedlot and/or buyer that can work with selected packing plants to collect detailed carcass information
One Month Prior to Slaughter	- contact the beef grader and inform them that you will be sending cattle
One Week Prior to Slaughter	- reconfirm with the plant, and the grader - schedule a visit with the plant to view grading if possible
Date of Shipping	- inform the plant the cattle are arriving and ensure they are collecting ear tag, carcass number and carcass weight - contact the grader and inform them that the cattle have been shipped (with approximate kill time if possible)
Day of Grading	- attend grading if possible (admission to the plant is not possible in all facilities)
Carcass Reports Received from the Grader	- submit carcass information including tattoos and management groups to the Canadian Hereford Association

Additional Notes:

Marbling Grade / Score - in order to differentiate within Quality Grades a marbling score system must be used. The recommended method is to break each quality grade into a percentage scale.

Example: AA 20 - a low AA. (20% of the way to AAA)

AA 80 - a high AA (80% of the way to AAA)

Plant Selection - Some plants do not participate in collection of detailed grading information that is required for genetic evaluation. Large, federally inspected plants that can provide this information include Cargill Foods, and XL Foods. Regional or local plants can be contacted on a case by case basis.