Western Beef Resource Committee *Third Edition*

Cattle Producer's Handbook

Genetics Section 1042

Using Carcass Data in the Cowherd To Make Genetic Improvement Decisions

Dan Drake, University of California-Davis
C. Kim Chapman, Utah State University

Returns to cow-calf producers are increasingly being tied to the quality of the beef products ultimately derived from the calves sold. Carcass data demonstrating quantity and quality of past calf crops sold can be used to estimate future performance on the rail. The appeal of any carcass will vary depending on the intended market. Some markets require Choice or Prime quality grades, while others may place a premium on yield grade with little regard to quality grade.

The first step in using carcass data for genetic decisions in the cowherd is to determine the desired carcass characteristics or attributes for your market. Cattle producers participating in alliances or other forms of vertical or coordinated integration will usually have clear guidelines for desired carcass attributes. The National Beef Quality Audit conducted in 2005 identified attributes that would be reasonable targets for U.S. beef producers (Table 1). After determining which type of carcass fits a local market, producers then have specifications to compare with their herd's production.

Table 1. Suggested standards or goals for carcass traits.

Carcass traits	Industry goals
Carcass weight (lb)	600-850 (ideal 725-750)
Quality grade (%)	
Prime	7
Choice	21
Choice –	34
Select +	38
Standard	0
Yield grade, %	
YG 1	14
YG 2	53
YG 3	32
YG 4	1
YG 5	0
Ribeye area (sq in)	11 to 15
Fat thickness (inches)	0.2 to 0.4

Source: 2005 National Beef Quality Audit.

The ideal way for producers to obtain carcass data on their herd is to collect the data on the entire calf crop once the calves are finished and harvested. This information is sometimes difficult to obtain unless producers have developed a good rapport with the feeder and processor. Retained ownership of calves may provide another avenue to obtain carcass data. Steer futurities, such as ranch to rail programs, can provide limited carcass quality data, but usually the number of calves is restricted and variation may lead to mistaken conclusions.

Ultrasound carcass measurements of calves at weaning or as stockers usually are not valid in predicting final carcass attributes since many carcass traits such as backfat and marbling are affected by how the calves are finished. If using ultrasound measurement, the ideal time to collect the data is once the calves are finished and just before they are shipped to the processor for harvest.

Occasionally, group data for a lot or pen of cattle may be available from the processor when individual data cannot be collected. While inferior to individual data, group data represents an average, and some inferences about the herd's carcass attributes may be made.

Generally, producers will find carcass data far more extensive than growth data, which are typically birth weaning and yearling weights. The large amount of carcass data can be difficult to manage without handling by computers. Fortunately, the common computer spreadsheet is adequate to handle most carcass data processing. Spreadsheets offer the producer the ability to develop indexes, which allow each animal to be compared to the average of all carcasses in the herd. When using indexes, anything over 100 is above average and anything below 100 is below average. This then gives the producer a numeric measurement to use in determining which cows will go with which bull and