



Beef Quality Assurance Fact Sheet

Animal Sciences/Forages



AL-BQA 10

July, 2005

Beef Quality Assurance: Benchmarking for Quality

Beef Quality Assurance (BQA) deals with management practices and techniques affecting the quality of the final product: beef. It is easy to demonstrate good injection techniques and the injection site problems resulting from poor techniques. The same is true for handling and carcass bruising. Sometimes we forget traditional measurements of meat quality: yield grade, quality grade, carcass weight and ribeye area, to name a few. Ultimately, measurements of meat quality will determine the eating experience of the consumer. The foundation for these measures of meat quality is in the genetics base of the herd.

Genetics provide the foundation for the quality of the final product. The genetic potential of a calf is determined by not only the genetics of the bull and cow, but how they compliment each other as well. Genetics will not solely determine the quality of the final product; environment will also play a role. In general, the environment you place a calf in can determine how the genetics will be expressed. For example, the rigor of an implant program can decrease marbling score up to one full grade. However, allowing the carcass to hang in a cooler for 14 days will maximize tenderness scores. Together, genetics and environment will determine the final eating quality of each calf.

Quality targets for the BQA program are in table 1. Some beef producers first question might be “what bull do I need to buy to meet the targets?” Other producers may ask which breed or crossbreeding system will hit the target. The real question should be “where am I now?”

Reaching BQA targets for meat quality is difficult if not impossible without some measure of quality in the herd. How can you get to point ‘B’ if you do not know where you are to start with? Every cow-calf producer needs some way to benchmark meat quality. Benchmarking is determining existing meat quality (where you are.) There are several ways of collecting this information. The method you use must fit the farm/ranch marketing and management scheme. Unless an entire calf crop is used, make sure the group you test is representative of your herd. An easy way to do this is a “gate-cut” sort. Possible benchmarking methods are custom harvesting, real-time ultrasound, Pasture-to-Rail, retained ownership.

ALABAMA A&M AND AUBURN UNIVERSITIES, AND TUSKEGEE UNIVERSITY, COUNTY GOVERNING BODIES AND
USDA COOPERATING

The Alabama Cooperative Extension System offers educational programs, materials, and equal opportunity employment to all people without regard to race, color, national origin, religion, sex, age, veteran status, or disability.

Custom harvesting involves taking a sample of your calf crop, feeding them on the farm, and harvesting them at a local processor. Someone trained to collect carcass data (processor, Extension professional, agricultural educator, producer) then takes the necessary measurements to determine yield and quality grades. This system works well for small herds with access to a local processor.

Real-time ultrasound can also be used to take measurements of ribeye area, backfat thickness and marbling score on finished cattle. This is a viable alternative if a local processor or data collection expert is not available. You will still feed a sample of your calf crop. Instead of harvesting, have an ultrasound technician collect the needed data on the live animal. Real-time ultrasound is widely used in breeding cattle to get an indication of their potential to pass on desirable carcass traits. In general, a certified ultrasound technician will take measurements of rump and backfat thickness, ribeye area and percent intramuscular fat at yearling age in bulls and heifers. Images are sent to a centralized processing lab and data then sent to appropriate breed associations for expected progeny differences (EPD) to be estimated. EPD values can be used in selecting replacement bulls and heifers on carcass quality.

For farms wanting larger samples, or lacking the resources to feed cattle, programs like the Pasture-to-Rail program may work. Alabama Pasture-to-Rail is an educational program to give beef producers individual farm growth and carcass data. You retain ownership of the cattle. Individually identified cattle meeting program requirements are collected, mixed with cattle from other farms and shipped to a feedlot in the high plains area of the United States. At market weight, cattle are harvested at a packing plant, sold on a carcass grid and carcass data collected. Cattle proceeds and carcass data are returned to the owner.

Some beef producers may want to retain ownership on their own. Select a feedlot you have confidence in, and ship the number of calves you care to market. By retaining ownership, you are liable for the costs of finishing, but benefit from getting the carcass and growth data. Another option is custom feeding, where the feedlot feeds and manages the cattle as you tell them. You decide what to feed, and when/where to sell. Either method will get the carcass and growth data you need.

After collecting data for as little as one year, you can begin to characterize the genetic base of the herd. Depending on the amount of data collected, breeding decisions on real data can be made. Each year of data will increase the accuracy of your decisions. Your ability to meet BQA targets will improve as correct breeding decisions are made while maintaining proper reproduction, pre-weaning growth and maternal targets of the herd.

Table 1. BQA targets for meat quality

Trait	Target
Yield grade	Under 3.5
Quality grade	Select or better, A maturity, no dark cutters
Carcass weight	600 to 900 pounds
Ribeye area	11 to 15 square inches