

Ultrasound Guidelines Council
Field Technician Study Guide
2012 Edition

Chapter XI – Quality Data for Genetic Evaluation

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Our Mission

The mission of UGC might be summarized as “*Quality Data for Genetic Evaluation.*” UGC serves as the guardian of ultrasound data quality for the beef cattle industry. This is why UGC exists. If UGC fails at this mission it fails the beef industry.

UGC represents a partnership of member breed associations, image processing labs, and certified technicians. Only by working together can this team fulfill its mission. UGC-Certified Field Technicians are critical members of this team. Their role is to collect the most accurate images possible and to do their best to ensure the integrity of the data they help collect. This all leads to the better genetic evaluation of beef cattle carcass traits – more accurate genetic evaluation.

The purpose of this chapter is to emphasize the importance of what UGC-Certified Field Technicians contribute to the beef industry, their role in carcass ultrasound image collection, and to remind technicians of factors that affect image and data quality – factors that they control or have influence on.

Towards Better Data

Critical concepts in pursuit of the mission of UGC are:

- Science-based
 - UGC protocols and procedures and certified systems are based on scientific research. As research identifies better methods these methods need to be applied.
- Standardization
 - Measurements taken in a documented, standardized, repeatable way yield records that are more precise, more accurate, and more heritable.
- Integrity
 - The beef industry computes national genetic evaluations on hundreds of thousands of animals each year, based on millions of records collected by technicians and producers. At some level, the quality of all data depends on the integrity of the people involved in the collection and reporting of the data. Every member of the UGC team suffers when one person takes a short-cut.
- Education
 - Any professional who stops learning becomes stale at what they do. To best fulfill its mission UGC partners must be committed to life-long learning – committed to doing things better today than yesterday.
- Certification
 - Certification serves as a stamp of approval for systems, field technicians, and lab technicians.

Technician's role in carcass ultrasound data collection

- First and foremost, the field technician must collect the most accurate images possible in a timely matter.
 - Experience and practice are keys.
- The ultrasound data must go through several hands before the process is ultimately complete; hence, good communication is a must.
 - The technician is the direct link between the breeder and the lab.
 - The technician works directly with the breed association when there is a problem or question concerning a scan session..
- Technicians must make sure the ultrasound barnsheets are correct and complete to help ensure that the images collected are interpreted in a timely matter.

Factors Affecting Ultrasound Data Quality

- Facilities
 - Safety
 - Proper restraint
 - Promote calm
- Animal handling
 - Animal posture
 - Humane treatment
 - Calm
- Hardware
 - Maintenance, cleaning and repair
 - Calibration
 - Interference
 - Screen visibility
 - Settings
 - Viable stand-off pad
- Software
 - Up-to-date
 - Professional use
- Paperwork
 - Accurate
 - Honest
- Scanning technique
 - Clipping
 - Brushing, blowing
 - Oiling
 - Probe location and contact
 - Independent images
- Contemporary groups
 - Animals truly treated alike
- Breed protocols
 - Age ranges
 - Images required

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