

Guidelines for Structured Sire Evaluation



Cattle breeders, both seedstock and commercial, need to be concerned about the importance of genetic merit in the cattle they produce. Branded beef marketing programs, such as the Certified Angus Beef (CAB) Program, rely on qualifying cattle meeting certain live animal and carcass specifications.

In addition, major packers are entering into programs of buying cattle and selling meat products based on carcass specifications. Therefore, there is little doubt that breeders of Angus cattle must be in a position to produce animals with predictable reproductive, growth and carcass merit.

While advanced technology in recent years has made possible National Cattle Evaluation for birth weight/calving ease, growth and maternal value from Angus Herd Improvement Records (AHIR) field data, it is still necessary to structure guidelines for evaluating seedstock for carcass merit.

Specific testing guidelines

1. Reference (tie) sires

In order to obtain a fair genetic evaluation of a sire for carcass merit, the testing scheme begins with the breeding season. Under ideal circumstances enough females should be randomly mated to allow for the evaluation of at least 25 steer progeny by the test sire and a combined total of at least 20 steer progeny by two reference sires. Heifer counterparts to the steers may be used if steer numbers fall short.

The use of reference sires serves to tie new information to the existing American Angus Association database so comparative genetic values may be calculated.

A reference sire is defined as any sire that has been previously evaluated for carcass merit.

2. Contemporary grouping

A contemporary group is a set of cattle of the same sex that have been raised together and have received equal treatment. All progeny within a contemporary group

should be born within a 90-day period, and male calves should be castrated prior to 150 days of age.

The contemporary group would be further broken down within sex and birth grouping if some go on feed as calves and others are started on feed as yearlings. The desired minimum contemporary group size is 20 steer or heifer calves to include both test and reference sire calves. Progeny in purebred or commercial herds within each contemporary group must be identified as to:

- a. birth date
- b. sire registration
- c. dam registration, or identification if a commercial female
- d. breed of dam (up to three crosses for commercial females)
- e. age of dam

3. Sex of calf and selection

All test and reference sire progeny (male and female) may be utilized in the evaluation. Sex of calf will be used in the definition of the contemporary group, meaning that heifer data will not be adjusted to a steer equivalent. All nonreplacement individuals may enter the program, such as nonreplacement heifers.

When herd replacements are removed from contemporary groups, it's suggested that weaning and yearling weights on all progeny in the initial growth contemporary group, not just the carcass contemporary group, be recorded and provided to the American Angus Association. This is necessary to correct for bias in the data due to selection.

Weaning weights must be taken on all cattle between 160 and 280 days of age and yearling weights must be taken between 320 and 440 days, according to established AHIR procedures.

Finishing & slaughter guidelines

1. An important refinement of the carcass evaluation procedures is slaughter at a constant compositional end point. Cattle should be slaughtered when the group averages 0.3 inch backfat or prior to 16 months of age or a maximum of 1,300 pounds live weight, whichever occurs first. This corresponds to at least 90 days on feed for yearling cattle and 180 days on feed for calves.

Depending on the weight ranges of the cattle as they go on feed and the number of cattle involved, two or more slaughter dates may be required. Contemporary grouping will include slaugh-

ter date; therefore, each slaughter group must include test and reference sire progeny.

2. All progeny can go on feed directly after weaning or may be stockered and placed on feed after yearling weights are taken.

3. In order to facilitate recordkeeping, cattle should be grouped for finishing at centralized locations within a state or geographic region. The location of the feedlot should be in close proximity to a packing plant that has already agreed to participate in carcass data collection. All health and feeding practices will be according to normal industry standards.

Test herd alternatives

1. The objective of all sire evaluation programs is to arrive at unbiased values of genetic merit for each sire tested. There are real-world economic constraints that preclude this from being completely possible, however. The genetic makeup and identification of the test herd is one area where it is not always possible to have the ideal testing environment. The following is a list of test herd alternatives from the most desired to the least desired:

- a. registered Angus cows — no selection of replacement heifers and all males castrated
- b. commercial Angus cows
- c. crossbred cows or cows of another breed
- d. registered Angus cows — selection of replacement heifers and steers are culled males

Alternative (a) is consistent with current National Angus Cattle Evaluation procedures, whereas alternatives (b), (c) and (d) would strictly be for genetic evaluation of Angus sires for carcass traits.

2. Regardless of the test herd alternative used, cows must be randomly bred; that is, no selective matings. All test and reference sires should be evenly represented in each contemporary group.

Data collection

1. In addition to growth data, carcass data collected will include:
 - a. slaughter date
 - b. warm carcass weight
 - c. marbling score
 - d. fat thickness
 - e. ribeye area
 - f. percent kidney, pelvic and heart (KPH) fat

g. length of chill (24 or 48 hours)
2. Date on feed, time on feed and feeding program will need to be documented for each feeding test.

3. All data will be collected, processed through AHIR, and analyzed through National Cattle Evaluation procedures.

General information

1. An enrollment fee may be required.
2. The responsibility of obtaining reference sire semen will be between the test herd owner and the test sire owner.

3. All financial arrangements will be between the test herd owner and the test sire owner.

4. The test herd owner has the responsibility of accurately recording complete herd identification, breeding and calving records, and growth data.

5. If ownership is not retained to slaughter, the test herd owner has the responsibility of ensuring that the buyer is completely aware of the testing procedure and that the cattle are finished and slaughtered in accordance with prescribed guidelines.

6. The American Angus Association will provide advisory assistance in all phases of the testing procedure and will provide assistance in collecting the carcass data. A carcass data collection fee will be assessed in accordance with normal charges.

7. The American Angus Association will process all data through AHIR and National Cattle Evaluation procedures for the fee of \$2/weaning weight.

