

American Angus Association
General Minimum Guidelines for Recording Individual Feed Intake
Revised September 14, 2015

1. Pre-Test Information

Breed, three-generation pedigree, age of dam, birth date, birth weight, weaning weight, weaning date, and all information for defining and assigning weaning contemporary group according to relevant breed association rules will be recorded.

2. Age on Test

Calves entering a test facility should have birth date and weaning date recorded through the American Angus Association Beef Improvement Records. From that and the weaning contemporary group definition, calves within a contemporary feeding group must have a start of test age that is within a 90-day range. Since the American Angus Association accepts weaning weights between 120-280 days of age, not all calves from a weaning contemporary group can be tested as one group if calves fall outside the 90-day range. Weaning contemporaries composing a feeding contemporary group must be fed at the same testing facility in order to remain in the same contemporary group for genetic evaluation procedures. Individual feed intake data should be collected on calves within the range of weaning age (e.g., 205 ± 45 days) to not more than 460 days of age.

3. Pre-Conditioning Period

A conditioning (warm-up) period of 21-28 days should occur for calves to acclimate, with at least 14 days of this period in the testing facility. This will allow calves to become accustomed to the feeding facility, including electronic intake recording equipment and proceed through transitional diets up to receiving the final performance-test diet. Individual feed intake on transitional diets will not be used in computation of daily feed intake. Date of conditioning period start should be recorded.

4. Test Period

Research has demonstrated that a minimum of a 45 day test period (following warm-up) is required to accurately record individual feed intake. The test period should be defined as the final 45 days of a 66-day or longer time period to ensure acclimation to the test conditions. During the test period, calves should be consuming the final test diet *ad libitum* for all days. Intake measurements obtained by electronic or automated systems on test days where equipment (hardware or software) failure is noted should be deleted from the data. Also, days where calves are treated for sickness, removed from the pen for an extended period should not be counted as a "test day". In sickness cases, full *ad libitum* intake should have resumed before data collection continues. The date when the final test diet was used after warm-up, defining day 1 of the actual "intake test" should be recorded. Intake data with extremes in missing test days recorded is subject to exclusion from genetic evaluation.

5. Test Diet

Appropriate performance test diets should be used during the test. All calves within one test should be fed the same test diet, and the diet should be formulated to provide appropriate levels of energy to ensure expression of animal differences for intake and growth. The ingredient composition of the diet should be characterized, recorded, and must remain constant throughout the test period. All ingredient and chemical compositions of the diet will be done on a dry matter basis. It is recommended that the test group be fed for a minimum average daily gain of 2.00 lb. during the test period. Data below this ADG recommendation may be excluded from genetic evaluation procedures.

6. Feed Intake Data Recording

During the test period, daily individual feed intake must be calculated on each animal. To allow for comparability of results across tests, individual daily feed intake should be expressed on a dry matter basis, not on an as fed basis. For tests utilizing electronic feed intake recording equipment, do not exceed the recommended numbers of animals per feeding location to promote normal feeding behavior, *ad libitum* intake, and minimize the potential for limiting intake. Missing feed intake data may be estimated using a regression approach as suggested by Hebart et al. (Australian J. Exp. Ag. 44(5):415-421), however, large (>5 days) blocks of data can not be missing at the beginning or end of the test for any animal. If there are some missing data, and usable data includes at least 35 days of intake recording, missing data need not be replaced or estimated.

7. Live Weight Recording

A minimum of one individual live weight should be recorded at the beginning of the test period, and another live weight should be recorded at the conclusion of the test. The live weight recording method must be consistent for all cattle within the testing group. Weigh dates should be recorded along with live weights.

8. Post-Test Data Recording

The end of test date and the number of days of individual intake data collected should be recorded for each animal. These data are required for defining the actual “test period”. The equipment used for recording individual feed intake should also be identified for each test.

9. Data Auditing

For some intake recording systems, data auditing functions monitor the quality of intake records. Feed delivered to animals and recorded by the system as consumed should not differ by more than 5%. Technicians should utilize all data integrity features available on individual intake recording systems. Once the daily dry matter intake is computed for individual animals, the phenotypic correlations of intake with growth rate and live weight should be calculated; correlations among intake, growth rate, and live weight that are not at least moderate and positive indicate suspect data. Additionally, for tests that compute

residual feed intake, the correlation of RFI with intake and feed conversion should be at least moderate and positive.