RFI CALCULATIONS
All data is received 'real time' by Texas A&M and calculations are done by Texas A&M. ***The results are RFI indexed separately by owner.***

REPORT HEADINGS
Final BW – Final Body Weight

ADG – Average Daily Gain without fill (bulls were weighed before feeding early in morning)

Dry Matter Intake – The ration converted to a dry matter basis for pounds of feed consumed daily.

Feed:Gain Ratio – Amount of feed on a dry matter basis used to gain 1 lb of body weight.

RFI (Residual Feed Intake) (lbs/day) – The amount of feed an animal consumes daily, above or below its maintenance requirements as well as its performance (growth) requirements. A negative RFI is a more efficient bull.
Example: -2.0 means the bull ate 2 lbs less feed per day than he needed to meet his body maintenance requirements and production needs (ADG). With today's feed costs, that is a savings of 20 cents/day or $36.00 per feeding period. The difference between a -2.0 and +2.0 bull is $72.00 in the feedlot.
If you are keeping replacement females, by selecting for negative RFI research has shown you have the potential to save close to $60.00 per year.

UNDERSTANDING EFFICIENCY AND RFI
Historically, the weight of an animal has been the most important component in determining value, which follows closely with production being the most heavily promoted and taught value in agriculture.

However, when you consider that over 75 percent of the cost of growing cattle is related to feed inputs. And that 70-75 percent of the feed consumed by cattle is solely for maintenance requirements, then the importance of improving the efficiency of feed intake becomes very real. Remember that a 5% improvement in feed:gain is worth four times more than a 5% improvement in daily gain. With today's high feed prices, improving a herds efficiency of feed utilization is obvious.

WHAT DOES THE RESEARCH SAY

1. Efficiency is highly related to growth and growth is the traditional method of measuring efficiency. The problem is that using growth as a measure of efficiency also increases the size of the animal, which will increase maintenance requirements (70-75% of feed consumed goes toward maintenance requirements), which will increase appetite, which will increase the need for available feeds/grasses.

2. Using RFI will lead to improvements in feed efficiency without compounding the need for additional feeds or increasing mature size.

3. RFI allows you to produce at a level that optimizes on one's management and environment instead of stressing it.

4. RFI is a highly heritable trait meaning that through genetic identification and then selection one can make rapid improvements.

5. RFI research has shown that improvement in efficiency can be made by as much as 25 percent.

6. Selecting for efficiency will allow the cattle industry to become more competitive in production with swine and chicken. About 5 percent of the feed consumed by cattle is converted into protein, while swine and chicken are 14 and 22 percent respectively.

7. Research has shown there is a 0.90 correlation (very high) between bulls measured for RFI postweaning and how their daughters will perform for efficiency in the cowherd.

QUESTIONS AND ANSWERS

What is the heritability of RFI (Residual Feed Intake)?
0.38-0.40 (Moderately to highly heritable).

How is RFI calculated?
Basically RFI is looking at what the feed intake requirements for maintenance are for the individual bulls and then what the feed intake requirements are for production (each individual bull's ADG) and compares that to what the individual bull consumes.

How much difference can one expect to find in cattle?
Research from Australia, Canada, and the U.S. have consistently found differences of up to 30 percent. Our first test group of 400 here at Midland , we found up to 40% variance.

If you have two cows weighing 1300 lbs and one produces 15 pounds of milk and the other 20 pounds of milk, wouldn't the cow at 15 lbs require less feed?
No, and it could just as well be that the 15 lbs. milk producer is a larger consumer of feed which compounds her inefficiency on both feed intake and lower production. That's the importance of measuring RFI. This is a case where size doesn't matter.

What should one be aware of when using RFI?
First and most importantly, efficiency needs to be balanced with production and profitability. High efficiency with low production is no more cost effective than the high production and low efficiency.

Why can't we just use our eye and pick the more moderate, easy-fleshing cow?
Don't confuse size or fleshing ease with efficient productive cattle. Contrary, to what some folks have believed, RFI is not related to frame size, body type, or body condition. You'll find as many inefficient cows in any frame size and just because they look fat and easy-doing doesn't mean they're efficient. A fat cow that is high intake with a 400 lbs calf is not going to generate much profit.