


**Life-Cycle, Total-Industry
Genetic Improvement of
Feed Efficiency in Beef
Cattle: Blueprint for the
Beef Improvement
Federation**

4/19/2012 

2012 BIF - Houston

Ad hoc committee charged with presenting ideas and preparing a white paper on feed efficiency

Jack Dekkers, Iowa State University
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Bob Weaber, Kansas State University
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4/19/2012 

2012/13 following Houston

Committee prepared the paper and submitted to the BIF Board for the September 2012 meeting.

BIF Board then authorized publishing the paper in Professional Animal Scientist journal. So, manuscript was submitted in early 2013, and the revision was submitted last week.

Besides PAS, have in our BIF proceedings and will be on the NIFA beef feed efficiency grant page.

4/19/2012 


**Summarizing the paper...
what does it include?**

1) Why feed efficiency (beef output/feed input) is important for entire industry: cow/calf plus feedlot

When & Why we need to measure feed intake

a) gains in efficiency that are output based and do not require measuring feed intake

b) gains in efficiency that are input based and do require measuring feed intake

4/19/2012 

**Summarizing the paper...
what does it include?**


2) Raised questions to identify areas of need for further research and development to serve the beef industry, conception to consumption.

a) What are opportunities for improvement of feed utilization for beef production?

b) Are there antagonisms with other traits?

c) What data collections are needed, and how do we incorporate in NCE?


d) What are the holes in our knowledge?

4/19/2012 

**Summarizing the paper...
what does it include?**

3) No single measurement of efficiency, or indicator of efficiency, is recommended. Rather, use measure of feed intake with production output measure(s) in selection index(es).


We do not advocate for a "feed efficiency" EPD.

4/19/2012 

**Summarizing the paper...
what does it include?**

4) Reflections on swine and broiler production and their selection programs to improve efficiency:


Both use feed/gain (conversion) which we would not recommend for cattle.
Both use much shorter periods for feed recording.
Both have highly integrated selection programs at the nucleus level so expensive feed intake data are not wasted.

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**Summarizing the paper...
what does it include?**

5) Recording of feed intake will continue to be focused on younger, growing animals on low forage rations in a drylot. Measuring intake of cows on grass is very difficult and costly.

Research questions concerning interactions of diet or age with genotype for feed intake were highlighted.


4/19/2012 

**Summarizing the paper...
what does it include?**

6) Recommendations for incorporating into a national cattle evaluation program.

Feed intake is an ERT.

As contemporary groups will differ in many aspects, use of "standardized" data (deviation from the CG mean divided by the SD so the mean is 0 and SD is 1) is recommended. Predictions of breeding value can still be for a given diet.


4/19/2012 

**Summarizing the paper...
what does it include?**

6) Recommendations for incorporating into a national cattle evaluation program-continued.

Increase accuracy plus make predictions for non-measured animals through use of correlated traits.

Further development of genomic data in the prediction of breeding value is needed.

4/19/2012 

Thank You!

Questions?

4/19/2012 