Approaches for evaluating the relationship between feedlot and pasture intake

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(www.beefefficiency.org)

Introduction

- Economic benefit to improve production output per unit of feed input
- To make genetic improvement, individual feed intake has to be measured
- Published EPD for feed utilization and DMI

Introduction

- ~50% beef industry feed costs attributed to mature cow herd
- 70 to 75% total annual energy for maintenance
- Selection for lower grazing intake • Grazing intake must be measured!!
- Currently no technology for measuring individual intake on population of grazing cattle

Introduction

- Feed Intake measured in feedlots
- Implication of use for feed intake outside feedlot unknown



Measuring Grazing Intake Herbage disappearance on group housed animals

- Equations predicting DMI
- Digestive markers

Methods lack precision, often tedious, expensive and time-consuming



Research

- Evidence of repeatability for intake across diets
 - High intake animals on concentrates are high intake animals on forage
 - Conducted in feedlot environments



Research

- Water Intake to calculate DMI
- Calculations developed in feedlot environments
- Limited by facilities









Research

- CSU Eastern Colorado Research Center for 40-d grazing trail
 - 83 steers
 - Data collected via CowManager
 - $\circ\,$ Grazing intake estimated with biomarker (TiO_2) for subset of steers







Research	
High Intake	Low Intake
Feedlot Intake	
Average = 28.28 lbs. Min = 26.85 lbs. Max = 29.71 lbs.	Average = 18.84 lbs. Min = 13.12 lbs. Max = 20.26 lbs.
Estimated Grazing Intake	
Average = 30.32 lbs. Min = 24.54 lbs. Max = 39.01 lbs.	Average = 22.74 lbs. Min = 19.14 lbs. Max = 24.83 lbs.

Conclusion

- Differences in behavior from feedlot to pasture
- Preliminary results suggests a positive relationship
- Characterization of ear tags data is on going



