United States Department of Agriculture
Agricultural Research Service

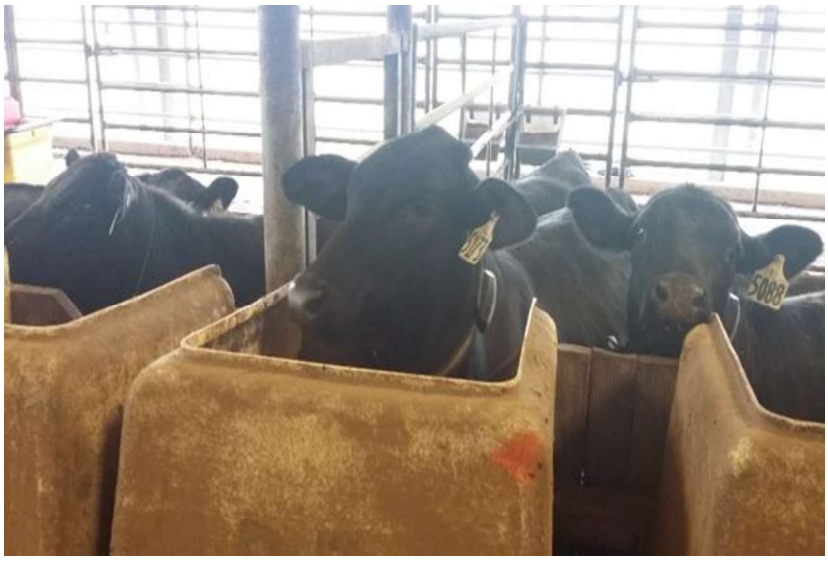
Production Efficiency in Replacement Heifers in Relation to their Efficiency as Mature Cows

Grazinglands Research Laboratory, El Reno, Oklahoma May 2017

Rationale: The cow herd consumes 70% of the total feed consumed by beef cattle in the U.S. Yet, most feed efficiency research is conducted with young growing animals with the assumption that efficient, young growing cattle will also be efficient as lactating cows. We are conducting a long-term assessment of feed efficiency in cows, leading to a comparison of efficiency in growing heifers and cows.

Objective: Determine the relationship between Residual Feed Intake (RFI) evaluations conducted in growing heifers and those conducted again in the same animals as mature cows.

What We Are Doing: All replacement heifers are being evaluated for feed efficiency after being backgrounded at least 45 d following weaning and before the animals are 16 months of age. They are placed in the Calan headgate barn, allowed to acclimate, trained for the headgates, and fed an alfalfa hay diet to achieve 1 kg/d gain. Intake and efficiency will be determined on individual heifers over 70 d. After the heifers reach maturity they will again be evaluated. When cows reach 5 years of age, they will not be bred to calve the following year. After weaning calves from nonpregnant cows and the cows will be evaluated for weight loss and gain efficiency. First, cows will be fed a ration consisting of ground alfalfa hay at below maintenance level energy intake with subsequent weight loss. After the weight loss period, cows will be offered ad libitum access to the same ration. During this phase, cows will be in a positive weight gain period.



Heifer/Cow Types Being Evaluated

Small-Medium Frame Angus (SMA) **Medium-Large Frame Angus (MLA)**

SMA X Brahman F1s **MLA X Brahman F1s**

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