



## Effect of Bos Indicus influence and Pregnancy on Feeder Heifer Gains

# EXTENSION

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### Introduction

Several factors influence performance of feeder cattle, including initial weight (hundredweight, cwt), breed, Bos indicus genetics, and, for heifers, pregnancy status at placement. We recently completed a feeding trial with crossbred heifers at a commercial feedlot near Buffalo, Oklahoma. While the goal of the trial was to conduct a preliminary assessment of a feed additive, we were able to assess how Bos indicus influence and pregnancy at placement impacts average daily gain.

### Data

The study was conducted with 313 heifers, averaging 627 pounds at placement, at Buffalo Feeders, LLC. Heifers were fed an identical diet. At arrival, heifers were vaccinated, weighed, pregnancy checked using ultrasound and implanted. Seven heifers were pregnant 90 days or less and had their pregnancy terminated using lutealase. Heifers pregnant more than 90 days were removed from the study. Heifers were assigned to one of eight pens based on a randomized block design. Heifers were re-implanted on day 81 and day 152. On day 152, heifers were sorted into pens based on weight class (heavy and light). Heavy-pen heifers were harvested

on day 243 and light pen heifers were harvested on day 264. Summary statistics are shown in Table 1.

### Methods and Results

Average daily gain models were estimated as a function of receiving hundredweight, hide color, Bos indicus influence and pregnancy status. Bos indicus-influenced heifers had significantly higher ADG during the first 80 days (ADG1). In the first period, Bos indicus-influenced heifers average daily gain was 0.28 pounds per day ( $p \leq 0.1$ ) higher than the Bos taurus heifers. The difference in average daily gain was not significant in the last two time periods. Pregnant heifers had a 0.41-pound lower ADG ( $p \leq 0.05$ ) than open heifers. Aborted heifers likely experienced trauma, stress and blood loss due to pregnancy termination. In periods two and three, formerly pregnant heifers' average daily gain was not statistically different from open heifers. It is possible that they recovered from the pregnancy termination or had compensatory gain, or the number of observations of formerly pregnant heifers was too low to detect significance.

### Conclusion

Pregnant heifers had a 0.4-pound lower average daily gain through the first 80 days but there was no significant difference in ADG in subsequent feeding periods, possibly due to a low number of pregnant heifers at placement. Bos indicus-influenced heifers had a higher average daily gain during the first 80 days compared to Bos taurus heifers. Since the data had too few pregnant heifers, the statistical models lacked the power to measure the full feeding period impact of pregnancy on average daily gain and profitability. Still there are reasons to be cautious of purchasing pregnant feeder heifers. Jim et al. (1991) report that open heifers earned \$40

Variable	Frequency	Percent
<i>Hide color</i>		
Black & Black/White	200	64.5
White & Yellow	92	29.7
Red & Red/White	18	5.8
<i>Breed makeup</i>		
<i>Bos indicus*</i>	271	87.4
<i>Bos taurus</i>	39	12.6
<i>Pregnancy Status</i>		
Pregnant	7	2.3
Open	303	97.7

**Table 1: Summary Statistics (n=310)**

\**Bos indicus*-influenced heifers (approximately 25% *Bos indicus*)

per head more than heifers that aborted calves in a feedlot setting. There are additional costs associated with feeding pregnant heifers, including veterinary and labor costs. Pregnant heifers that do not abort calves may calve in the feedlot, resulting in both added labor, death losses, reduced average daily gains and lower carcass values.

## References

Jim, G. Kee, Carl S. Ribble, P. Timothy Guichon, and Ben E. Thorlakson. "The relative economics of feeding open, aborted, pregnant feedlot heifers." *The Canadian Veterinary Journal* 32, no. 10 (1991): 613.

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