

## **Cost Of Gain and Death Loss Trends In The Cattle Feeding Sector**

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## **Cost of Gain in Cattle Feeding**

- **Directly impacts profitability**
- **Previous research has documented the relative magnitude of contributors to cost of gain (feed prices, performance, seasonality, etc.)**
- **Heifers higher than steers**
- **Has become a “really big deal” in cattle feeding the last few years**

## **Cost of Gain Questions**

- **What is the long-term trend?**
- **Has the relative contribution of various factors changed?**
- **What about seasonality?**
- **What about the difference between steers and heifers?**

## **Data To Work With**

- **KSU Animal Science Department “Focus on Feedlots” monthly survey of a consistent sample of yards**
- **Data go back to early '80s, but some variables were not consistently collected until 1992**

## Modeling Effort

- Cost of gain is a function of ---- feed prices, performance factors (ADG, Feed conversion, Death loss), seasonal factors, and possibly a long term trend
- Statistical model was estimated for both steers and heifers, then for the difference in cost of gain between steers and heifers
- Model is nearly an identity, so as expected it explains nearly 100% of the variation in cost of gain

## Historical Steer Cost of Gain



## Historical Heifer Cost of Gain



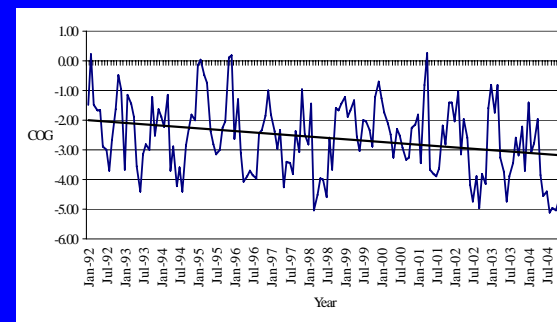
## Model Results

- Feed is of course still the big driver (1% increase in corn price increases cost of gain by about .57%).
- Feed conversion is important (1% increase in feed conversion increases cost of gain by about .57% , slightly more for heifers).
- Average daily gain is marginally important (better average daily gain lowers cost of gain)

## Model Results (cont)

- Higher death loss increases cost of gain (seems to be more variable for steers than for heifers)
- Seasonality is prevalent (May, June, and July closeouts tend to have lower cost of gain). Seasonality tends to be more pronounced for steers than for heifers
- Long term trend – during a long period of relatively stable feed prices (before the big runup) there was a slight upward trend in cost of gain over time for heifers, not much trend in steers

## Steer Minus Heifer Cost of Gain



## Model Results (cont)

- The difference in cost of gain between steers and heifers has been increasing at a rate of about  $\frac{1}{4}$  % per year
- Previous research points out that technological improvements in cattle feeding have been relatively slow (compared to other livestock and crop production system improvements).
- Possible future remedies –
  - Continued work on alternative feed sources
  - Work on improving feed conversions (especially for heifers) and reducing the variability in feed conversions

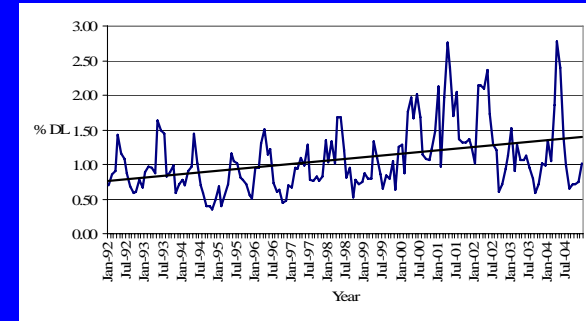
## Death Loss in Cattle Feeding

- An important contributor to profitability
- Has there been a trend over time?
- Is there a seasonal pattern?
- How important is placement weight?
- Differences between steers and heifers

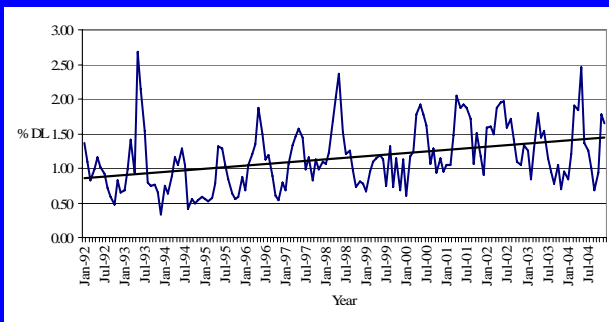
## Modeling Effort

- Death loss is a function of --- seasonal factors, placement weight, and possibly a long term trend
- Statistical model was estimated for both steers and heifers, then for the difference in death loss between steers and heifers
- We know we have not captured everything in the model so as expected it explains only 50% to 65% of the variation in death loss

## Average Steer Death Loss Over Time



## Average Heifer Death Loss Over Time



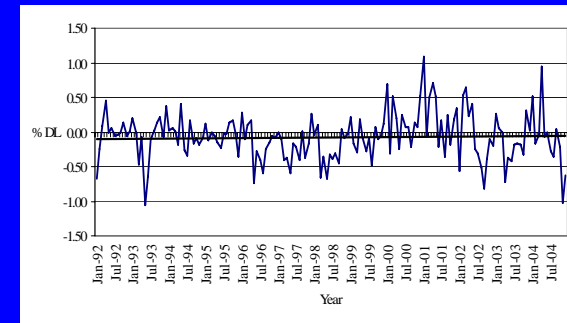
## Model Results

- Steer death loss is increasing at about 1/20 % per year on average
- Heifers, slightly more than that
- A 1% increase in steer placement weight yields about a 1 percent decrease in the death loss percentage (a very small number)
- A 1% increase in heifer placement weight yields about a 4 percent decrease in the death loss percentage

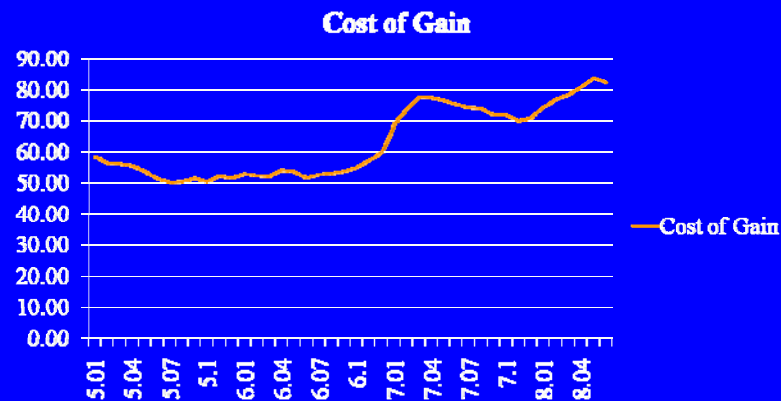
## Model Results (cont)

- Both steers and heifers tend to have higher death loss rates for spring closeouts (March through June)
- There appears to be no trend in the difference between steer and heifer death loss

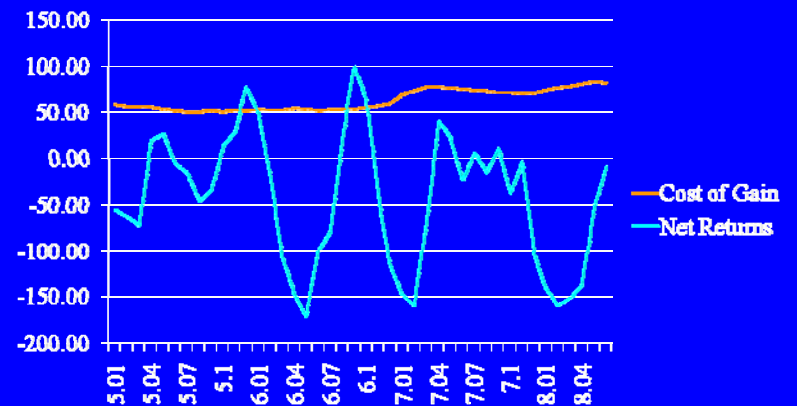
## Difference Between Steer And Heifer Death Loss Over Time



## Recent Cattle Feeding Economics



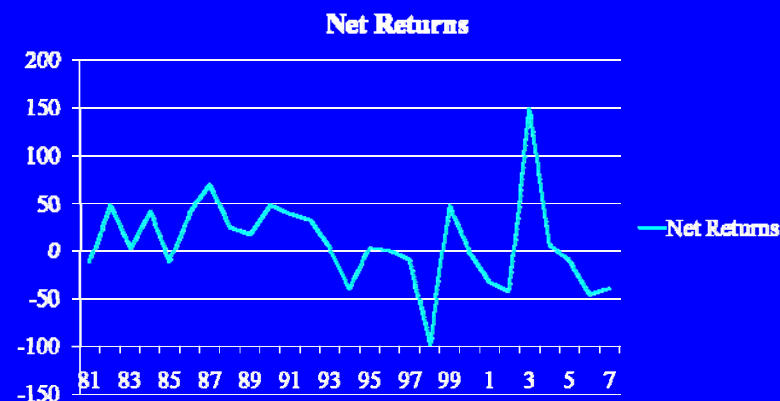
## Recent Cattle Feeding Economics



## Recent Cattle Feeding Economics

- Significant losses in cattle feeding, but keep historical perspective in mind
- Through 2007 – early 2008 actual cost of gain was coming in consistently higher than my models predicted
- Last few months actual cost of gain is coming in consistently lower than my models predict (possible explanations)
  - Feedlot managers are incorporating alternative feeding strategies (using alternative ingredients, etc.)
  - Feedlot managers are better than average ingredient purchasers

## Historical Cattle Feeding Returns



## Near Term Projections

- Modest positive net returns over the next few months
  - Could be more positive if feeding cost of gain continues to come in lower than projected
- Break-evens now around \$1.00, increasing to \$1.06 by late fall
- Sale price projections slightly above that

## Points to Ponder

- Seasonality is still very pronounced
- Technology improvements have not kept up with feed costs, but recent months provide some hope
- Heifer feeding cost of gain has been increasing faster than steer feeding cost of gain
- What's with the death loss trend
  - Placement weight increases will help (especially for heifers)