

## Lessons Learned From 34 Years of Retained Ownership – Tri-County Steer Carcass Futurity

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## Tri-County Steer Carcass Futurity (TCSCF)

- First year 35 consignors - 106 steers
- What is the most profitable steer in the feedlot?
- Last 14 years, 97,446 steers and heifers from 27 states mostly South and East of Iowa and Manitoba
- Twelve member board has oversight of cattle fed at 7 different feedlots
- Lessons Learned in 34 Years of Retained Ownership – The Tri-County Steer Carcass Futurity Experience



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## What does TCSCF do?



### First

- Collect growth and carcass data
- Analyze data and prepare reports for producers
- Producers can compare their cattle to other producers
- More information provided the data analyzed
- Information used to get better everyday



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## What does TCSCF do?



### Second

- We provide genetic, growth, health, carcass and cost/return data on retained ownership cattle.
- Consignors use the information to produce cattle that are genetically superior, healthier, more docile, higher quality and ultimately return greater profits.
- Information is used not only by consignors but the entire beef industry.



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## Profit

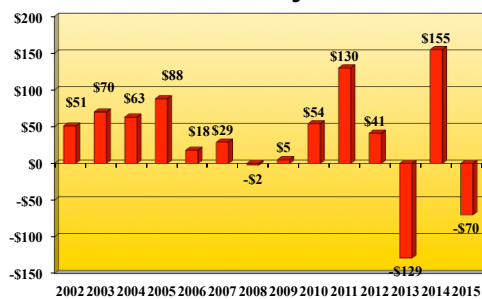
- Profit = Gross Income – Cost of Production
- Profit is why Tri-County Steer Carcass Futurity was started 34 years ago
- Profit is what we are still interested in
- Profit pays the bills
- Profit feeds the kids
- Profit buys new toys
- Profit is the happiness index for retained ownership



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## Profit \$/Hd by Year



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14 Years 97,446 head Average Profit \$/hd \$38.48  
**Total Profit for 14 Years \$3,750,216**



## Profit Groups by Year Ranked and Divided into 6ths by Year

- Consigned to the Iowa Tri-County Steer Carcass Futurity (TCSCF) from 2002–13
- 77,717 head of steers and heifers
- Analysis provided by Certified Angus Beef
- Only cattle with complete carcass data
- Profit = gross income – home value – trucking to feedlot – finishing costs
- Profit does not include risk management income or expense
- 25 states and Manitoba represented



## Profit Groups by Year Ranked and Divided into 6ths by Year

- For example, if there were had 6,000 hd in one year
- They were sorted from most profitable to least profitable
- The most profitable 1,000 head were averaged
- The next most profitable 1,000 head were averaged
- The next most profitable 1,000 head were averaged
- The next most profitable 1,000 head were averaged
- The next most profitable 1,000 head were averaged
- The least profitable 1,000 head were averaged

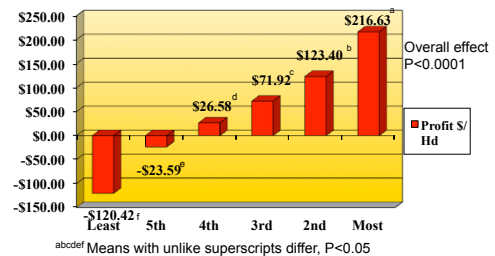


## Profit Groups by Year Ranked and Divided into 6ths by Year

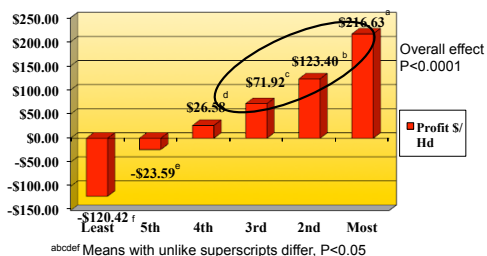
- This method analysis removes year effect
  - Fluctuations in feeder calf, corn or feed and fed cattle market
  - Each animal is ranked within the year it was marketed



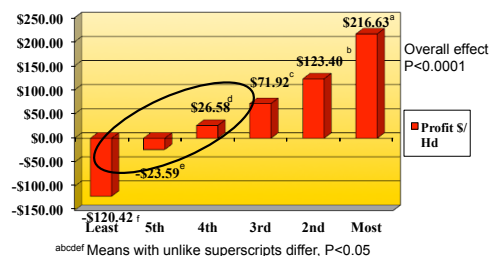
## Profit \$/Hd by Profit Group



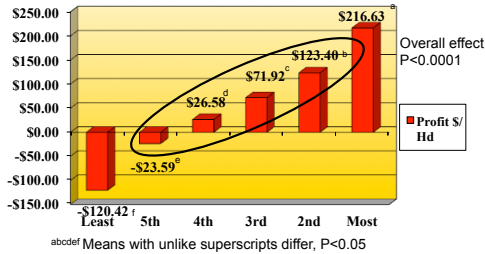
## Profit \$/Hd by Profit Group



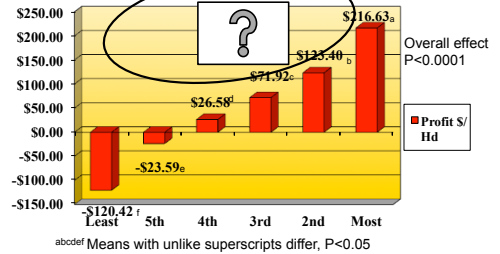
## Profit \$/Hd by Profit Group



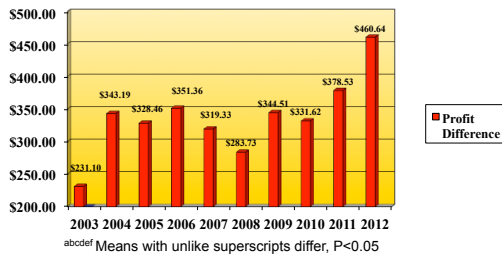
### Profit \$/Hd by Profit Group



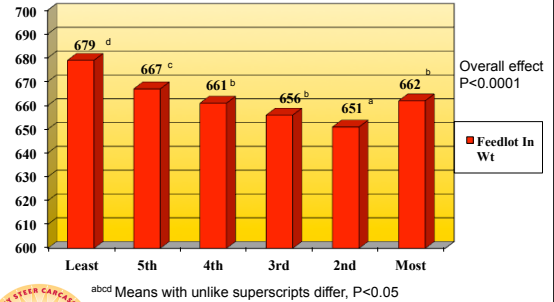
### Profit \$/Hd by Profit Group



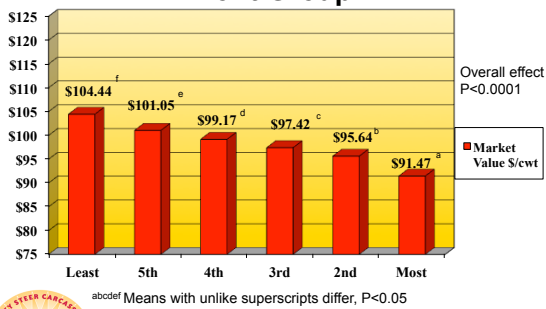
### Profit Difference \$/Hd by Highest and Lowest Profit Group from 2003 to 2012



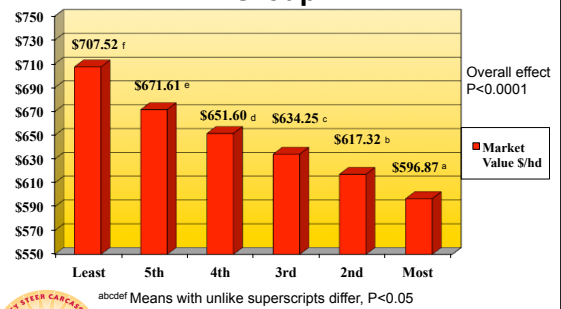
### Feedlot In Weight by Profit Group

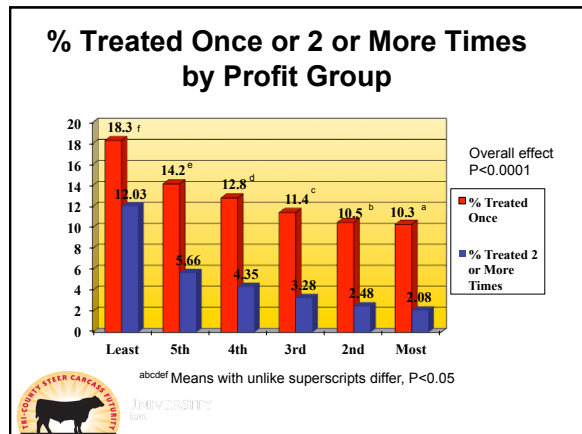
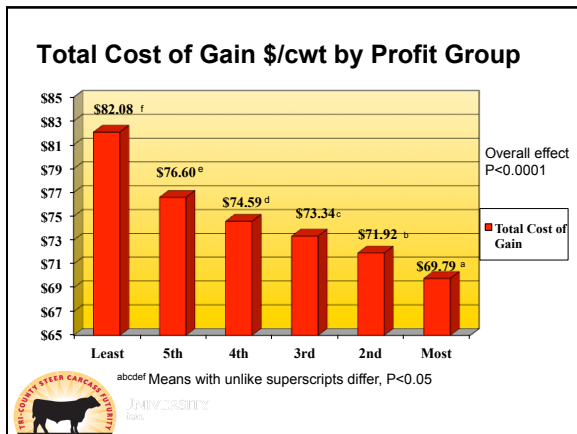
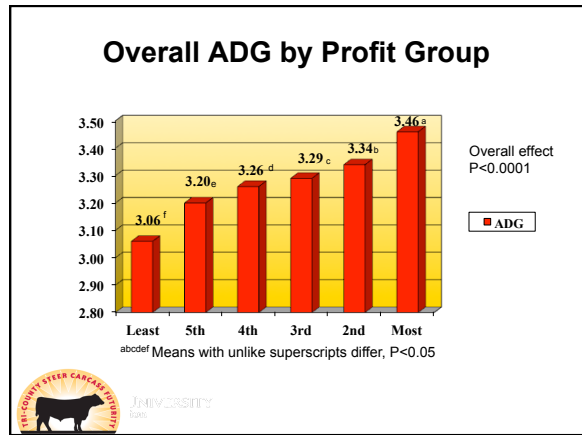
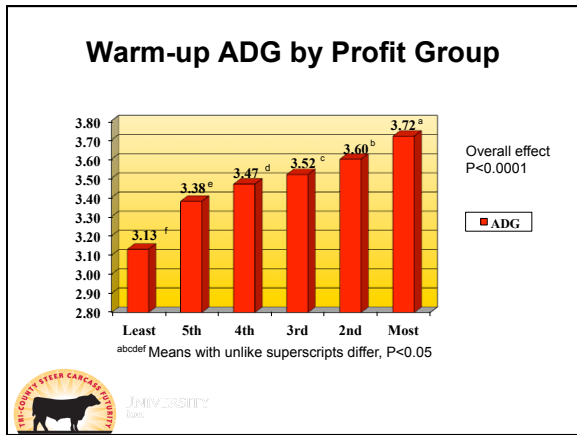
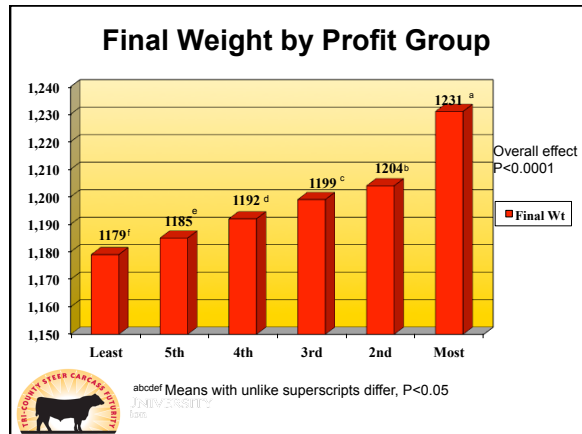
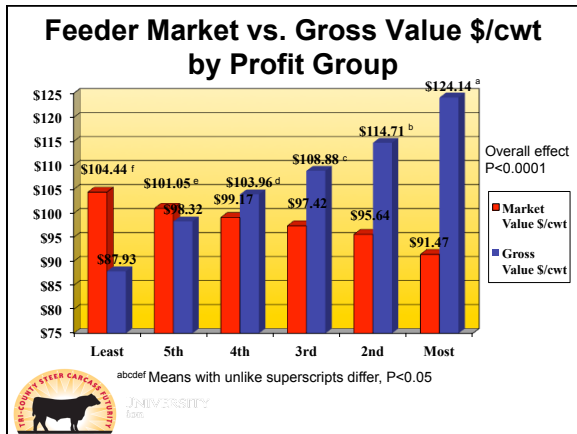


### Feeder Market Value \$/cwt by Profit Group



### Feeder Market Value \$/Hd by Profit Group





## Health Related Considerations

- Medicine costs
- Labor/chute charges
- Mortality rate
- Feedlot gain
- Carcass merit



## Delivery wt and age on morbidity

	Number of treatments		
	No Treatments (NT)	Single Treatment (ST)	2 Treatments or more (2T)
No. of cattle	39,188	5,570	2,286
% of Total	82%	12%	6%
Delivery wt, lb	649 <sup>a</sup>	616 <sup>b</sup>	602 <sup>c</sup>
Age on delivery	303 <sup>a</sup>	274 <sup>b</sup>	264 <sup>c</sup>



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## Effect of morbidity on feedlot gain and feed efficiency

	Number of treatments		
	(NT)	(ST)	(2T)
Final wt, lb	1181 <sup>a</sup>	1153 <sup>b</sup>	1132 <sup>c</sup>
Days on feed	167 <sup>a</sup>	178 <sup>b</sup>	184 <sup>c</sup>
ADG, lb	3.21 <sup>a</sup>	3.06 <sup>b</sup>	2.93 <sup>c</sup>
Est. F:G	6.89 <sup>a</sup>	6.76 <sup>b</sup>	6.66 <sup>c</sup>
Est. DMI	22.1	20.7	19.5



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## Effect of morbidity on USDA yield grades and distribution

	Number of treatments		
	NT	ST	2T
Fat cover, inch	0.46 <sup>a</sup>	0.44 <sup>b</sup>	0.40 <sup>c</sup>
Calculated, Yield Grade	2.86 <sup>a</sup>	2.75 <sup>b</sup>	2.63 <sup>c</sup>
Yield Grade 1 & 2, %	57.64 <sup>a</sup>	63.97 <sup>b</sup>	71.93 <sup>c</sup>
Yield Grade 3, %	39.96 <sup>a</sup>	34.36 <sup>b</sup>	27.06 <sup>c</sup>
Yield Grade 4 & 5, %	2.40 <sup>a</sup>	1.67 <sup>b</sup>	1.00 <sup>c</sup>



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## Effect of morbidity on USDA quality grade\* distribution

	Number of treatments		
	NT	ST	2T
Marbling score	SM 29 <sup>a</sup>	SM 14 <sup>b</sup>	SL 96 <sup>c</sup>
Prime, %	1.02 <sup>a</sup>	0.77 <sup>b</sup>	0.65 <sup>c</sup>
Premium Choice, %	15.45 <sup>a</sup>	11.64 <sup>b</sup>	9.12 <sup>c</sup>
Low Choice, %	52.26 <sup>a</sup>	47.53 <sup>b</sup>	42.25 <sup>c</sup>
Select, %	29.13 <sup>a</sup>	36.26 <sup>b</sup>	39.59 <sup>c</sup>
Standard, %	2.13 <sup>a</sup>	3.80 <sup>b</sup>	8.38 <sup>c</sup>
% CAB	18.7 <sup>a</sup>	14.4 <sup>b</sup>	11.12 <sup>c</sup>

\*Premium and Low Choice determination based on marbling score.  
P-value represents Mantel-Haenszel Chi-square.



## Difference in dollars returned per head relative to the number of treatments (2004)

	Number of treatments		
	NT	ST	2T
Death loss discount*, \$	PAR	-31.07	-100.04
Treatment cost**, \$	PAR	-20.60	-48.43
ADG reduction#, \$	PAR	-24.49	-35.71
Yield grade premium, \$	PAR	+2.90	+4.59
Quality grade discount, \$	PAR	-10.39	-19.41
Light carcass discount, \$	PAR	-1.55	-1.58
Dark cutter adjustment, \$	PAR		-0.58
<b>Total difference, \$</b>	<b>PAR</b>	<b>-85.02</b>	<b>-201.16</b>

\*Accounts for cost of gain investment and lost carcass value.  
\*\*Includes medicine, labor and chute/equipment charges.  
#Based on additional carcass weight gained during the feeding period.



### Difference in dollars returned per head relative to the number of treatments(2014)

	Number of treatments		
	NT	ST	2T
Death loss discount*, \$	PAR	-\$54.91	-\$216.85
Treatment cost**, \$	PAR	-\$25.16	-\$64.28
ADG Bonus#, \$	PAR	-\$34.56	-\$68.74
Yield grade premium, \$	PAR	+\$1.62	+\$4.03
Quality grade discount, \$	PAR	-\$5.35	-\$14.29
Light carcass discount, \$	PAR	-\$1.61	-\$4.69
Dark cutter adjustment, \$	PAR	+\$0.05	-\$0.19
<b>Total difference, \$</b>	<b>PAR</b>	<b>-\$119.92</b>	<b>-\$365.01</b>



\*Accounts for cost of gain investment and lost carcass value.  
 \*\*Includes medicine, labor and chute/equipment charges.  
 #Based on additional carcass weight gained during the feeding period.

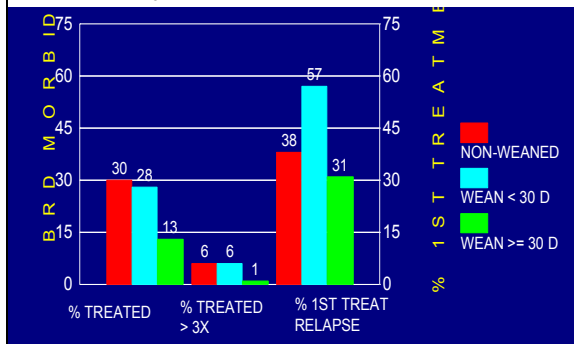
### Health Treatment Impact on Tenderness (Engelken, et al 2009)

Item	Untreated	One Treatment	Two or more Treatments
Number of calves	203	94	62
Overall ADG	3.32 <sup>a</sup>	3.34 <sup>a</sup>	3.08 <sup>b</sup>
Marbling Score	SM 51 <sup>a</sup>	SM 16 <sup>a</sup>	SL 99 <sup>b</sup>
Premium Choice %	15.3%	7.6%	3.6%
Choice - %	65.5%	56.5%	50.0%
Select %	19.2%	35.9%	46.4%
Warner-Bratzler Shear lb	6.01 <sup>a</sup>	6.47 <sup>b</sup>	6.47 <sup>b</sup>
Profit or (loss)	\$62.21 <sup>a</sup>	\$58.96 <sup>a</sup>	(\$38.24) <sup>b</sup>

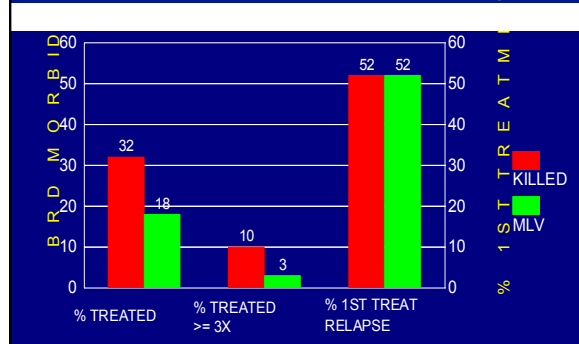


<sup>a,b</sup> Numbers within same row without a common superscript are significantly different (p < .05)

### The Effect of Weaning Status on BRD Morbidity and First Treatment Relapse



### The Effect of Pre-Trial Vaccine Type (Killed or MLV) on BRD Morbidity



### What about sire differences?



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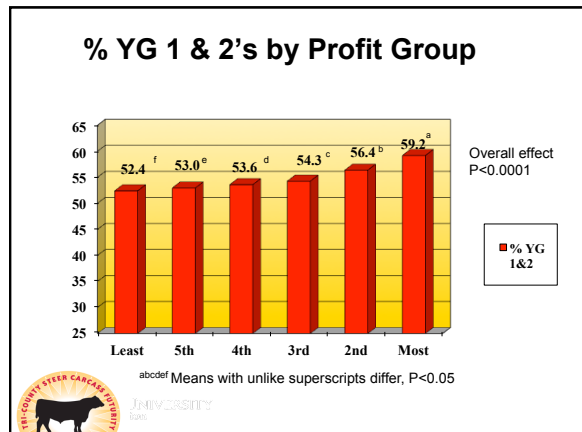
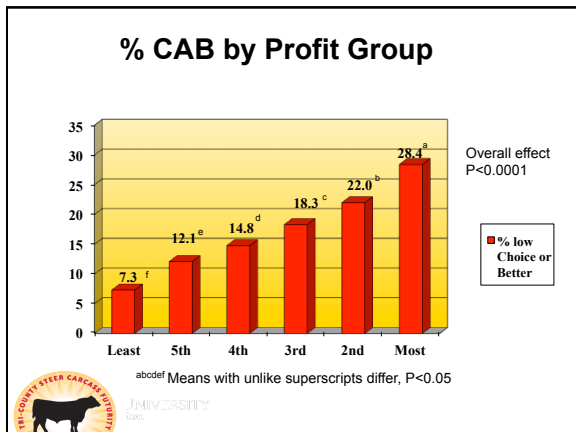
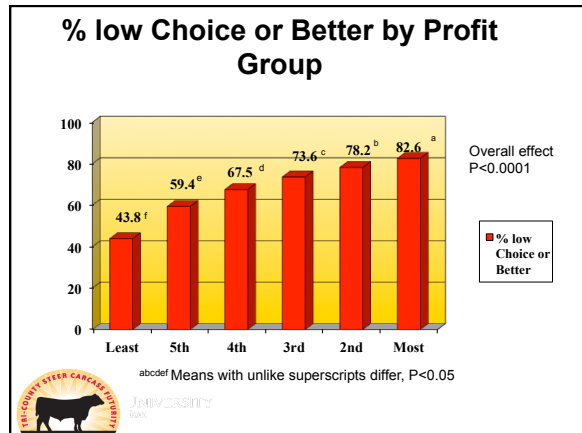
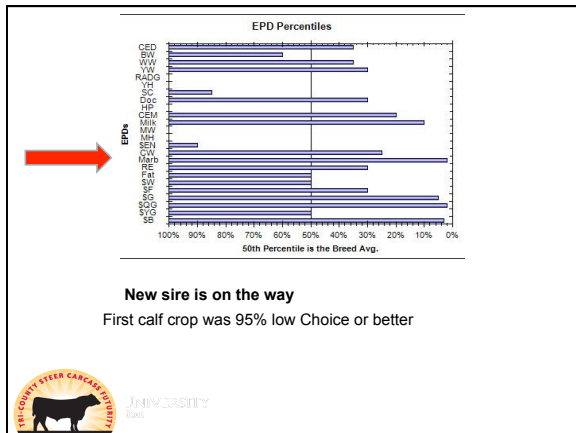
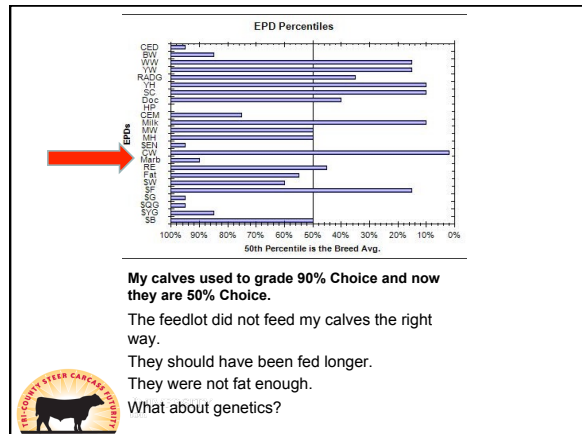
Every breed has high and low profit sires in the TCSCF analysis!

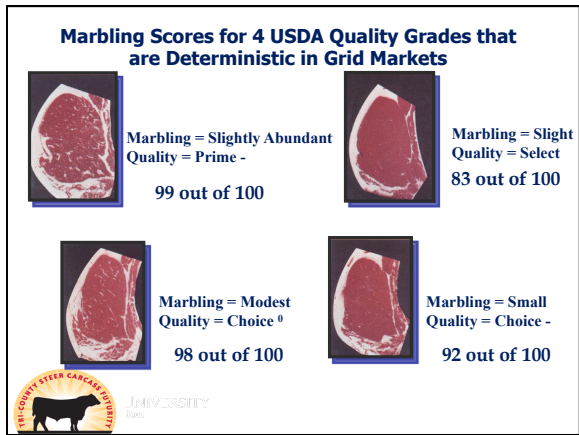
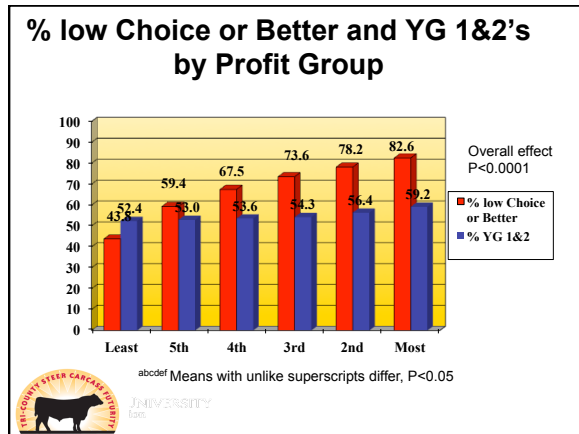
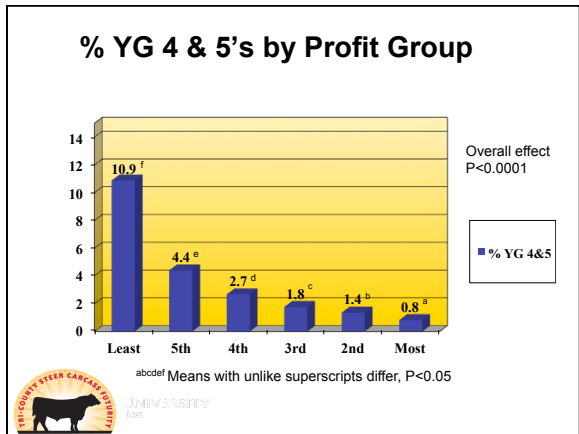
Trait	Sire Groupings		
	Top 25%	Bottom 25%	All Sire Average
	Number of Sires ==> 199 202 806		
<b>Feedlot Performance</b>			
Delivery Weight	691	657	676
SPA Calf Value	\$520	\$502	\$512
Ave. Disposition Score	1.84	1.90	1.90
Overall ADG	3.30	3.06	3.18
Final Weight	1214	1152	1185
Feed to Gain	6.76	6.93	6.91
Feed Cost/cwt of Gain	\$50.73	\$51.98	\$51.79
<b>Health Performance</b>			
Individual Health Treatment Costs	\$4.37	\$11.95	\$7.82
<b>Carcass Performance</b>			
Hot Carcass Weight	750	703	728
Dressing Percent	61.5%	60.7%	61.4%
Fat Cover	0.45	0.46	0.46
Ribeye Area	12.7	12.1	12.4
Ribeye Area/cwt of Carcass Weight	1.69	1.72	1.70
Yield Grade (calculated)	2.84	2.87	2.88
% Low Choice or Better	74.5%	52.6%	63.9%
% Upper Choice or Better	18.1%	6.3%	10.9%
<b>Profitability</b>			
Average Lifetime Profitability	\$168	\$92	\$131

2010 TCSCF Sire Profit Analysis

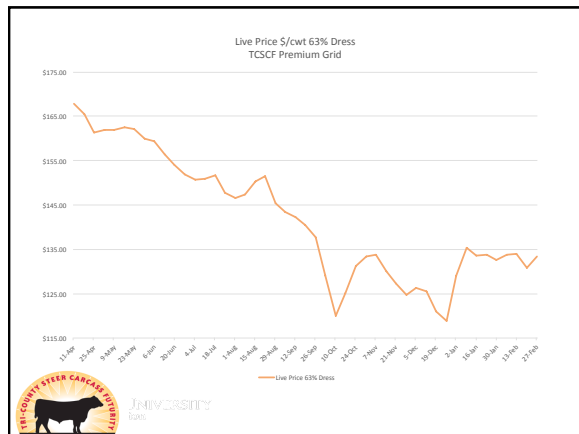
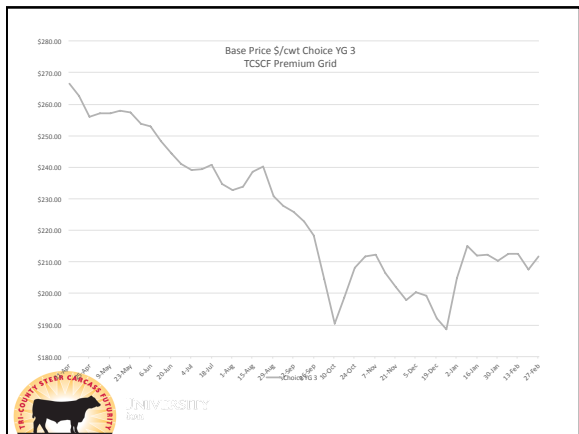
**2014 TCSCF Sire Profit Analysis**

Comparison of Top Profit Bulls to Bottom Profit Bulls: 2010 - 2014			
Trait	Sire Groupings		
	Top 25%	Bottom 25%	All Sire Average
Number of Sires ==>>> 191 191 764			
<b>Feedlot Performance</b>			
Delivery Weight	691	633	661
SPA Calf Value	\$821	\$769	\$794
Ave. Disposition Score	1.74	1.77	1.79
Overall ADG	3.52	3.21	3.36
Final Weight	1254	1147	1198
Feed to Gain	6.68	6.75	6.72
Feed Cost/cwt of Gain	\$50.13	\$50.61	\$50.41
<b>Health Performance</b>			
Individual Health Treatment Costs	\$7.60	\$12.87	\$9.87
<b>Carcass Performance</b>			
Hot Carcass Weight	775	700	736
Dressing Percent	61.8%	61.0%	61.4%
Fat Cover	0.47	0.47	0.47
Ribeye Area	12.9	12.1	12.5
Ribeye Area/cwt of Carcass Weight	1.66	1.73	1.70
Yield Grade (calculated)	2.93	2.92	2.93
% Low Choice or Better	78.5%	59.2%	69.3%
% Upper Choice or Better	18.6%	10.8%	14.6%
<b>Profitability</b>			
Average Lifetime Profitability	\$274	\$128	\$202





- ### Grid Pricing The Basics
- Base price \$/cwt for Choice – YG 3 carcass
  - Premiums for Prime, upper 2/3's Choice, YG 1&2
  - Discounts for Select, Standards, YG 4's & 5's, light and heavy weight carcasses, stags, over 30 months, dark cutters, heiferettes and dairy conformation
- 101-COUNTY STEER CARCASS QUALITY UNIVERSITY





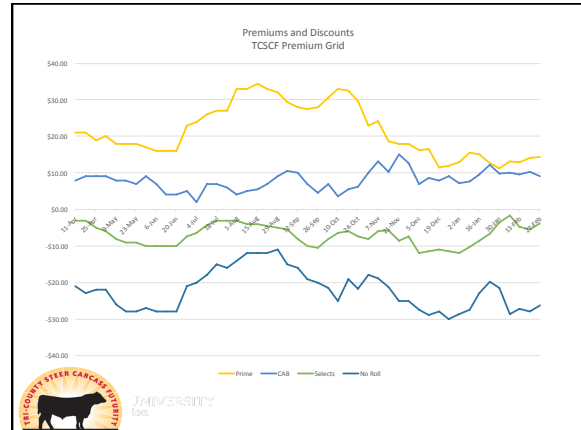
## Grid Pricing The Basics

Average Premiums and Discounts April 11, 2015 to July 30, 2016

- Premiums
- Prime \$20.57/cwt
- CAB \$8.08/cwt
- YG 1 \$6.50/cwt
- YG 2 \$2.50/cwt
- Discounts
- Select \$-7.90
- Standard \$-24.20
- YG 4 \$-8.00
- YG 5 \$-12.00
- 1050 lb. & over \$-35.00/cwt
- Dairy Conformation \$-8.00/cwt
- Other \$-25.00
  - Standard, Heiferettes, over 30 months, less than 550 lb. carcass



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## TCSCF Quality Grid - \$/cwt/Hot Carcass Wt.

Average Premiums and Discounts April 11, 2015 to July 30, 2016

Quality Grade	Yield Grade 1	Yield Grade 2	Yield Grade 3	Yield Grade 4	Yield Grade 5
Prime	\$246.14	\$242.14	\$239.64	\$231.64	
Prem Choice	\$233.65	\$229.65	\$227.15	\$219.15	
Choice -	\$225.57	\$221.57	\$219.07	\$211.07	\$207.07
Select	\$217.67	\$213.67	\$211.17	\$203.17	\$199.17
Standard			\$194.87	\$186.87	\$182.87



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## TCSCF Quality Grid - \$/cwt to Live Wt. Based on 63% Dress

Average Premiums and Discounts April 11, 2015 to July 30, 2016

Quality Grade	Yield Grade 1	Yield Grade 2	Yield Grade 3	Yield Grade 4	Yield Grade 5
Prime	\$155.07	\$152.55	\$150.97	\$145.93	
Prem Choice	\$147.20	\$144.68	\$143.10	\$138.06	
Choice -	\$142.11	\$139.59	\$138.01	\$132.97	\$130.45
Select	\$137.13	\$134.61	\$133.04	\$128.00	\$125.48
Standard			\$122.77	\$117.73	\$115.21



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## Beef Carcass Merit Grid - \$/800 lb carcass

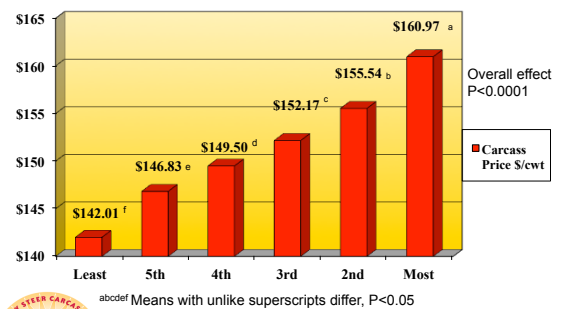
Average Premiums and Discounts April 11, 2015 to July 30, 2016

Quality Grade	Yield Grade 1	Yield Grade 2	Yield Grade 3	Yield Grade 4	Yield Grade 5
Prime	\$1969	\$1937	\$1917	\$1853	
Prem Choice	\$1869	\$1837	\$1817	\$1753	
Choice -	\$1805	\$1773	\$1753	\$1689	\$1657
Select	\$1741	\$1709	\$1689	\$1625	\$1593
Standard			\$1559	\$1495	\$1463

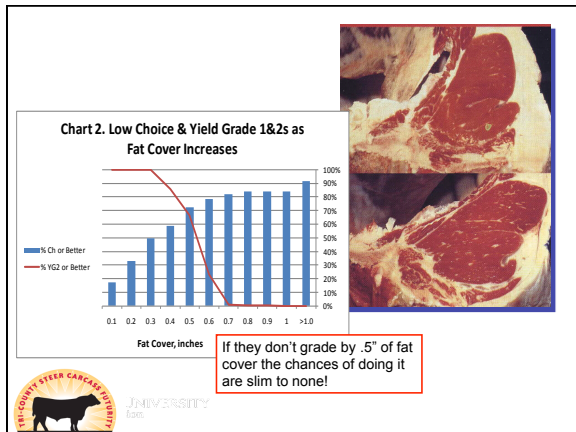


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## Carcass Price \$/cwt by Profit Group

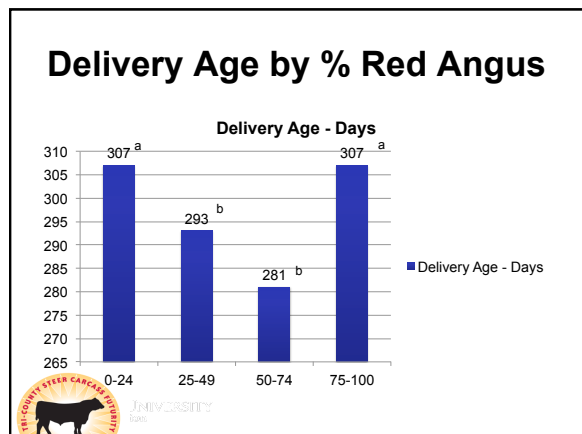
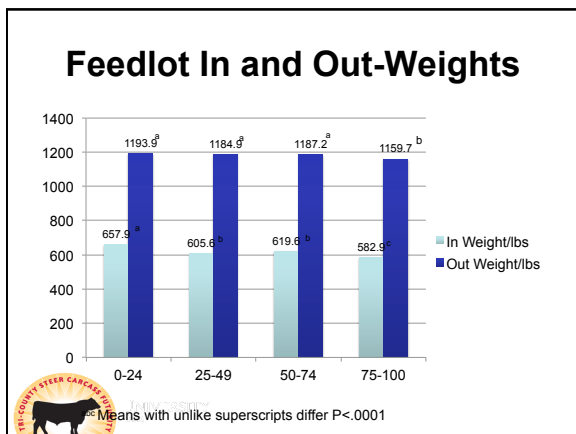
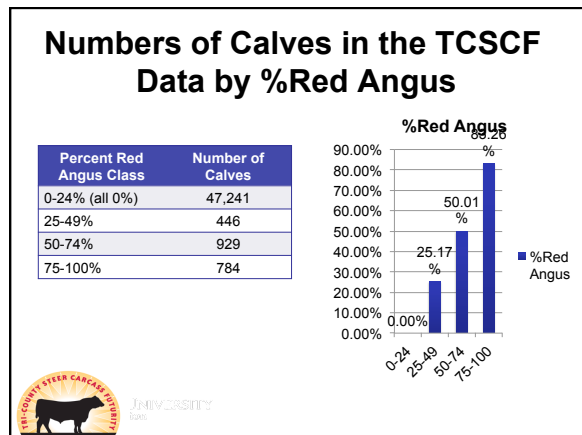


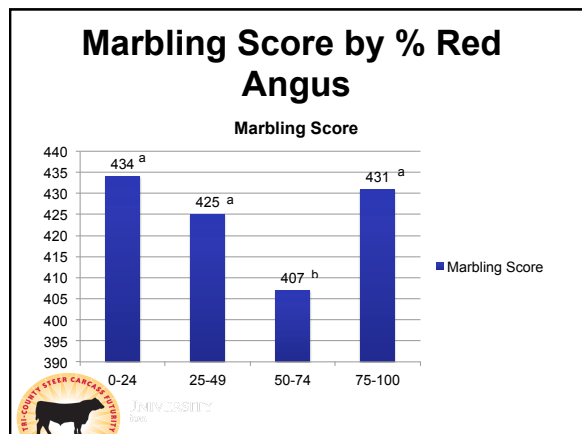
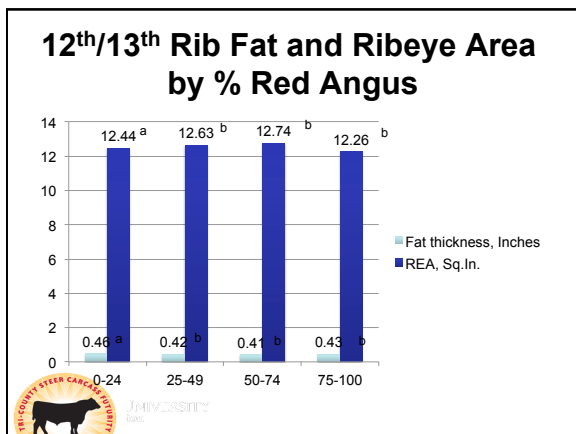
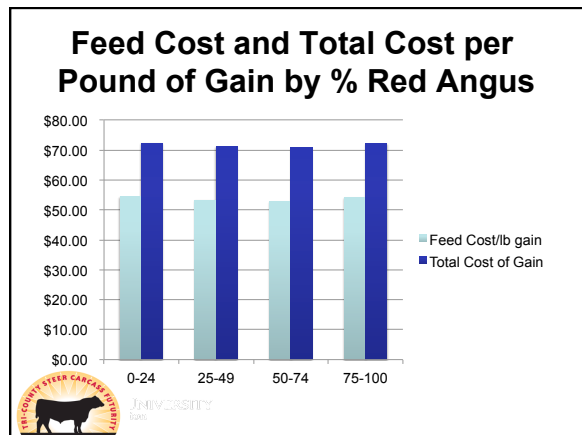
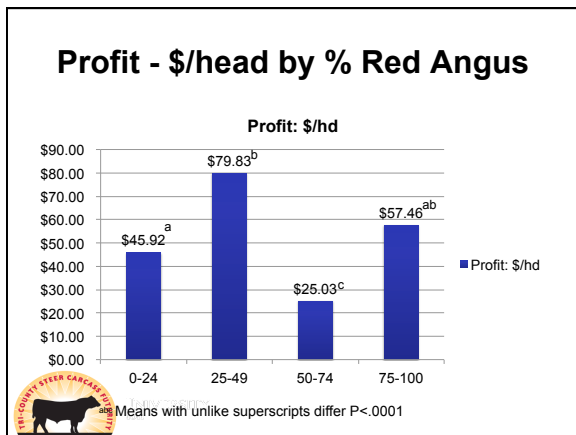
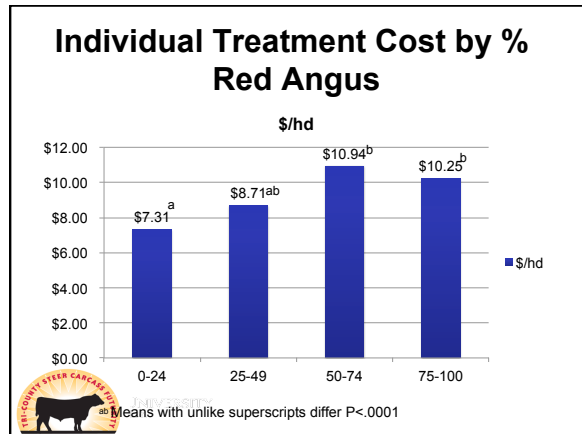
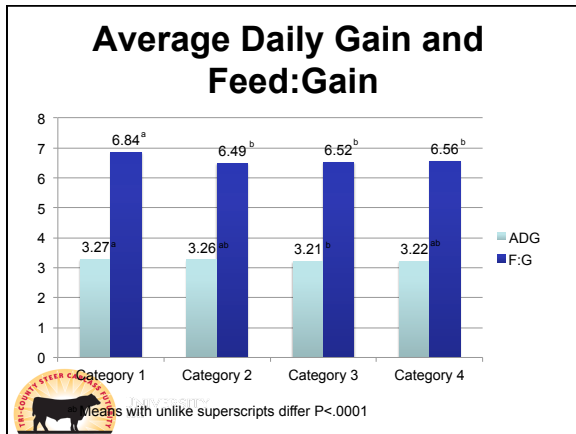
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### Summary of the Data

- Years covered: 2002 – 2014
- Number of Red Angus sired calves: 1,997
- Red Angus sired calves plus dam breed: 1,426
- Red Angus sired calves w/o dam breed: 571





## People are the difference!!



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## Best Management Practices Have No Boundaries

- Cow-calf producers who retain ownership are financially responsible for genetics, health and management of their calves
- Early adopters of genetic evaluation tools
- Utilize a team of advisors to adopt available technologies to improve calf health and performance
- Tired of someone else benefiting from their efforts in health and management
- Believe in working and sharing information with other producers



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## Advantages to Cow-Calf Producers

- TCSCF started as a way to add profit
- Still is the number one goal
  - Profit is gross income – minus cost of production
- Over 55% of the cattle we feed are from producers with less than 80 calves available to feed
- Our methods of sorting, marketing, and volume of cattle adds \$38/head to all cattle we feed
- Benchmarking other cattle of similar sex, weight and age on arrival allows for improvement in weaknesses without harming strengths



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## Disadvantages to Cow-Calf Producers Retaining Ownership

- You are now responsible for the cattle you have produced
- Telling a cow-calf producer his calves are not the best is worse than saying his daughter is real ugly
- 35% of the producers are pleasantly surprised how good their calves are
- 55% are in the middle and look for ways to improve
- 10% are disappointed and think the TCSCF program is the worst idea in the world



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## Things we over estimate the value or importance of

Location or Zip Code  
Other than transportation to cheapest feed  
source

Breed  
Range in profit by sire is similar across all  
breeds



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## Things we under estimate the value or importance of

Health  
Genetics

People  
People make management decisions  
including genetic decisions



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## ***The TCSCF Program***

- **Economically relevant traits**
- **Farm families working with farm families**
- **Sharing information**
- **People working together as a team to solve problems and improve profits**
- **We have many trusted partners**



## **Why has TCSCF Succeeded?**

- People working together to solve problems
- When times were tough they choose to make or had to make changes to survive
  - 1980's bank closings, producer bankruptcies, lack of profits
  - Early 1990's to today lack of young people entering the beef industry
  - SW Iowa feedlots were competitive and wanted to assist new custom feedlots
- Group counseling
- Willing to share information to make improvements to compete in the protein business
- Win – win – win Cow-calf, feedlots and Extension



**The end**

## **More Detailed Reports**

- [TCSCF.com](http://TCSCF.com)
  - Sire summaries
  - Research updates
- [IowaBeefCenter.org](http://IowaBeefCenter.org)
  - Research reports
  - Summaries of Cull Cows & Tenderness Projects
- Call 712.769.2600
- Matt Groves, TCSCF Coordinator



**Are there questions?**