

IOWA BEEF TENDERNESS AND CARCASS EVALUATION PROJECT

A sire progeny testing program for Iowa cattle producers.

Coordinated and partially funded by the



Iowa Beef Center

In cooperation with the
TRI-COUNTY STEER CARCASS FUTURITY

Delivery Date:
Wednesday, December 6, 2000

Dr. Daryl Strohhenn
Iowa Beef Center






Highlights 2000-02 Tenderness Project

- Total of 377 head during 3 years
- Average delivery weight was 603 lbs.
- On test –
 - Average weight: 732 lbs
 - Warmup ADG: 3.39 lbs
- Mid test weighing and re-implant
 - Average weight: 900 lbs.
 - 44 day Test ADG: 3.46 lbs




Highlights 2000-02 Tenderness Project, continued

- 1st Harvest – 185 Head or 49.1%
- 2nd Harvest – 154 Head or 40.8%
- 3rd Harvest – 38 head or 10.1%




Highlights 2000-02 Tenderness Project, continued

- Average days on feed: 169
- Average Final Weight: 1152 lbs
- Average ADG: 3.27 lbs
- Average Feed to Gain: 6.73 lbs.
- Sire Ranges:
 - Final Wt: 204 lbs
 - ADG: 1.07 lbs per day
 - Feed to Gain: 1.35 lbs per lb gain



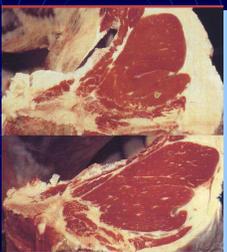
Quality Grade Performance

Prime	1.6%
Choice+	6.6%
Choice	24.1%
Choice-	49.1%
Select	18.6%

Yield Grade Performance

1	3.4%
2A	10.9%
2B	33.4%
3A	36.9%
3B	14.1%
4	1.3%

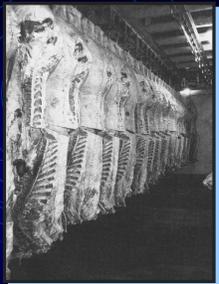
Highlights 2000-02 Tenderness Project
continued




Highlights 2000-02 Tenderness Project
continued

Carcass Trait Summary

- Carcass Weight: 707 lbs.
- Dress %: 61.6 %
- Ribeye Area: 11.9 in.
- Fat cover: .48 in.
- % KPH: 2.1 %
- Yield Grade: 3.00
- % Choice: 81.4 %
- % Retail Prod: 65.5 %
- **Instron Shear Force: 5.59 lbs**




Highlights 2000-02 Tenderness Project continued

Carcass Trait Range in Sire Averages

- Carcass Weight: 125 lbs.
- Dress %: 3.8 %
- Ribeye Area: 1.9 sq. in.
- Fat cover: .23 in.
- Yield Grade: 1.05
- % Choice: 69.5 %
- % Retail Prod: 4.2 %

- **Instron Shear Force: 2.04 lbs**



Heritability Estimates from Project

- Minnick, Wilson and Strohhenn, ISU 2003
 - Shear force .45
 - Marbling score .82
 - Daily feed intake .26
 - Feed conversion .25
 - Fat cover .44
 - Dressing percent .52



Can we select sires for tenderness without sacrificing profitable performance?

- What is a breeder most likely to do in a selection program? Probably set an independent culling level, for instance, bulls in the top 2/3s.



Comparison of Bulls in Top 2/3s for Shear Force to those in Bottom 1/3

Trait	Averages for	
	Upper 2/3	Lower 1/3
Shear Force	5.48	6.25
Shear Force Ratio	98	112



Comparison of Bulls in Top 2/3s for Shear Force to those in Bottom 1/3

Trait	Averages for	
	Upper 2/3	Lower 1/3
Shear Force	5.48	6.25
Shear Force Ratio	98	112
Final Unshrunk Weight	1145	1157
Days of Feed	169.4	167.7
ADG	3.20	3.15
Feed Efficiency	6.69	6.80



Comparison of Bulls in Top 2/3s for Shear Force to those in Bottom 1/3

Trait	Averages for	
	Upper 2/3	Lower 1/3
Shear Force	5.48	6.25
Shear Force Ratio	98	112
Hot Carcass Weight	706.5	710.8
Dressing Percent	61.7	61.5
Fat Cover	0.49	0.47
Ribeye Area	11.96	11.84
Calculated Yield Grade	3.00	3.01
% Low Choice & better	82.8	83.3



Comparison of Bulls in Top 2/3s for Shear Force to those in Bottom 1/3

Trait	Averages for	
	Upper 2/3	Lower 1/3
Shear Force	5.48	6.25
Shear Force Ratio	98	112
Feed Cost/cwt Gain	\$30.06	\$30.54
Total Cost/cwt Gain	\$43.76	\$44.69
Feedlot Profit	\$29.63	\$30.18
EPDs		
BW	1.7	2.0
WW	31.9	35.3
Milk	15.0	17.2
YW	60.0	64.7



Comparison of Simmental Bulls in Top 2/3s for Shear Force to those in Bottom 1/3

	Most Tender 2/3s (n=31)			Least Tender 1/3 (n=16)		
	Average	High	Low	Average	High	Low
WBSF	-0.20	0.00	-0.51	0.20	0.48	0.02
ACC	0.26	0.46	0.09	5.23	80.00	0.12
PRG	17.68	59.00	3.00	15.50	42.00	2.00
CE	5.4	18.1	-8.6	8.0	13.2	2.2
BW	2.7	7.2	-2.5	1.5	4.5	-1.8
WW	36	58	8	31	50	12
YW	63	105	20	51	80	28
MCE	3.6	12.8	-3.6	0.7	7.1	-8.8
MM	2	15	-18	5	17	-7
MWW	20	34	4	21	33	9
CW	5	45	-21	-2	14	-22
Retail Cuts	-0.02	0.63	-0.46	0.03	0.53	-0.37
Marbling	0.05	0.31	-0.19	-0.04	0.17	-0.42

2000-02 Iowa Tenderness Evaluation Project Economic Summary

Item	1999-00	2000-01	2001-02
No. head	123	149	113
Death loss, %	2.4%	2.6%	0.0%
Vet Med Pulls	18%	17.4%	1.8%
% Blacks	92%	94%	95%
Dress %	61.9%	61.5%	62.9%



2000-02 Iowa Tenderness Evaluation Project Economic Summary

Item	1999-00	2000-01	2001-02
ADG	3.29	2.97	3.56
F/G	6.21	7.52	6.47
Hot Carcass Wt	724	681	720
Fat Cover	.49"	.45"	.51"
% YG 1 & 2's	37%	79%	35%
% Choice	78%	83%	79%
% CAB	25%	30%	21%



1999-2000 & 2001-02 Iowa Tenderness Evaluation Project Economic Summary

Item	1999-00	2000-01	2001-02
Feed Cost/cwt.	\$27.85	\$33.57	\$29.30
Total Cost/cwt.	\$42.16	\$48.69	\$41.27
Profit/head	\$53.71	\$32.59	-\$39.51
Total Profit	\$6,606	\$4,856	(\$4,465)



Thanks to all the help!

- The Producers
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- IBP Staff
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- Jennifer Minnick
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