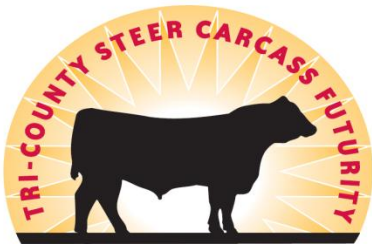


Effect of Hide Color and Percentage Angus on Feedlot Performance and Carcass Traits in Beef Calves

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2010 Midwest ASAS

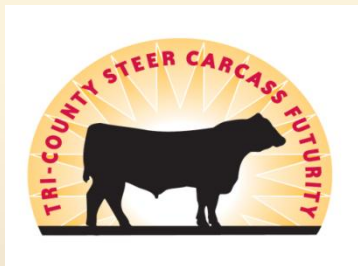


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Introduction

- Numerous research projects at MARC and universities have shown breed and sire within breed will have a major effect on quality grade
- With the percentage of cattle sold on carcass merit increasing, Ibarburn-Blanc et al. (2010) reported that marbling levels were a key economic driver especially during periods of average or high Choice-Select spreads



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Current Study Objective

- Determine the effect of hide color and percentage Angus on feedlot performance and carcass traits



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Materials and Methods

- Data were analyzed on effect of hide color (n=47,747) and percentage Angus (n=30,743) from 19 states and fed in 18 Iowa feedlots
- Eight years (2002-2009) of data was collected by the Iowa Tri-County Steer Carcass Futurity
- All cattle were fed a common dietary energy level and administered similar health and implant treatments
- All cattle were weighed, sorted, vaccinated, implanted and body conditioned scored within 4 days of arrival



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Materials and Methods

- Calves were harvested when visually determined to have 1 cm of back fat
- Only cattle with full, detailed carcass and performance information were included in the study
- Upon arrival, calves were classified as black-hided (n=35,387) or non-black (n=12,360)



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Materials and Methods

- Percentage Angus was based on sire and dam information provided by the farm or ranch
- Four percentage Angus quartiles were created:
 - Low – $n=7,931$
 - Half – $n=6,429$
 - Three quarters – $n=6,473$
 - Straight – $n=9,910$



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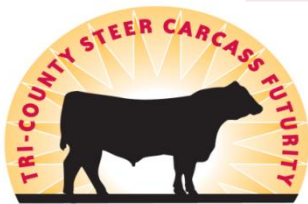


Results – Effect of Hide Color – Live Data

	Black	Non-Black
Percentage Angus	72.1 ^a	23.4 ^b
In Weight, kg	291.9 ^a	292.2 ^a
Days on Feed	166.9 ^a	175.7 ^b
ADG, kg/day	1.46 ^a	1.4 ^b
Avg. Disposition Score	1.83 ^a	1.83 ^a
<u>Health</u>		
No. Times Treated	0.26 ^a	0.33 ^b
Individual Treatment Cost	6.19 ^a	7.46 ^b
Mortality Rate	1.18 ^a	2.31 ^b
Morbidity Rate	16.9 ^a	20.7 ^b

^{a,b} Means within a row with unlike superscripts differ ($P < 0.05$)

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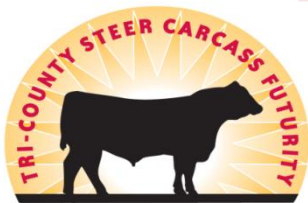


Results – Effect of Hide Color – Carcass Data

	Black	Non-Black
Avg. Marbling Score	434.8 ^a	400 ^b
<u>Yield Grade</u>		
Avg. Score	2.92 ^a	2.62 ^b
% 4&5's	2.66 ^a	1.04 ^b
<u>Quality Grade</u>		
Prime	1.17 ^a	0.4 ^b
Premium Choice	17.2 ^a	7.36 ^b
Low Choice	53.1 ^a	45.7 ^b
Select	26.7 ^a	41.6 ^b
Standard	1.85 ^a	4.9 ^b

^{a,b} Means within a row with unlike superscripts differ (P<0.05)

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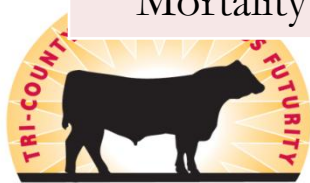


Results – Effect of Percentage Angus – Live Data

	Low	Half	Three quarters	Straight
Percentage Angus	9.2 ^a	48.6 ^b	74.2 ^c	99.4 ^d
In Weight, kg	292.5 ^a	293.1 ^a	294.3 ^a	289.7 ^b
Days on Feed	175.2 ^a	169.1 ^b	167.4 ^c	163.9 ^d
ADG, kg/day	1.42 ^a	1.45 ^b	1.45 ^b	1.49 ^c
Avg. Disposition Score	1.76 ^a	1.75 ^a	1.84 ^b	1.75 ^c
<u>Health</u>				
No. Times Treated	0.34 ^a	0.23 ^{b,c}	0.26 ^b	0.23 ^c
Individual Treatment Cost	7.72 ^a	5.54 ^b	6.72 ^c	5.6 ^b
Morbidity Rate	21.7 ^a	15.5 ^b	17.2 ^c	16.0 ^b
Mortality Rate	1.73 ^a	1.1 ^a	1.45 ^a	1.7 ^a

^{a,b,c,d} Means within a row with unlike superscripts differ (P<0.05)

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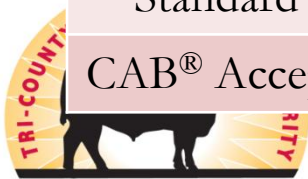


Results – Effect of Percentage Angus – Carcass Data

	Low	Half	Three quarters	Straight
Avg. Marbling Score	395.7 ^a	423.0 ^b	432.0 ^c	459.4 ^d
<u>Yield Grade</u>				
Avg. Score	2.56 ^a	2.78 ^b	2.93 ^c	3.03 ^d
Percentage 4&5's	1.02 ^a	1.42 ^b	2.5 ^c	2.9 ^d
<u>Quality Grade</u>				
Prime	0.3 ^a	0.44 ^b	1.0 ^c	2.2 ^d
Premium Choice	7.8 ^a	13.7 ^b	15.8 ^c	25.7 ^d
Low Choice	43.4 ^a	52.5 ^b	53.3 ^b	54.1 ^b
Select	43.1 ^a	31.3 ^b	28.1 ^c	17.3 ^d
Standard	5.4 ^a	2.1 ^b	1.6 ^c	0.8 ^d
CAB [®] Acceptance Rate, %	8.9 ^a	15.8 ^b	16.7 ^b	27.3 ^c

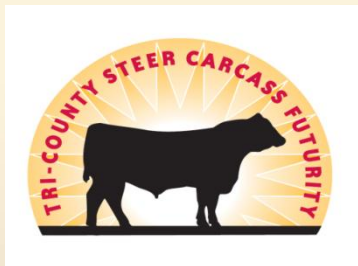
^{a,b,c,d} Means within a row with unlike superscripts differ (P<0.05)

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Summary

- Black hide color and a higher percentage Angus were associated with:
 - Improved feedlot performance
 - Improved health
 - Higher quality grade
 - Higher CAB[®] acceptance rates (percentage Angus)
 - Poorer yield grades



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