

Comparing Iowa 4-H Beef Carcass Programs with the 2016 National Beef Quality Audit Carcasses

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Summary and Implications

While the Iowa 4-H & FFA carcass contest cattle are not completely representative of all Iowa cattle, they can indicate trends for the Iowa cattle industry and represent the calves locally available for projects. With nearly 60% of these cattle receiving an \$8/cwt premium, cattle feeders have the potential to improve net revenues by marketing cattle into a grid market.

Introduction

The Iowa 4-H program was originally established to help teach basic agriculture and home skills to adults through their children. Over the century, it has gone through many changes, but the concept of teaching youth and their parents together still remains. Teaching basic production practices and management is also a foundation of the 4-H program.

While the 4-H program has been criticized over time for drifting away from real-world production, the beef carcass component is strongly based on profitable production practices. The formula utilized in ranking carcasses was developed at ISU by campus and field staff, which includes both the carcass merit, carcass price and growth performance of the cattle as value gained per day on feed throughout the project period.

Materials and Methods

An analysis of the 2017 county and state fair beef carcass contests compared these youth project animals to the 2016 National Beef Quality Audit snapshot of the industry.

In 2017, fifty-eight counties included some form of carcass evaluation at their county fair. Thirty-three counties collected full carcass data through two commercial beef

plants, 8 held a contest through a local locker with carcasses graded by an ISU Extension beef specialist, and 28 utilized ultrasound measurements at the county fair to predict carcass quality on the live animal. Actual carcass data collected by commercial plants and locker plants were combined and analyzed separate from ultrasound contests.

Results and Discussion

Actual carcass data was collected on 1116 animals from county fairs plus the Iowa State Fair 4-H Beef of Merit contest. The average hot carcass weight was 826 pounds, average back fat was 0.56", and the average ribeye area was 13.65 sq.in. The yield and quality grade distribution in Tables 2 and 3 compare the 4-H cattle with the 2016 National Beef Quality Audit cattle. More youth cattle graded Prime and Choice, and fewer graded Select and Other than the industry standard.

Some of this difference may be due to the difference of cattle quality in Iowa compared to the national average, as Iowa fed cattle tend to have higher quality grades than the national average.

Substantial research and education efforts were completed in the 1990's related to evaluating and marketing beef for a premium based on carcass merit. In this analysis using the actual grid price received for commercially harvested cattle and a similar grid for the locker harvest cattle, 59.6% of the cattle received a premium above the base priced for low choice, Yield Grade 3 carcasses. A yield grade premium was received by 48.3% of the carcasses, 43.0% received a quality grade premium and 13.0% received both a quality grade and yield grade premium. The average premium received on these carcasses was \$8.10/cwt with a range from \$1 to \$49/cwt.

Overall, 25.1% of the carcasses received less than the base price for low choice, YG3, with 15.1% discounted for yield grades 4 & 5, 12.4% were discounted for Select or Other quality grades, 0.6% were dark cutters, and 0.3% were discounted for carcasses above 1050 pounds. The average discount for these 280 carcasses was \$-9.82/cwt, with a range from \$-.50 to \$-39/cwt.

There were 642 cattle ultrasound scanned for ribeye area, backfat and intramuscular fat. Overall, 47.5% of them would have received a premium over the low choice, YG3 base price and 37.4% would have received less than the base price. A premium for Yield Grade 1 & 2s would have received for 60.9%, and 18.7% would have received a premium for average and high choice or prime quality grades, but only 7.5% would have received both a quality grade and yield grade premium. The average premium on 305 head was \$4.89/cwt, with a range from \$1 to \$41/cwt.

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Overall, 37.4% of the cattle would have received less than the base price, with 8.1% discounted for YG 4 & 5, 30.1% would have been discounted for Select or Other quality grades, and 1.6% would have been discounted for heavy carcasses. The average discount for these 240 head was \$17.40/cwt with a rand of \$-.50 to \$-65/cwt.

Some of the counties have follow-up meetings or presentations to review carcass measurements and contest results, and to discuss possible tools to improve carcass

merit in the future. The primary purpose of these educational activities is to help the youth better understand the basics of beef carcass merit and value and the production practices to improve carcass merit. However, a secondary purpose is to help the adults better understand genetic tools and management to improve the value of the cattle they produce, and therefore, improve the profit potential of their beef enterprise.

Table 1. Comparison of 4-H Carcass, Ultrasound and 2016 NBQA average carcass measurements.

	4-H Carcass	4-H Ultrasound	2016 NBQA
HCW	827	840	860
BF	0.56	0.57	0.56
REA	13.65	14.78	13.90
YG	3.12	2.76	3.10

Table 2. Distribution of yield and quality grade of 4-H carcass and ultrasound.

Iowa 4-H Carcass Distribution									
	QG %								
YG	Pr		Ch		S		Other		
1	0	0.00%	75	6.72%	31	2.78%	8	0.72%	
2	14	1.25%	324	29.03%	83	7.44%	4	0.36%	
3	46	4.12%	348	31.18%	13	1.16%	2	0.18%	
4	26	2.33%	125	11.20%	1	0.09%	1	0.09%	
5	3	0.27%	11	0.99%	0	0.00%	1	0.09%	
Iowa 4-H Ultrasound Distribution									
	QG %								
YG	Pr		Ch		S		Other		
1	0	0.00%	59	9.19%	48	7.48%	4	0.62%	
2	0	0.00%	190	29.60%	86	13.40%	6	0.93%	
3	1	0.16%	155	24.14%	40	6.23%	1	0.16%	
4	0	0.00%	43	6.70%	6	0.93%	0	0.00%	
5	0	0.00%	1	0.16%	2	0.31%	0	0.00%	

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Table 3. Distribution of yield and quality grade from 2016 National Beef Quality Audit, steer and heifer audit.

YG	Quality Grade			
	Pr	Ch	S	Other
1	0.07%	4.06%	4.79%	0.55%
2	0.94%	23.61%	10.9%	1.05%
3	1.78%	29.94%	6.2%	1.49%
4	0.97%	9.31%	1.4%	0.40%
5	0.22%	1.86%	0.33%	0.12%

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