

## Lessons Learned from 32 Years of Retained Ownership – TCSCF Summary

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Tri-County Steer Carcass Futurity (TCSCF) was started by Pottawattamie, Cass and Shelby County Cattleman’s Association in 1982. The nine member board wanted to know “what was the most profitable steer to feed?” In 2002, the SW Iowa cow-calf consigners utilizing the TCSCF program formed a service cooperative. The current 10 member board has 7 cow-calf producers, two allied industry representatives and one veterinarian.

Cow-calf producers who retain ownership are financially responsible for the genetics, health and management of their calves. Common traits of TCSCF consignors are 1 – early adopters of genetic evaluation tools, 2 – utilize a team of advisors to adopt available technologies to improve calf health and performance, 3 – tired of someone else benefiting from their efforts in genetics, health and management, 4 – believe in working together and sharing information with other producers.

The TCSCF program is about beef producers working together to identify problems they have control over, evaluating alternatives, selecting the best alternative, collecting and analyzing data, and sharing the results to become better beef producers each and every day. The TCSCF Board and consignors have worked with many Extension workers across the US and Canada and partnered with Certified Angus Beef, Iowa Beef Center, Igenity, Pfizer, Fort Dodge Animal Health, Boehringer-Ingelheim, Iowa Beef Industry Council and National Cattleman’s Beef Association.

Consignors are able to utilize growth, health and carcass data to make changes in their cowherd. Comparing 1 year and 4 or more years of participation, steers had higher ADG (2.98 vs. 3.25), with lower standard deviations (.62 vs. .24), respectively. Non-weaned calves were 3.4 times more likely to experience BRD than weaned calves, independent of differences in age, test center, or vaccine status. Calves vaccinated with killed vaccines were 2.2 times more likely to experience BRD than calves vaccinated with MLV vaccines, independent of other factors.

Calves not treated compared to calves treated two or more times gained better (3.21 vs. 2.93 lb/day), produced more Choice carcasses (52% vs. 42%), and were more profitable (\$52.45 vs. -\$137.30/hd). Calves with evidence of lung adhesions after harvest had higher health treatment costs (\$12.23 vs. \$5.29), poorer ADG (3.01 vs. 3.19), lighter final live weight (1160 vs. 1176) and hot carcass weight (723 vs. 725), lower marbling scores (SM 10 vs. SM 27) and made less money (\$1.65 vs. \$45.27) than those without lung adhesions. Untreated calves at the feedyard produced carcasses that had lower Warner-Bratzler shear values ( $0.46 \pm .18$  lb) compared to treated calves.

The heritability estimate of BRD incidence and the number of treatments were  $0.07 \pm 0.04$  and  $0.05 \pm 0.04$ , respectively. Because of the high economic cost associated with BRD incidence, even these modest estimates for heritability of BRD resistance should be considered for incorporation into beef cattle breeding programs.

Southeast calves compared to Midwest calves were older on feedlot arrival (320 vs. 255) had fewer pulls (15.81% vs. 22.11%) and higher CAB acceptance rates (18.43% vs. 16.91%). Midwest calves compared to Southeast calves produced heavy carcasses (725 vs. 723), larger ribeye areas (12.46 vs. 12.33) and higher % Choice – (52.93% vs. 50.32%). When considering feedlot and carcass traits and all associated costs including trucking to the feedlot, the Southeast calves had a profit/head of \$37.34 versus \$23.79 for Midwest calves.

Docile cattle compared to aggressive cattle gain less in the feedlot (3.17 vs. 2.91), produce fewer Choice carcasses (72.4% vs. 58.1%), more Select carcasses (23.3% vs. 36.2%) and the black hided cattle produce a higher percentage CAB carcasses (29.1% vs. 14.3%). Morbidity rates are similar across disposition scores but death loss increases significantly as disposition scores increases. Non-replacement heifers have higher disposition scores than steer mates, as cow-calf producers select for more docile replacement heifers. Average profit for docile cattle was \$46.63/head compared to \$7.62/head for aggressive cattle.

Marbling score remains the most important variable over the range of feed and carcass prices considered when evaluating factors impacting net return. Feed to gain, placement weight and hot carcass weight are the most sensitive variables to changes in feed costs. Placement weight and hot carcass weight are more important with lower feed costs and feed to gain is more important with higher feed costs. Hot carcass weight is the only variable to show much change due to a change in base price. It is more important at higher prices and less important at lower prices.

Lots consisting of heifers had higher ( $P < .05$ ) low Choice and above rates than lots of steers or mixed-sex pens. The greater the amount of Angus influence in the cattle, the higher the low Choice and above rate ( $P < .0001$ ). An inverse relationship existed between feedlot in-weight and lot low Choice and above rate; those cattle with lighter feedlot arrival weights had higher % Choice and above rates ( $P = .0007$ ). Cattle with lower disposition scores (calmer cattle) had higher % Choice and above rates ( $P = .0496$ ). Low Choice and above rate increased as cattle became less efficient in converting feed to gain ( $P = .0027$ ). An inverse relationship existed between cost of gain and low Choice and above rate; those cattle with lower cost of gain had higher low Choice and above rates ( $P = .0043$ ). Lot low Choice and above rate increased as average daily gain increased ( $P = .0094$ ).

## Comparison of Profit Groups by Year from 2002 - 2013 (77,717 hd of Steers and Heifers)



	Least Profitable	5th Most Profitable	4th Most Profitable	3rd Most Profitable	2nd Most Profitable	Most Profitable
Number of cattle	12,954	12,951	12,952	12,955	12,952	12,953
Profit \$/Hd	-\$120.42	-\$23.59	\$26.58	\$71.92	\$123.40	\$216.63
Delivery Wt., lb.	679 <sup>f</sup>	677 <sup>e</sup>	661 <sup>d</sup>	656 <sup>c</sup>	651 <sup>b</sup>	662 <sup>a</sup>
Market Value \$/cwt	\$104.44	\$101.05	\$99.17	\$97.42	\$95.64	\$91.47
Market Value \$/hd	\$709.36	\$674.31	\$655.12	\$639.27	\$623.00	\$605.35

Warm up ADG, lb.	3.13 <sup>f</sup>	3.38 <sup>e</sup>	3.47 <sup>d</sup>	3.52 <sup>c</sup>	3.60 <sup>b</sup>	3.72 <sup>a</sup>
Warm up ADG Ratio	90 <sup>f</sup>	98 <sup>e</sup>	100 <sup>d</sup>	101 <sup>c</sup>	104 <sup>b</sup>	107 <sup>a</sup>
% Not Treated	69.7%	80.2%	82.8%	85.3%	87.0%	87.6%
% Treated 2 or More Times	12.0%	5.7%	4.4%	3.3%	2.5%	2.1%
Individual Treatment Cost \$/Hd	\$13.39	\$6.96	\$5.15	\$4.49	\$3.67	\$3.13
Final Wt., lb.	1179 <sup>f</sup>	1185 <sup>e</sup>	1192 <sup>d</sup>	1199 <sup>c</sup>	1204 <sup>b</sup>	1231 <sup>a</sup>
Overall ADG, lb.	3.06 <sup>f</sup>	3.20 <sup>e</sup>	3.26 <sup>d</sup>	3.29 <sup>c</sup>	3.34 <sup>b</sup>	3.46 <sup>a</sup>
Feed to Gain	7.21 <sup>f</sup>	6.97 <sup>e</sup>	6.85 <sup>d</sup>	6.77 <sup>c</sup>	6.70 <sup>b</sup>	6.66 <sup>a</sup>
Days of Age at Harvest	469.2 <sup>bc</sup>	466.2 <sup>c</sup>	467.2 <sup>bc</sup>	467.4 <sup>bc</sup>	469.4 <sup>b</sup>	477.1 <sup>a</sup>
Hot Carcass Wt., lb.	713.2 <sup>f</sup>	722.4 <sup>e</sup>	729.2 <sup>d</sup>	735.7 <sup>c</sup>	741.4 <sup>b</sup>	761.7 <sup>a</sup>
Fat Cover, in.	0.464 <sup>c</sup>	0.455 <sup>ab</sup>	0.455 <sup>b</sup>	0.453 <sup>ab</sup>	0.451 <sup>ab</sup>	0.451 <sup>a</sup>
Ribeye Area, sq. in.	12.14 <sup>f</sup>	12.31 <sup>e</sup>	12.40 <sup>d</sup>	12.50 <sup>c</sup>	12.59 <sup>b</sup>	12.83 <sup>a</sup>
REA/cwt. of Hot Carcass Wt.	1.710 <sup>c</sup>	1.709 <sup>c</sup>	1.705 <sup>bc</sup>	1.703 <sup>b</sup>	1.702 <sup>b</sup>	1.688 <sup>a</sup>
% YG 1&2	52.4%	53.0%	53.6%	54.3%	56.4%	59.2%
% YG 4&5	10.9%	4.4%	2.7%	1.8%	1.4%	0.8%
Marbling Score	SL 94 <sup>f</sup>	SM 15 <sup>e</sup>	SM 28 <sup>d</sup>	SM 35 <sup>c</sup>	SM 44 <sup>b</sup>	SM 58 <sup>a</sup>
% low Choice or Higher	43.8%	59.4%	67.5%	73.6%	78.2%	82.6%
% CAB of Black Hided Cattle	7.3%	12.1%	14.8%	18.3%	22.0%	28.4%
Carcass Price \$/cwt	\$142.01	\$146.83	\$149.50	\$152.17	\$155.54	\$160.97
Gross Income \$/Hd	\$1,012.82	\$1,060.70	\$1,090.15	\$1,119.51	\$1,153.17	\$1,226.11
Retail Value /Day on Test	\$3.21	\$3.48	\$3.61	\$3.71	\$3.84	\$4.12
Profit \$/Hd	-\$120.42	-\$23.59	\$26.58	\$71.92	\$123.40	\$216.63
Difference in Profit/Hd from the Least Profitable	\$0.00	\$96.83	\$147.00	\$192.34	\$243.82	\$337.05
True Value on Delivery, \$/cwt	\$87.93	\$98.32	\$103.96	\$108.88	\$114.71	\$124.14

Individual animal records for each year were sorted from most profitable to least profitable and divided into six groups of equal size. Values within a factor without a common superscript differ (P<0.05). All categories with \$ amounts differ by P < 0.05.

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