

TENNESSEE BEEF EVALUATION: PROFITABILITY OF RETAINED OWNERSHIP, 2021 UPDATE

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Introduction

Cattle producers can market their cattle at various stages of production and through various marketing methods. One marketing option is referred to as retained ownership. Retained ownership is when a producer sends cattle to a feedlot and pays the feedlot to manage the cattle while maintaining ownership. During this period, producers can potentially capture additional profit the animals produce. The Tennessee Beef Evaluation Program assists Tennessee cattle producers in the retained ownership process. Through this program, University of Tennessee (UT) Extension personnel assist producers in consigning and shipping cattle to one of several Iowa custom feedlots participating in the Tri-County Steer Carcass Futurity Cooperative (TCSCFC) headquartered in Lewis, Iowa, where the feeding phase begins. At the conclusion of the feeding period, packers purchase cattle from participating feedlots based on a grid pricing system.

One benefit to producers in the program is that the TCSCFC collects production (i.e. feeding, carcass) and financial data on the animals that are retained. Producers can then analyze this feedlot data to see how their cattle performed. Periodically, UT also analyzes this data to examine the profitability of retained ownership. This data was most recently analyzed from 2005 through 2015 and appeared as UT Extension Publications W 427-A and W 427-B. The goal of this publication is to provide an update to these previous publications by analyzing program data that was collected from 2016 through 2021. During this time period, data on 304 steers and 103 heifers shipped from Tennessee to one of the TCSCFC feedlots through the Tennessee Beef Evaluation program was evaluated. The animals originated from 14 different producers/farms in Tennessee.

Methods

To calculate retained ownership profitability, the following formula was used:

$$(1) \quad \text{Retained Ownership Profit} = \text{Revenue} - \text{Feedlot Costs} - \text{Opportunity Cost}$$

where Retained Ownership Profit is the net returns (\$/head) associated with the steer/heifer. Revenue is equal to the animal's hot carcass weight multiplied by the carcass price received. The carcass price received is the carcass grid price for the animal, which is a function of the animal's yield and quality grade and also includes any premiums received (e.g., Certified Angus Beef). *Feedlot Costs* is equal to costs incurred in the feedlot such as feed costs, health treatments, yardage, trucking and vaccines. The *Opportunity Cost* of retained ownership is equal to the value of the animal if it was sold just prior to entering the feedlot. Thus, *Opportunity Cost* is equal to the feedlot delivery weight multiplied by the Tennessee weekly auction average price of the animal (\$/cwt) at the time of delivery. Cattle entered the feedlot at various times of the year.

Retained Ownership Profit was calculated considering death loss and was also calculated without accounting for death loss during the feedlot phase. *Retained Ownership Profit* was calculated for steers and heifers as well as all animals combined. All feedlot costs and revenues were adjusted for inflation to 2021 price levels using the Consumer Price Index (United States [U.S.] Bureau of Labor Statistics, 2023). While data prior to 2016 has been analyzed previously, it is included in this publication's presented tables, figures, and discussion for comparison purposes. Note that the values presented in this publication's tables and figures are slightly different than those presented in UT Extension Publications W 427-A and W 427-B because they are adjusted for inflation with the base year of 2021 rather than 2015.

Results

Average retained ownership profits from 2005 through 2021 were positive in 12 of the past 17 years analyzed (Table 1 and Figure 1). Retained ownership was most profitable in 2005 and 2011, with an average profit of around \$230/head (Table 1 and Figure 1). Retained ownership was least profitable in 2013 and 2021, with an average loss of around -\$85/head (Table 1 and Figure 1). As expected, feed costs (Figure 1) were inversely related to retained ownership profitability. In years with high feed costs (e.g., 2012, 2013, 2021), retained ownership profitability was negative (Figure 1). Another driver of the profitability of retained ownership is whether cattle prices increase from the time the animal is placed in the feedlot until the animal is finished. However, it should be noted that price risk management tools are available and sometimes used by producers who retain ownership of their animals.

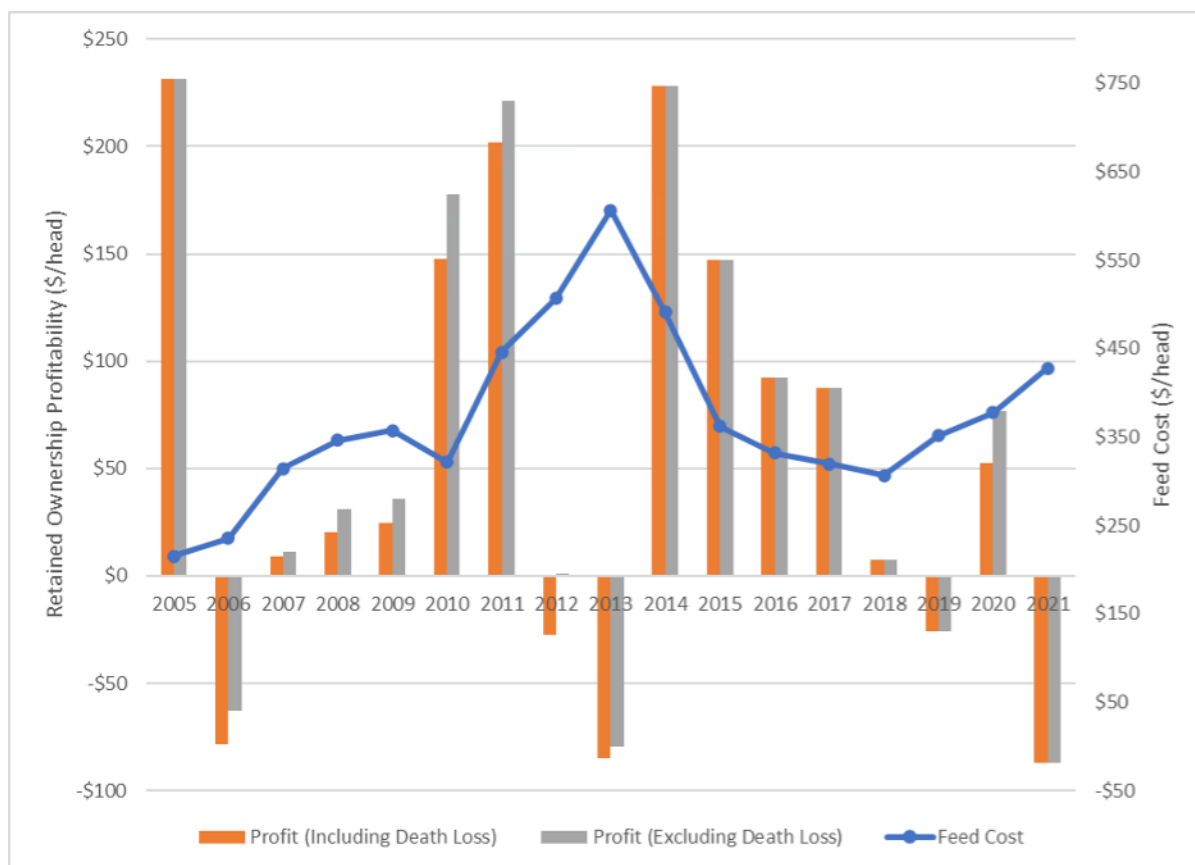


Figure 1. Retained Ownership Profitability by Harvest Year (\$/head).

Notes: Feed cost is equal to the cost of feed (\$/head) of the animal while in the feedlot. All costs and profits are adjusted for inflation to 2021 price levels using the Consumer Price Index (U.S. Bureau of Labor Statistics, 2023).

Harvest Year	Feed Cost	Profit (Including Death Loss)	Number of Cattle	Profit (Excluding Death Loss)	Number of Cattle
2005	\$215	\$231	26	\$231	26
2006	\$236	-\$78	304	-\$63	299
2007	\$314	\$9	491	\$11	489
2008	\$347	\$20	423	\$31	418
2009	\$358	\$25	492	\$36	484
2010	\$322	\$148	505	\$178	488
2011	\$446	\$202	197	\$221	193
2012	\$507	-\$28	285	\$1	279
2013	\$607	-\$85	177	-\$79	176
2014	\$491	\$228	48	\$228	48
2015	\$362	\$147	53	\$147	53
2016	\$332	\$92	49	\$92	49
2017	\$320	\$87	47	\$87	47
2018	\$306	\$7	49	\$7	49
2019	\$352	-\$26	62	-\$26	62
2020	\$378	\$53	110	\$77	108
2021	\$428	-\$87	90	-\$87	90

Table 1. Retained Ownership Profitability by Harvest Year (\$/head).

Notes: All costs and profits are adjusted for inflation to 2021 price levels using the Consumer Price Index (U.S. Bureau of Labor Statistics, 2023).

Data from 2,607 steers and 801 heifers was analyzed from 2005 through 2021. Average retained ownership net returns of heifers was higher than steers in 12 of the 17 years (Table 2 and Figure 2). Retaining ownership of heifers was profitable in 14 of the 16 years heifers participated in the program. Retaining ownership of steers was profitable in 10 of the 17 years analyzed. The difference in profitability between heifers and steers is most likely related to heifer prices being discounted relative to steers as feeder cattle. Heifers tend to be discounted to steers, because they are less feed efficient and have a potential of being bred. Thus, guaranteeing heifers are open when entering the feedlot may have some value when retaining ownership. Retained ownership of steers was most profitable in 2005 at \$259/head and least profitable in 2021 at -\$104/head. Heifer retained ownership was most profitable in 2011 at \$199/head and least profitable in 2013 at -\$111/head.

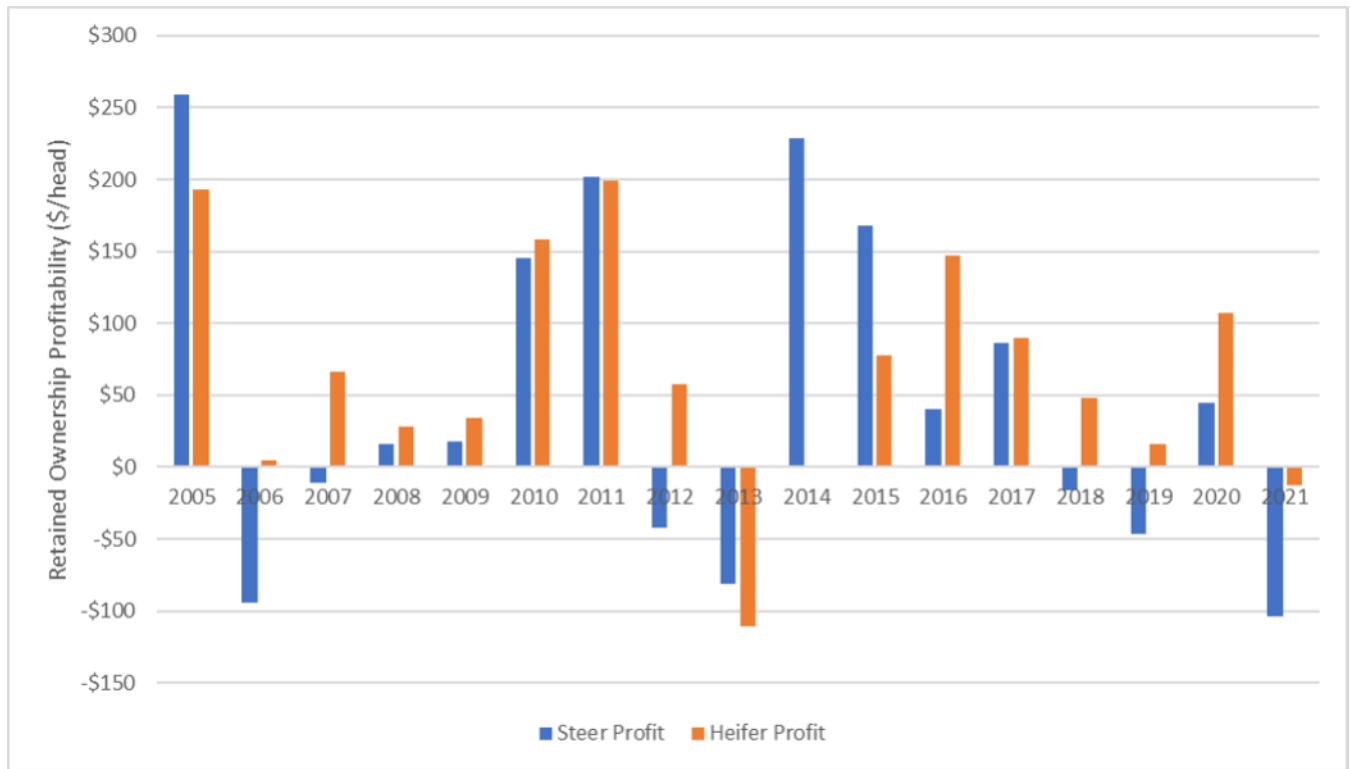


Figure 2. Retained Ownership Profitability for Steers and Heifers by Harvest Year (\$/head).

Note: No heifers were retained through the Tennessee Beef Evaluation program in 2014. Profits account for death loss. All costs and profits are adjusted for inflation to 2021 price levels using the Consumer Price Index (U.S. Bureau of Labor Statistics, 2023).

Harvest Year	Steer Profits	Number of Steers	Heifer Profits	Number of Heifers
2005	\$259	15	\$193	11
2006	-\$94	256	\$4	48
2007	-\$11	362	\$66	129
2008	\$16	280	\$28	143
2009	\$18	302	\$35	190
2010	\$145	421	\$159	84
2011	\$202	176	\$199	21
2012	-\$42	245	\$58	40
2013	-\$82	157	-\$111	20
2014	\$228	48	N/A	0
2015	\$168	41	\$77	12
2016	\$41	25	\$147	24
2017	\$86	39	\$90	8
2018	-\$16	31	\$48	18
2019	-\$47	42	\$16	20
2020	\$44	94	\$107	16
2021	-\$104	73	-\$13	17

Table 2. Retained Ownership Profitability for Steers and Heifers by Harvest Year (\$/head).

Notes: No heifers were retained through the Tennessee Beef Evaluation program in 2014. N/A means not applicable. Profits account for death loss. All costs and profits are adjusted for inflation to 2021 price levels using the Consumer Price Index (U.S. Bureau of Labor Statistics, 2023).

Conclusions

Retained ownership of cattle in the feedlot is a marketing alternative providing both benefits and risks. One of the primary benefits is that it provides cattle producers flexibility in the timing of marketing cattle, whether that be due to depressed prices in the feeder cattle market or a need to market cattle in a different year due to tax reasons. Another benefit of retained ownership is that it helps producers capture more value from the genetics being used in the breeding program. Many cattle producers put significant effort into selecting breeding bulls with superior genetics, and retained ownership provides the opportunity to reap more rewards from this effort.

Alternatively, retained ownership does not come without risk. Risks include, but are not limited to, death loss, declining market prices, increasing feed prices, poor on-feed performance, and less than desirable yield and quality grade. Despite these risks, the data presented in this publication support the notion that additional value can be captured through retained ownership. Retaining ownership is not the correct marketing method for all producers, but much can be learned by feeding cattle and analyzing their data to determine if a producer is producing the type of cattle feedlots are seeking. This information can assist breeding program decisions as well as other management decisions, which is one of the goals of the Tennessee Beef Evaluation Program.

Acknowledgments

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References

United States Bureau of Labor Statistics. 2023. Consumer Price Index Inflation Calculator.

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