

Costs to Produce Beef in Illinois—2022

Bradley L. Zwilling
Illinois FBFM Association and
Department of Agricultural and Consumer Economics
University of Illinois
May 2023

Total economic costs in 2022 for Illinois beef feeding enterprises exceeded total returns by \$25.41 per 100 pounds of beef produced in preliminary findings for farms enrolled in Illinois Farm Business Farm Management (see Table 1). The 2022 returns were higher than the 2021 total returns above feed costs of 19 cents per 100 pounds produced. Total returns have exceeded total economic costs in four out of the last ten years. The 2022 level of return above all costs was \$26.66 per 100 pounds beef produced above the average return above all costs for the 2013 through 2022 period. Figure 1 illustrates average returns, cash operating costs and total costs for this same period.

Higher prices received contributed to the higher total returns for these enterprises. Total returns per 100 pounds produced increased from \$107.65 in 2021 to \$141.77 in 2022. Total returns for 2022 were the highest on record. The average price received per 100 pounds of beef sold of \$143.84 was 19 percent higher than 2021. This price was the third highest price received since this study began with 2014 and 2015 being the highest with \$147.19 and \$149.47, respectively. The

average price paid for feeder cattle replacements in 2022 of \$163.17 was 17 percent higher than 2021. This was the highest price paid for feeder cattle replacements since 2015. The price paid for feeder cattle in 2014 and 2015 were the only years where the price paid averaged over \$200.00 per hundredweight. The purchase cost of feeder cattle is subtracted from finished cattle sales in determining total returns per 100 pounds produced.

Higher feed costs were not enough to offset the much higher gross returns as compared to 2021. Feed costs increased 11 percent in 2022 as compared to 2021. Feed costs were \$82.79 per 100 pounds produced in 2022 compared to \$74.66 in 2021. Non-feed costs increased from \$33.18 per 100 pounds produced in 2021 to \$33.54 in 2022. Maintenance and power expenses of \$8.37 per 100 pounds produced make up the largest portion of the non-feed costs. Feed and non-feed costs were \$116.33 per 100 pounds produced in 2022. Total costs in 2022 were \$8.49 per 100 pounds produced above 2021 and \$20.70 above the last ten-year average of \$95.63. Excluding the cost of feeder cattle,

feed costs were 71 percent of the total cost to produce beef in 2022, compared to 67 percent for the four-year average.

Total cash costs in 2022 averaged \$102.72 per 100 pounds of beef produced. This cost was \$8.82 per 100 pounds produced above 2021 costs on the same farms and \$17.08 above the 2019-2022 average. This cost includes all grain fed priced at average market price for the year—corn \$6.50 per bushel. Roughage fed was valued at on-farm market prices while protein and minerals were valued at cost. The study assumes all feeds fed had alternative markets other than for feed to cattle. Other cash costs include utilities, machinery, equipment and building repairs, machine hire and fuel, insurance, taxes, and overhead, as well as an interest charge on investment in cattle.

Total costs, both cash and non-cash, on these farms, including depreciation, labor and an interest charge on facilities used, were accounted for in either crop or livestock production. The farms had no other kind of livestock enterprises. These were considered farms specializing primarily in beef production. These results were compiled from records kept by farmers enrolled in the Illinois Farm Business Farm Management (FBFM) Association program.

Note in the table that the 2019-2022 average total returns per 100 pounds of beef produced of \$102.69 is \$17.05 above the average total

cash costs of \$85.64 for this period. The return above cash costs has fluctuated from \$3.46 per 100 pounds gain in 2019 to \$39.02 in 2022. Producers may decide to continue to feed cattle as long as there is at least a small return after cash costs are paid, but will be hesitant to expand production without an equitable return to cover depreciation, labor, and interest on investment costs.

During the last ten years, the average pounds of beef produced in this sample has fluctuated. In 2022, operators in this group produced an average of 8,387 hundredweight of beef, or finished 1,766 head of cattle at 475-pound gain equivalents. In 2021, operators produced an average of 7,706 cwt. of beef, or 1,622 head and in 2013 they produced an average of 5,241 cwt. of beef, or 1,103 head. These producers also farmed an average of 983 tillable acres in 2022.

Returns to cattle feeders increased in 2022 compared to 2021 and were above the last four-year average. The increase in price received was the main factor for the increased returns. Higher feed costs offset some of the higher returns. Projections for 2023 show that beef production is estimated to decrease about 5% and thus market cattle prices are expected to increase about 15%. Returns for 2023 will increase due to higher cattle prices. Feed costs will be lower with projected lower grain and forage prices. With these factors combined, returns to all costs for 2023 are estimated to be higher than 2022.

Table 1. Costs and Returns for Beef Feeding Enterprises, 2019-2022^f

	2022 ^f	2021	2020	2019	Average 2022 ^f -19
Number of farms	9	8	8	12	9
Average per farm					
Tillable acres	983	839	835	830	872
Hundredweight beef produced	8,387	7,706	9,241	8,230	8,391
Number head @ 475-lb. gain equivalents	1,766	1,622	1,945	1,733	1,767
Average weight purchased, lb	685	673	681	670	677
Average weight sold, lb	1,379	1,212	1,395	1,306	1,323
Price received per 100 lb. sold	\$143.84	\$121.25	\$112.75	\$118.47	\$124.08
Price paid per 100 lb. purchased	\$163.17	\$139.71	\$129.06	\$138.38	\$142.58
per 100 pounds of beef produced					
Cash costs					
Feed ^a	\$82.79	\$74.66	\$48.25	\$56.88	\$65.65
Operating expenses					
Maintenance and power ^b	8.37	7.70	6.53	7.15	7.44
Livestock expense	4.71	6.65	4.25	8.87	6.12
Insurance, taxes and overhead	1.77	1.39	1.88	1.23	1.57
Interest on cattle ^c	<u>5.08</u>	<u>3.50</u>	<u>3.95</u>	<u>6.94</u>	<u>4.87</u>
Total operating expense	\$19.93	\$19.24	\$16.61	\$24.19	\$19.99
TOTAL CASH COSTS	\$102.72	\$93.90	\$64.8	\$81.07	\$85.64
Other costs					
Depreciation ^d	\$4.57	\$4.61	\$4.99	\$4.31	\$4.62
Labor	4.09	4.00	4.08	3.73	3.98
Interest on other capital	<u>4.95</u>	<u>5.33</u>	<u>4.05</u>	<u>1.50</u>	<u>3.96</u>
TOTAL OTHER COSTS	\$13.61	\$13.94	\$13.12	\$9.54	\$12.55
TOTAL ALL COSTS	\$116.33	\$107.84	\$77.98	\$90.61	\$98.19
Total returns ^e	<u>\$141.74</u>	<u>\$107.65</u>	<u>\$76.83</u>	<u>\$84.53</u>	<u>\$102.69</u>
Return above all costs	\$25.41	(\$0.19)	(\$1.15)	(\$6.08)	\$4.50

^a All grain fed was priced at average market price for the year. Market values were used for roughage fed while protein and minerals were charged at cost. Assumes all feed fed were marketable.

^b Includes utilities, machinery, equipment and building repairs, machine hire and fuel.

^c Interest is a charge on average value of beginning- and end-of-year inventories on hand. Rate was 5.0% for 2019, 4.0 percent for 2020, 3.5 percent for 2021, and 4.0 percent for 2022.

^d Includes machinery, equipment, and building depreciation.

^e Sales less cost of purchased animals plus or minus inventory value change. No credit has been calculated for reduced fertility cost for manure applied to crops.

^f Preliminary data for 2022

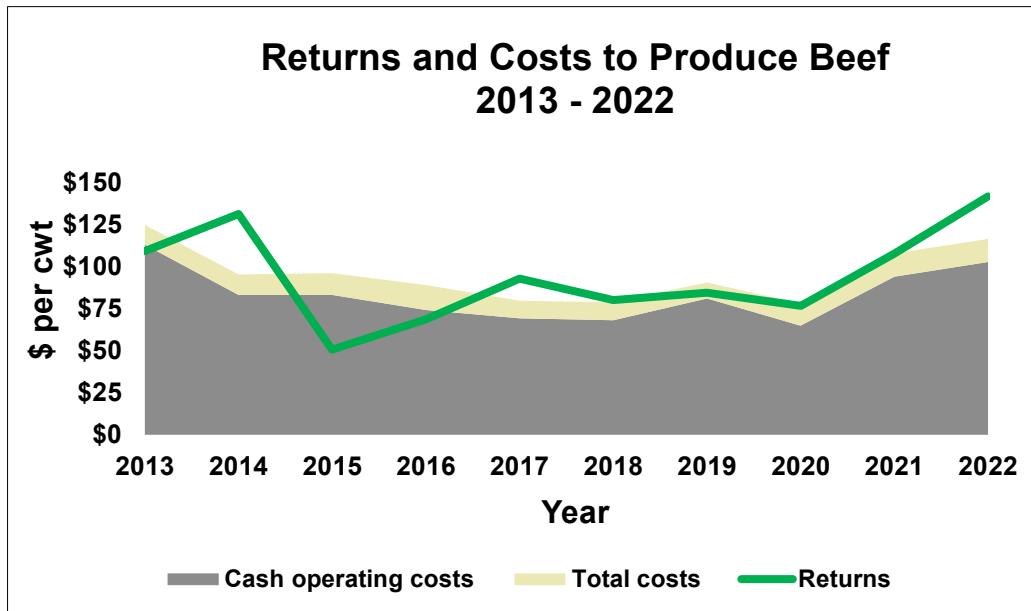


Figure 1. Returns and costs to produce beef on Illinois farms, 2013 - 2022.

The author would like to acknowledge that data used in this study comes from Illinois Farm Business Farm Management (FBFM) Associations across the state. Without their cooperation, information as comprehensive and accurate as this would not be available for educational purposes. FBFM, which consists of 5,000 plus farmers and 65 plus professional field staff, is a not-for-profit organization available to all farm operators in Illinois. FBFM field staff provide on-farm counsel with recordkeeping, farm financial management, business entity planning and income tax management. For more information, please contact the State FBFM Office located at the University of Illinois Department of Agricultural and Consumer Economics at 217-333-8346 or visit the FBFM website at www.fbfm.org.