

# Exploring feeding performance of heavy yearling angus cattle – 2022 North Dakota Angus University Feedout

Colin Tobin<sup>1</sup> and Karl Hoppe<sup>1</sup>

---

*The North Dakota Angus University feedout is a program through the North Dakota Angus Association (NDAA) where members can identify their genetic potential through growth and carcass characteristics. Average difference in profitability between consignments from the top five herds and the bottom five herds was \$308.55 per head for the 2022 feeding period.*

---

## Summary

Cattle producers across North Dakota are using the North Dakota Angus University Feedout project to discover the actual value and provide benchmark feeding and carcass performance of their yearling spring-born beef steers. Cattle consigned to the feedout project were delivered to the NDSU Carrington Research Extension Center (CREC) Livestock Unit prior to June 13, 2022. After an average 118-day feeding period, cattle averaged 1482.8 pounds (shrunk harvest weight). Throughout the feeding period, animals required 6.7 lbs of feed (dry matter [DM] basis) for one pound of gain. Overall pen average daily gain ranged from 5 to 7.20 lbs. Feed cost per pound of gain was \$0.85 and total cost per pound of gain was \$1.14. Profit ranged from \$218.88 per animal with superior growth and carcass traits to a loss of \$89.67 per head with discounts and decreased performance. The variability among animals within herds continues to be substantial when discovering the feeding and carcass value of yearling, spring-born steers.

## Introduction

The North Dakota Angus University Feedout program is a summer, retained-ownership project where cattle producers raising spring-born Angus cattle can learn more about the feeding performance, carcass characteristics, and profitability of their yearling steers.

Through involvement in this calf value discovery program, cow-calf producers can benchmark performance and identify superior genetics when fed with common feedlot management.

## Procedures

Calves (68 head) were received in groups ranging from 5 to 23 head from five owners prior to June 13, 2022. Upon delivery to the CREC Livestock Unit, calves were weighed, tagged, and veterinary processed. Cattle were implanted with Synovex-Choice. Calves were penned by owner and provided a corn-based receiving diet. After a 10-day ration adaptation, the calves were transitioned to a 0.62 megacalorie of net energy for gain (Mcal NEg) per pound finishing diet. Cattle were weighed every

28 days, and updated performance reports were provided to the owners.

Cattle were harvested in two groups. The first group of cattle was harvested on October 5, 2022 (45 head) and the second group was harvested on October 21, 2022 (23 head). The cattle were sold to Tyson Fresh Meats, Dakota City, Nebraska, on a grid basis, with premiums and discounts based on carcass quality. Carcass data were collected after harvest.

## Results and Discussion

Cattle averaged 937.8 pounds upon delivery to the CREC Livestock Unit on June 13, 2022 (Table 1). After an average 118-day feeding period, cattle averaged 1482.8 pounds (at plant, shrunk weight). Death loss was 0% (0 head) during the feeding period. Average daily feed intake per head was 47.1 pounds on an as-fed basis and 31.1 pounds on a dry-matter basis. Pounds of feed required per pound of gain were 10.2 on an as-fed basis and 6.7 pounds on a dry-matter basis. The overall feed cost per pound of gain was \$0.85. The overall yardage cost per pound of gain was \$0.09. The combined cost per pound of gain, including feed, yardage, veterinary, trucking and other expenses except interest, was \$1.14. Calves were priced by weight upon delivery to the feedlot. The pricing equation (\$ per 100 pounds = (-0.13652\* initial calf weight, pounds) + 285.1283) was determined by regression analysis on local livestock auction prices reported

---

<sup>1</sup>Carrington Research Extension Center, NDSU

for the weeks before and after delivery. Overall, the carcasses contained U.S. Department of Agriculture Quality Grades at 10.3 percent Prime, 77.9 percent Choice (including 47.0 percent Certified Angus Beef), 11.8 percent Select, and 0 percent no roll. USDA Yield Grades for the carcasses were 7.4 percent YG2, 61.8 percent YG3, 29.4 percent YG4 and 1.4 percent YG5. Two carcasses weighed greater than 1050 pounds. Carcass value per 100 pounds (cwt) was calculated using the actual base carcass price plus

premiums and discounts for each carcass. The grid price per cwt received for Oct 6, 2022, was \$235.19 Choice YG3 base with premiums: Prime \$15, CAB \$6, YG2 \$3, and discounts: Select \$24, YG4 \$8, YG5 \$20 and carcasses greater than 1050 pounds \$20. The grid price per cwt received for Oct 22, 2022, was \$242.94 Choice YG3 base with similar premiums and discounts except for Select \$28/cwt. The top-profit pen of calves returned \$218.88 per head, while the lowest profit (loss) calves returned (\$89.67)

per head. The spread between the top profit pen and the lowest profit pen was \$308.55 per head. Yearling Angus steer performance varied between owners. Feed conversion ranged from 5.7 to 7.37 pounds dry matter fed per pound of gain. Average daily gain ranged from 5 to 7.20 pounds per day. Feedout projects continue to provide cattle producers an opportunity to learn about feedlot performance, individual carcass differences, and discover the value of their cattle.

**Table 1. North Dakota Angus University Feedout 2022**

Pen	No. head	No. died	Weight in, lb	Weight out, lb	Average daily gain, lb/day	Feed/gain, lb dry matter/lb gain	Feed cost of gain/lb	Total cost of gain/ lb.	% prime	% CAB	Profit/head
1	9	0	941.3	1476.4	4.735	5.700	0.718	0.999	11.1	22.2	\$84.94
2	5	0	977.0	1451.6	4.200	6.800	0.856	1.282	0.0	60.0	\$80.65
3	10	0	1000.4	1534.5	4.727	6.673	0.839	1.132	20.0	80.0	\$218.88
4	21	0	979.7	1544.6	5.000	6.604	0.831	1.115	19.0	47.6	\$170.16
5	23	0	862.5	1413.3	4.269	7.375	0.928	1.238	0.0	8.7	\$(89.67)
overall	68	0	937.8	1482.8	4.600	6.770	0.852	1.143	10.6	48.5	\$78.19
std dev	7.9	0.0	54.4	55.5	0.3	0.6	0.1	0.1	9.78	28.66	117.7
number	5	5	5	5	5	5	5	5	5	5	5